*Curriculum Vitae*

**HAL BLUMENFELD, MD, PhD**

Departments of Neurology, Neuroscience, and Neurosurgery

Yale University School of Medicine, 15 York St, New Haven, CT 06520-8018

Tel (203) 785-3865 Fax (203) 737-2538

email: [hal.blumenfeld@yale.edu](mailto:hal.blumenfeld@yale.edu) <http://www.yale.edu/blumenfeldlab/>

**TITLE AND ACADEMIC APPOINTMENT:**

Mark Loughridge and Michele Williams Professor

Professor of Neurology, Neuroscience, and Neurosurgery

Director, Yale Clinical Neuroscience Imaging Center (CNIC)

Faculty, Yale Comprehensive Epilepsy Center, Core Center for Quantitative Neuroscience with

Magnetic Resonance, Kavli Institute for Neuroscience, Wu Tsai Institute, Interdepartmental

Neuroscience Program (INP), Combined Program in the Biological and Biomedical Sciences

Yale University School of Medicine

**EDUCATION:**

Harvard University - B.A. *cum laude*, Bioelectrical engineering, 1984.

Columbia University - M.A., Physiology and Cellular Biophysics, 1988.

Ph.D., Physiology and Cellular Biophysics, 1990.

M.D. 1992.

**CLINICAL EXPERIENCE AND BOARD CERTIFICATIONS:**

1992-93 Internal Medicine Intern, Columbia Presbyterian Medical Center, NY

1993-96 Neurology Resident, Massachusetts General Hospital, Boston, MA

1996-98 Epilepsy Fellow, Yale University School of Medicine, CT

1998- Attending on Yale Epilepsy Service

1998- Board Certification by American Board of Psychiatry and Neurology

2001- Board Certification by American Board of Clinical Neurophysiology

2018- American Board of Psychiatry and Neurology, Epilepsy Certification

**RESEARCH EXPERIENCE:**

1982-83 Neurophysiology Research Assistant, Mount Sinai Medical Center, NY

Laboratory of Bernard Cohen, MD

1984-90 Doctoral Thesis - "Modulation of Intracellular Calcium in *Aplysia* Sensory

Neurons." Columbia University College of Physicians and Surgeons, NY,

Laboratory of Steven Siegelbaum, PhD and Eric Kandel, MD.

1998-00 Associate Research Scientist, Yale Departments of Neurobiology and Neurology

Laboratory of David McCormick, PhD

2000-06 Assistant Professor, Yale Departments of Neurology and Neurobiology

2003-06 Assistant Professor, Yale Department of Neurosurgery (joint appointment)

2006-10 Associate Professor, Yale Departments of Neurology, Neurobiology, Neurosurgery

7/1/2010- Professor, Yale Departments of Neurology, Neuroscience, Neurosurgery

9/1/2011- Director, Yale Clinical Neuroscience Imaging Center (CNIC)

**ACADEMIC HONORS AND AWARDS:**

1983-84 John Harvard Scholarship - Highest Academic Honors

1984-92 Medical Scientist Training Program Fellowship

1990 Dean's Day Award for Medical Student Research

1992 Lamport Award for Biomedical Research

1992 Alpha Omega Alpha - Medical School Honors Society

1996 Top Scholar Fellow, Ortho-McNeil

1998-01 Howard Hughes Medical Institute Fellowship. Awarded; replaced by other grants.

1998-01 Pfizer Fellowship

1998-03 NIH, Research Career Award (K08)

1999 American Epilepsy Society, Young Investigator Award

2000-02 Charles A. Dana Foundation, Clinical Hypotheses in Neuroscience Award

2000 NIH Curing Epilepsy-Focus on the Future, Junior Investigator Travel Fellowship

2000 American Epilepsy Society, Presidential Symposium Speaker

2000-01 Epilepsy Foundation of America, Junior Investigator Award

2002-04 Patterson Trust, Research Grant

2004-08 NIH R01 “Neuronal firing and neuroimaging in spike-wave seizures”

2005- Blattmachr Fund, Research Grant

2005 American Neurological Association, John N. Whitaker Visiting Professorship

2005 American Academy of Neurology, Dreifuss-Penry Epilepsy Research Award

2006-10 NIH R01 “Functional neuroimaging in childhood absence epilepsy”

2007-12 Donaghue Foundation Investigator Award

2007 The Francis Gilman Blake Award.Awarded annually to that member of the

faculty of the Yale School of Medicine designated by the senior class as the most

outstanding teacher of the medical sciences.

2009-11 NIH R01 “Preventing spike-wave epileptogenesis: critical period & neuroimaging

Biomarkers”

2011 Master of Arts, *privatim,* Yale University

2011-16 NIH R01 “Remote effects of focal hippocampal seizures on neocortical function”

2012- Member, Kavli Institute for Neuroscience at Yale

2012-17 NIH R01 “Functional neuroimaging in childhood absence epilepsy”

2014-16 NIH R21 “Deep brain stimulation to prevent impaired consciousness in epilepsy”

2015-20 Visiting Professor, Xiangya School of Medicine, Changsha, Hunan, China

2015 Yale Graduate Mentor Award. For the most outstanding mentor of graduate students

in the sciences at Yale University.

2015- The Mark Loughridge and Michele Williams Professor, Yale University

2016-21 NIH R01 “Network mechanisms of seizure-induced cardiorespiratory impairment”

2016-21 NIH R01 “Remote effects of focal hippocampal seizures on neocortical function”

2017 American Epilepsy Society Clinical Science Research Recognition Award

2017-24 NIH R37 “Neuroimaging, neuronal firing and behavior in spike-wave seizures”

2017 Javits Neuroscience Investigator Award

2019-24 NIH UG3/UH3 “Thalamic stimulation to prevent impaired consciousness in epilepsy“

2021-26 NIH R01 “Remote effects of focal hippocampal seizures on neocortical function”

**TEACHING AND ADMINISTRATION :**

1984 Teaching Fellow,"Electronic Devices and Circuits," Harvard University, MA

1987-92 Neuroanatomy Instructor, Columbia University, NY

1991-92 Founder and Organizer, Student-run Columbia Neurosciences Society (C.N.S.), NY

1993-94 Neuroanatomy Instructor, Harvard University, MA

1994-96 Neurobiology Course Director, Harvard University, MA

“Exploring the Mind through Biological Models and Human Disease”

1996-00 Neuroanatomy Instructor, Yale University School of Medicine, CT

1999- Clinical Neuroanatomy Course Director, “Neuroanatomy Case Conferences,”

Yale University School of Medicine, CT

2002-10 Faculty Director, Yale Student Interest Group in Neurology, AAN

2002-11 Director of Medical Studies in Clinical Neurosciences, Yale University School of

Medicine, CT

2002-04 Member of Yale Pre-Clinical Student Assessment Working Group

2003-10 Neurology Residency Application Advisor, Yale University School of Medicine, CT

2006-07 Yale LCME Education Committee

2010- Yale Neurology Department, Appointments and Promotions Committee

2011-16 Yale School of Medicine, Senior Appointments and Promotions Committee

2011-16 Yale Neurology Department, Neurology Residency Selection Committee

2011- Organizer, Yale Epilepsy Research Weekly Seminar Series

2011- Organizer, Yale Epilepsy Research Retreat

2011- Director, Yale Clinical Neuroscience Imaging Center (CNIC)

2016-20 Co-Organizer, Neuroimaging for the Clinical Neuroscientist Course, Yale University

2017-20 ILAE Neuroimaging Task Force

2021- Yale Office of Medical Student Research Thesis Awards Committee

2022- AES Research & Recognition Awards Committee

2023- ILAE Working Group on Updating Seizure Classification

**MEMBERSHIP IN PROFESSIONAL SOCIETIES:**

Society for Neuroscience

American Academy of Neurology

American Epilepsy Society

American Clinical Neurophysiology Society

American Neurological Association, elected 2009

**Editorial Boards and Review committees**

***Associate editor*:** *Neuroscience Letters* 1/1/2004 – 1/16/2009

***Standing review committees:***

Yale Bioimaging Scholar Awards Committee 10/2005 – 10/2011

American Epilepsy Society Scientific Programming Committee 12/2007 – 12/2009

American Epilepsy Society Investigator Workshop Committee 12/2009 – 12/2010

Yale Neurology Department Appointment & Promotion Committee 7/2010 –

Co-Chair, AES Clinical Investigator Workshop Committee 12/2010 – 12/2011

Chair, AES Clinical Investigator Workshop Committee 12/2011 – 12/2014

Yale Senior Appointments and Promotions Committee 7/2011 – 6/2016

Yale Neurology Residency Selection Committee 7/2011 – 5/2015

ASSC 17, Scientific Committee 1/2012 – 1/2013

Yale Pediatric Neurology Chief Search Committee 1/2012 – 5/2015

Yale Brain Research Scholar Awards Committee 12/2013 – 12/2016

***NINDS epilepsy benchmark steward:***

Prepare biannual reports on research progress in the study of 10/2008 – 10/2009

affective, attentional and cognitive comorbidities in epilepsy

***Ad hoc grant reviews:***

*NIH General Medical Sciences Special Emphasis Panel, NIH Biomedical Imaging Technology Study Section, NIH/NINDS Board of Scientific Counselors, Canadian Institutes of Health Research (CIHR), United States-Israel Binational Science Foundation, Thrasher Research Fund*

**Ad hoc journal reviews:**

*Neuron, PNAS, Journal of Neuroscience, Cerebral Cortex, Brain, Neuroimage, Annals of Neurology, Neurology, Nature Clinical Practice Neurology, Journal of Physiology, Epilepsia, PLOS One, Neuroimage Clinical, Annals of Clinical and Translational Neurology, American Journal of Neuroradiology, British Journal of Pharmacology, Human Brain Mapping, Neuroscience Letters, Journal of Neuroscience Methods, Epilepsy Research, Experimental Neurology, Brain Research, Physiology and Behavior, American Journal of Psychiatry, American Journal of Neuroradiology, Archives of General Psychiatry, NeuroReport*

**INVITED SYMPOSIA OR GRAND ROUNDS:**

2000 Yale University, Neurology Grand Rounds. New Haven, CT. "Consciousness and

Seizures: Why are Patients With Absence Absent?"

2000 American Epilepsy Society Presidential Symposium. Los Angeles, CA. "The Neuronal Network of Generalized Epilepsies."

2001 Yale University, Seminar Series in Bioimaging Sciences. New Haven, CT. "Network Inhibition Hypothesis for Loss of Consciousness During Seizures."

2001 Harvard University, Brigham and Women's Neurosurgery Grand Rounds. Boston, MA. "Are Generalized Seizures Truly Generalized?"

2001 Columbia University, Biology and Neurobiology Dept. Seminar. New York, NY. “Why Do Seizures Cause Loss of Consciousness?”

2002 Yale University, Club Neurobiology. New Haven, CT. “Why Do Seizures Cause Loss

of Consciousness?”

2002 Yale University, Psychiatry Department Seminar. New Haven, CT. “Seizures,

Memory, Mood and Consciousness.”

2002 Yale University, Neurology Grand Rounds. New Haven, CT. “Idiopathic Generalized

Epilepsies Revisited: Pathophysiology, Genetics, and Treatment.”

2002 Society for Neurosciences Symposium. Miami, FL. “Heterogeneous Expression of

Molecules and Thalamocortical Network Activity in Generalized Seizures.”

2002 American Epilepsy Society Symposium. Seattle, WA. “Network Mechanism in

Primary Generalized Epilepsy.”

2002 Yale/VA Statistical Parametric Mapping Seminar. West Haven, CT. “Applications of

SPM in Ictal-Interictal SPECT Analysis”

2002 Queens College, Neuropsychology Dept. Seminar. Queens, NY. “Are ‘Generalized’

Seizures Truly Generalized?”

2003 Association of Convulsive Therapy Symposium. San Francisco, CA. “Ictal imaging

in ECT: Lead placement determines focal regions of activation.”

2003 Spectrum Psychiatric Group, Hamden, CT “Use of Antiepileptic Drugs: A Practical

Review”

8/13/03 Magnetic Resonance Research Center Seminar. Yale University, New Haven, CT

“CBF and Metabolism during Rodent Seizures”

3/3/04 Hebrew University School of Medicine, Physiology Dept. Seminar, Jerusalem, Israel.

“Thalamocortical interactions during spike-wave seizures investigated through

rodent fMRI”

3/3/04 Hebrew University School of Medicine, Neurology Dept. Seminar, Jerusalem, Israel.

“Sleeping on the job: How bad habits in the temporal lobe rub off on neighboring

neocortex.”

3/10/04 University of Syracuse School of Medicine, Neurology Dept. Grand Rounds,

Syracuse, NY. “Sleeping on the job: How bad habits in the temporal lobe rub off on

neighboring neocortex.”

10/14/04 Child Neurology Society Symposium. Ottawa, Ontario. “The Physiology of

Generalized Seizures.”

3/18/05 International Symposium: Epilepsy and Sleep Update at Kempenhaeghe, Heeze,

Netherlands “From molecules to networks: cortical/subcortical interactions in the

pathophysiology of idiopathic generalized epilepsy.”

4/6/05 West Virginia School of Medicine, Neuroscience Seminar, Morgantown, WV. “Ups

and downs of neuronal activity and neuroimaging during seizures.”

4/20/05 UMDNJ, Robert Wood Johnson Medical School, New Brunswick, NJ. “Epilepsy and

consciousness: What makes complex partial seizures complex?”

5/25/05 NYU Medical Center, New York, Neurology Dept. Grand Rounds “Networks,

Neurons, and Molecules in Seizure Generation.”

6/10/05 Dartmouth-Hitchcock Medical Center, Neurology Dept. Grand Rounds “Great

ExSPECTations: Consciousness, Epilepsy, and Functional Neuroimaging”

6/21/05 Society for Nuclear Medicine Symposium, Toronto, Canada “A Window to the Soul:

SPECT Imaging of Ictal and Postical Unconsciousness”

9/1/05 Yale fMRI Seminar, New Haven, CT “Functional Neuroimaging in Childhood

Absence Epilepsy”

9/13/05 University of Alabama Dept of Neurology Grand Rounds, Birmigham, AL “Epilepsy

and Consciousness: Why Are Patients with Absence Seizures Absent?”

9/14/05 University of Alabama, Neurology/Neurosurgery Epilepsy Conference, Birmigham,

AL “Why Do Focal Temporal Lobe Seizures Cause Loss of Consciousness?”

10/20/05 National Academy of Neuropsychology, 3 hour invited workshop, Tampa, FL

“Neuroanatomy through Clinical Cases”

11/14/05 Society for Neuroscience Session Chair, Washington, DC “Epilepsy: Animal Models

and Human Studies II”

11/28/05 Connecticut Neuropsychological Society, Dr. James Tweedy Memorial

Lecture, New Haven, CT “Epilepsy and Consciousness”

12/3/05 American Epilepsy Society Symposium Chair, Washington, DC “Impaired

Consciousness in Epilepsy: Mechanisms and Consequences”

12/3/05 American Epilepsy Society Symposium, Washington, DC “Neuroimaging and Loss

of Consciousness in Epilepsy”

2/17/05 Epileptic Disorders Workshop, Rome, Italy. Discussant on "Generalized seizures :

From clinical phenomenology to underlying systems and networks"

2/17/05 Epileptic Disorders Workshop, Rome, Italy. Session Chair, "Absence seizures and

cortico-thalamic systems”

3/7/06 Tel Aviv University and Weill/Cornell Neurology Symposium, Tel Aviv, Israel “Why

do seizures cause loss of consciousness?”

3/9/06 Massachusetts General Hospital, Neurology Dept. Grand Rounds, Boston, MA

“Epilepsy and Consciousness”

4/5/06 Albert Einstein School of Medicine, Neuroscience Seminar, New York, NY

“Why are Patients with Absence Seizures Absent?”

5/3/06 Brown University, Neurology Dept. Grand Rounds, Providence, RI

“Epilepsy as a Window to Understanding Consciousness”

9/15/06 Yale University, Department of Psychiatry Grand Rounds, New Haven, CT

“Epilepsy and Consciousness”

10/30/06 Columbia University, Epilepsy Research Seminar, New York

“Why do seizures cause loss of consciousness?”

2/23/07 SUNY Downstate, Neurology Dept. Grand Rounds, Brooklyn, NY

“Epilepsy and Consciousness”

3/9/07 Thomas Jefferson University, Neurology Grand Rounds, Philadelphia, PA

“Epilepsy as a Window to Understanding Consciousness”

3/21/07 Yale University, Department of Neurology Grand Rounds, New Haven, CT

“Does Early Treatment Prevent Epilepsy?”

4/5/07 First International Epilepsy Symposium, Herzlia, Israel

“Molecules to Networks: Basic Mechanisms and New Therapeutic Targets”  
4/23/07 UC Irvine, Distinguished Speaker, UCI MD/PhD Lecture Series, Irvine, CA

“Neurobiology of Consciousness: Networks, Epilepsy, and Brain Function”

5/9/07 International Epilepsy Symposium, Invited speaker, Ann Arbor, MI

“Role of Sodium Channel Upregulation in Partial and Generalized Epilepsy”

6/5/07 F.C. Donders Center for Cognitive Neuroimaging Seminar Speaker, Netherlands

“Neural basis of fMRI signal increases and decreases in epilepsy”

6/6/07 Keynote speaker, Dutch ENP Neuroscience Meeting, Netherlands

“Brain imaging of epilepsy and impaired consciousness”

12/2/07 Investigator’s Workshop Speaker, American Epilepsy Society, Philadelphia, PA

“fMRI of ictal activity in animal models”

12/7/07 Association for Research in Nervous and Mental Disease *with* The New York

Academy of Medicine, Conference Speaker, New York, NY

“Epileptic Unconsciousness”

12/12/07 Yale School of Medicine, Grand Rounds, Dept. of Pediatrics, New Haven, CT

“An ounce of prevention:  Can early treatment block development of genetic

epilepsy?”

2/27/08 University of Cincinnati, Grand Rounds, Dept. Neurology and Center for Imaging

Research, Cincinnati, OH

“Neuroimaging and Consciousness in Childhood Absence Epilepsy”

3/11/08 Quantitative Neuroscience with Magnetic Resonance (QNMR) Symposium, Yale

University School of Medicine, New Haven, CT “fMRI and Epilepsy”

3/19/08 UCSF Medical School, Grand Rounds, Dept. Neurology, San Francisco, CA

“Consciousness and Epilepsy”

4/9/08 Yale School of Medicine, Magnetic Resonance Research Center Seminar,

New Haven, CT “Imaging biomarkers of spike-wave epilepsy prevention”

4/16/08 JFK Johnson Rehabilitation Institute, Neuropsychology Grand Rounds, Edison NJ

“Epilepsy and Consciousness”

4/29/08 University of Minnesota, Neuroengineering Seminar, Mineapolis, MN

“Seeing is not always believing: Paradoxical neuroimaging in epilepsy”

5/16/08 Yale School of Medicine, Autism Program, Child Study Center, Science Meeting

“Early treatment: Potential for preventing epilepsy and associated disability”

11/5/08 Columbia University, Radiology Didactic Lecture, New York, NY

“Great ExSPECTations: Epilepsy surgery localization and ictal SPECT”

11/5/08 Columbia University, Radiology Grand Rounds, New York, NY

“Ups and downs of fMRI changes in epilepsy: Neural basis of BOLD fMRI”

12/2/08 Club Neurobiology seminar speaker, Yale University School of Medicine

“Can we understand consciousness? New insights from epilepsy imaging, physiology,

and behavior”

12/6/08 Investigator’s Workshop Speaker, American Epilepsy Society, Seattle, WA

”Neuroimaging and IGE: Monitoring anti-epileptogenesis”

12/7/08 Investigator’s Workshop Speaker, American Epilepsy Society, Seattle, WA

“Ups and downs of fMRI changes in epilepsy: fundamental animal studies”

12/08/08 Platform Session “Surgery/Imaging,” Session Moderator, American Epilepsy Society,

Seattle, WA

12/11/08 Georgetown University School of Medicine, Clinical/Basic Epilepsy Research Seminar

Washington, DC “Network effects of rat limbic seizures on neocortical function”

1/20/09 Montreal Neurological Institute, Killam Lecture, Montreal, Canada

“Epilepsy and consciousness: Why are patients with absence seizures absent?”

2/16/09 Tel Aviv University and Weill/Cornell Neurology Symposium, Tel Aviv, Israel

“Neuroimaging tools for monitoring epileptogenesis and epilepsy prevention”

“Neuroimaging and impaired consciousness in epilepsy”

4/6/09 Grass Lecture, Wake Forest School of Medicine, Winston-Salem, NC

“The consciousness system: New insights from epilepsy”

6/4/09 Mind Science Foundation Symposium Speaker (ASSC), Berlin, Germany

“Why do seizures cause loss of consciousness?”

6/30/09 28th International Epilepsy Congress Symposium Speaker, Budapest, Hungary

“Effects of treatment: Can epilepsy be prevented?”

11/3/09 Cognitive Science Symposium, Yale University, New Haven, CT

"Epilepsy as a Window to Understanding the Consciousness System"

11/12/09 National Academy of Neuropsychology, 3 hour invited workshop, New Orleans, LA

“Neuroanatomy through Clinical Cases”

11/20/09 Cold Spring Harbor Laboratory, Neuroscience Seminar, Cold Spring Harbor, NY

“Consciousness and Epilepsy: Do Limbic Seizures put the Neocortex to Sleep?”

2/16/10 Yale University MBCC (Mind, Brain, Culture, and Consciousness) Working Group

Seminar “Epilepsy and the Consciousness System”

3/5/10 University of Rochester Department of Neurology, Grand Rounds, Rochester, NY

“Fundamental Mechanisms of Impaired Consciousness in Epilepsy”

3/15/10 Quantitative Neuroscience with Magnetic Resonance (QNMR) Symposium, Yale

University School of Medicine, New Haven, CT “Epilepsy Imaging and Physiology”

5/7/10 Schneider Children’s Hospital, Pediatric Neurology Conference, New Hyde Park, NY

“Research Advances in Childhood Absence Epilepsy”

5/10/10 Mayo Clinic Department of Neurology, Visiting Professor (“Resident’s Choice”) and Neurology Grand Rounds, Rochester, MN

“The Consciousness System: Cortical-subcortical Networks and Epilepsy”

5/11/10 Mayo Clinic Department of Neurology, Neurology Resident Lecture, Rochester, MN

“Clinical Neuroanatomy Case Conference”

6/4/10 Emory School of Medicine, Neurology Grand Rounds, Atlanta, GA

“Brain Networks: Imaging, Consciousness, and Epilepsy”

6/4/10 Emory School of Medicine, Neurology Teaching Lecture, Atlanta, GA

“Clinical Neuroanatomy Case Conference: Higher Order Cortical Functions”

12/5/10 Investigator’s Workshop Speaker, American Epilepsy Society, San Antonio, Tx

“Childhood absence epilepsy: fMRI cautionary notes and treatment biomarkers”

12/16/10 Blythedale Children’s Hospital, Neurology Grand Rounds, Valhalla, NY

“Research Advances in Childhood Absence Epilepsy”

3/11/11 North Shore LIJ, Department of Neurology Grand Rounds, Manhasset, NY

“Research Advances in Epilepsy Imaging and Physiology”

3/31/11 University of Iowa Medical School Neurology Grand Rounds, Iowa City, IA

“Impaired consciousness in epilepsy: Mechanisms and consequences”

4/7/11 Yale Magnetic Resonance Research Center fMRI Seminar, New Haven, CT

“Neuroimaging and Behavior in Childhood Absence Seizures”

5/13/11 Yale Epilepsy CME Symposium, New Haven, CT

“Ictal SPECT in Epilepsy Localization”

5/18/11 Albany Medical College Neuropharmacology and Neuroscience Seminar

"Sleeping on the job:  Decreased cortical arousal in limbic seizures"

5/19/11 Albany Medical College Neurology Grand Rounds, Albany NY

"Why do seizures cause impaired consciousness? Imaging, physiology and behavior"

7/20/11 University of Melbourne Epilepsy Retreat Moderator and Speaker, Australia

“Epilepsy and Consciousness”

8/30/11 International League Against Epilepsy, Plenary Session Organizer and Chair, Rome  
 “Impaired consciousness in epilepsy: mechanisms and clinical significance”

8/30/11 International League Against Epilepsy, Plenary Session Speaker, Rome, Italy

“Overview: From Basic Mechanisms to Impaired Driving in Epileptic

Unconsciousness”

9/13/11 NYU School of Medicine, Child Neurology Grand rounds, New York, NY

“Childhood Absence Epilepsy: A Wolf in Sheep’s Clothing?”

9/23/11 Yale Dean's Workshop, New Haven, CT

“Neuroimaging of Impaired Consciousness in Epilepsy”

11/4/11 Cardiff University, School of Biosciences Research Symposium, Cardiff, UK

“Cortical-subcortical mechanisms of impaired consciousness in limbic seizures”

12/5/11 Investigator’s Workshop Speaker, American Epilepsy Society, Baltimore, MD

“Role of subcortical structures in epileptic unconsciousness”

1/12/12 Massachusetts General Hospital Neurology Grand Rounds, Boston, MA

“Consciousness and Epilepsy”

2/2/12 Albert Einstein College of Medicine, Neurology Grand Rounds, NY, NY

"Brain Imaging, Consciousness and Epilepsy"

3/7/12 Yale School of Medicine, Neurology Grand Rounds, New Haven, CT

“Epilepsy and Consciousness”

3/22/12 Saint Francis Hospital Medicine Grand Rounds, Hartford, CT

“Epilepsy as a Disorder of Consciousness”

5/1/12 Yale School of Medicine, Club Neurobiology Seminar Speaker, New Haven, CT

"Sleeping on the job: Inhibition of subcortical arousal in limbic seizures"

5/10/12 Yale Epilepsy CME Symposium, New Haven, CT

“Driving and epilepsy”

5/14/12 Lehrhaus Presentation, Hebrew Institute of White Plains, White Plains, NY

“To Limp, Fall, Stammer and Inspire: Neurology in the Bible”

9/6/2012 University of Connecticut, Hartford Hospital Neurology Grand Rounds, Hartford, CT

“Update on Childhood Absence Epilepsy: EEG, fMRI and Behavior”

11/1/12 Korea Neurological Association, Plenary Speaker, Seoul, Korea

“Epilepsy and Consciousness”

11/1/12 Korea Neurological Association, Parallel Session Speaker, Seoul, Korea

“Combined electrophysiology-neuroimaging studies in epilepsy”

11/30/12 American Epilepsy Society Special Interest Group speaker

"Slow down, you're going too fast: Groovy frontal rhythms in TLE"

12/5/12 UCLA Neuroscience Grand Rounds, Los Angeles, CA

“Consciousness and Epilepsy”

12/6/12 University Washington Center for Human Development and Disability Seminar,

Seattle, WA “Childhood Absence Epilepsy: A Wolf in Sheep’s Clothing?”

1/15/13 UC Irvine, Depts of Anatomy and Neurobiology EpiCenter Seminar, Irvine, CA

“Many seizure types, one final common path: Impaired consciousness in epilepsy”

5/10/13 Yale Epilepsy CME Symposium, New Haven, CT

“Controversies in seizure classification”

5/30/13 Toronto Sick Kids Centre for Brain & Behavior Annual Symposium speaker  
“Abnormal Connectivity and Early Life Seizures”

7/9/13 Cognitive Neuroscience Summer Institute, Lake Tahoe, CA

“Consciousness and Seizures”

10/9/13 University of Pennsylvania Neurology Grand Rounds, Philadelphia, PA

“Epilepsy and Consciousness”

11/6/13 Invited speaker, 6th International Workshop on Seizure Prediction, San Diego, CA

“Neurostimulation to increase consciousness in complex partial seizures”

1/29/14 Neurology Grand Rounds, Rutgers University- NJ Medical School, Newark, NJ

“Brain Networks: Imaging, Consciousness, and Epilepsy”

2/16/14 Neurosurgery Grand Rounds, Rashid Hospital, Dubai, United Arab Emirates

“Neuroimaging and physiology of impaired consciousness in epilepsy”

3/3/14 Yale University Epilepsy Research Presentation, New Haven, CT

"Impaired consciousness and sudden death in epilepsy"

3/18/14 NYU Department of Neurology Grand Rounds, New York, NY

“Consciousness and Epilepsy”

4/7/14 Yale University Epilepsy Research Presentation, New Haven, CT

“Prospective evaluation of driving safety in epilepsy”

4/9/14 Neurology Grand Rounds, New York Medical College, Valhalla, NY

“Impaired consciousness in epilepsy: Mechanisms and consequences”

5/21/14 Cornell Neurology Grand Rounds, New York, NY

“Deep brain stimulation to increase consciousness during seizures”

9/10/14 Yale University, Department of Neurology Grand Rounds, New Haven, CT

“The mechanism of impaired consciousness in absence seizures”

12/7/14 American Epilepsy Society Investigator Workshop speaker, Seattle, WA

“Large-scale network effects of focal seizures: Consciousness and SUDEP”

12/9/14 American Epilepsy Society Special Interest Group speaker, Seattle, WA  
 “The thalamus, consciousness and temporal lobe epilepsy”

1/14/15 Mt Sinai School of Medicine, Neurology Grand Rounds, New York, NY

“Consciousness and epilepsy: New insights from networks to neurons”

2/18/15 Tel Aviv University and Weill/Cornell Neurology Symposium, Tel Aviv, Israel

“Impaired consciousness in epilepsy: Mechanisms, networks, functional imaging”

2/18/15 Tel Aviv University and Weill/Cornell Neurology Symposium, Tel Aviv, Israel

“Seizure-related impaired consciousness: Clinical implications and driving”

3/24/15 Mt Sinai School of Medicine, Psychotherapy Conference Speaker, New York, NY

“Consciousness”

3/27/15 2015 Goldring Lecture, Washington University in St Louis, School of Medicine

“Consciousness Networks in Epilepsy”

4/16/15 2015 Pierre Gloor Lecture, Montreal Neurological Institute, Montreal, Canada

“Consciousness and Epilepsy: Network Mechanisms Following Pierre Gloor”

5/12/15 Xiangya School of Medicine, Grand Rounds Speaker, Changsha, Hunan, China

“Mechanisms and treatment of impaired consciousness in epilepsy”

6/12/15 Columbia P&S, Neurology Grand Rounds, New York, NY  
“Consciousness and the brain: Normal networks and transient impairment by epilepsy”

7/6/15 Weill-Cornell/James McDonnell Foundation Consortium Speaker, ICM Paris, France

“Network mechanisms of transient impaired consciousness in epilepsy”

7/8/15 Association for the Scientific Study of Consciousness Symposium, Paris, France

“Impaired levels of consciousness in focal and generalized seizures”

8/31/15 Yale Interdepartmental Neuroscience NeuroDay Tag Team Talk, West Haven, CT

“Physiological Markers of Human Conscious Visual Perception”

9/2/15 Pennsylvania State Center for Neural Engineering Seminar, University Park, PA

“Deep brain stimulation to improve ictal and postictal consciousness”

9/2/15 Pennsylvania State University Neuroscience Seminar, University Park, PA

“Impaired Consciousness in Epilepsy: Mechanisms and Treatment”

10/26/15 Yale University Epilepsy Research Seminar, New Haven, CT

"Switching Consciousness Back On During and After Seizures"

12/7/15 American Epilepsy Society Merritt-Putnam Symposium speaker, Pennsylvania, PA

"Networks in Cognition & Epilepsy Surgery"

1/12/16 Epilepsy Grand Rounds series at George Washington University, Washington, DC

“Epilepsy and Consciousness: from Neurotransmitters to Driving Safety”

1/27/16 Beth Israel Deaconess, Epilepsy Research Seminar, Boston, MA

“Impaired consciousness in generalized and focal seizures”

1/27/16 Beth Israel Deaconess, Neuroscience Research Seminar, Boston, MA

“Network mechanisms of impaired arousal in focal seizures: Implications for restoring

ictal consciousness by neurostimulation”  
2/24/16 NYU Department of Neurology Epilepsy Seminar, New York, NY

“Epilepsy and Consciousness”

4/8/16 Cleveland Clinic Epilepsy Grand Rounds speaker, Cleveland, OH

“Consciousness Lost and Found: Mechanisms and Treatment of Impaired

Consciousness in Epilepsy”

4/8/16 Cleveland Clinic Advanced Research in Medicine speaker, Cleveland, OH

“Epilepsy Video Case Vignettes, Neuroscience Research and Q&A”

4/11/16 Pitié-Salpêtrière Hospital, ICM Institut du Cerveau et de la Moelle épinière Neurotalk

“Epilepsy and Consciousness”

5/17/16 Yale Neuroimaging for the Clinical Neuroscientist, Seminar Series

“Rediscovering Electroencephalography as a Functional Neuroimaging Method”

5/19/16 UCSF Neurosurgery Grand Rounds, San Francisco, CA

“Restoring Consciousness during Seizures with Deep Brain Stimulation”

6/1/16 NYU Center for Brain Imaging Seminar, New York, NY

“Consciousness Lost and Found: Mechanisms and Treatment of Impaired

Consciousness in Epilepsy”

6/14/16 Association for the Scientific Study of Consciousness Tutorial, Buenos Aires, Agentina

“Impaired levels of consciousness in focal and generalized seizures”

9/13/16 12th European Congress on Epileptology, Symposium, Prague, Czech Republic

“Common mechanism of loss of consciousness in seizures”  
9/20/16 Neuroscience School of Advanced Studies, Course Lecturer, Bressanone, Italy

“Consciousness and seizure disorders”

9/26/16 Yale Epilepsy Research Seminar, New Haven, CT

“Consciousness lost and found: Normal consciousness, impaired consciousness in

epilepsy, and restored consciousness with neurostimulation”

10/28/16 Bern Sleep-Wake Symposium, Keynote speaker, Bern, Switzerland

“Clinical and experimental control of seizures and arousal/consciousness in modern

Neurology”

1/31/17 CURE Seminar Speaker, University of British Columbia, Vancouver, Canada

“Impaired Consciousness in Focal Seizures: Network Mechanisms and Treatment

with Deep Brain Stimulation”

2/1/17 University of British Columbia Neurology Grand Rounds Speaker, Vancouver, Canada

“Why are Children with Absence Seizures Absent? fMRI, EEG and Behavioral

Findings”

2/24/17 University of Calgary, Clinical Neuroscience Grand Rounds, Calgary, Canada

“Consciousness Lost and Found: Impaired Consciousness in Epilepsy Restored by

Neurostimulation”

2/24/17 University of Calgary, Hotchkiss Brain Institute seminar speaker, Calgary, Canada

“Cognitive Action Potentials: Brain Networks in Normal Consciousness and Epilepsy”

4/24/17 Wisconsin Sleep Center Seminar, University of Wisconsin, Madison, WI

“Modulation of arousal in normal consciousness, epilepsy and neurostimulation”

6/21/17 McGill Neurology Residency Lecture, Montreal, Canada

“Clinical Neurology and Neuroscience Research: Career Choice or Resonance State?”

6/21/17 McGill Neurology Donald Baxter Lecture, Montreal, Canada  
“Imaging Brain Networks in Epilepsy and Altered Consciousness”

8/31/17 WONOEP Keynote Speaker, Mon St. Benet, Spain

“Epilepsy Regional Network Identification with Imaging Techniques”

9/4/17 Institute d’Investigacions Biomediques Seminar Speaker, Barcelona, Spain

“Mechanisms of Normal Consciousness and Impaired Consciousness in Epilepsy”

9/5/17 ILAE/IEC Parallel Session Speaker, Barcelona, Spain “’Interictal’ EEG discharges

and cognitive dysfunction: investigations and management”

11/3/17 UCSD Department of Neurosciences Grand Rounds, San Diego, CA

“Investigating Normal Consciousness and its Impairment by Epilepsy”

11/17/17 Yale Epilepsy CME Symposium, New Haven, CT

“Driving in Epilepsy”

2/20/18 Yale Clinical Neuroscience Imaging Research Symposium speaker, New Haven, CT

"Clinical Neuroscience Imaging Research at Yale: Opportunities for the Future"  
3/1/18 Yale Magnetic Resonance Research Center Seminar, New Haven, CT

“Brain signals of conscious awareness”

3/5/18 Whistler Brain Connectivity Workshop Proffered Speaker, Whistler, BC Canada

“EEG and fMRI Signals of Conscious Visual Awareness”  
3/9/18 Neuroscience in Intensive Care International Symposium, Washington, DC

“Unconsciousness During Epileptic Seizures”  
3/20/18 Florida Atlantic University Neuroscience Seminar, Boca Raton, FL

“Network Inhibition Hypothesis: Depressed Subcortical Function in Seizures”

4/8/18 Washington University in St. Louis, Synapse Undergraduate Neuroscience speaker

“Neuroanatomy through Clinical Cases”

4/9/18 Washington University in St. Louis School of Medicine, Pediatric Neurology Seminar

“Absence epilepsy and consciousness: From basic models and fMRI to driving safety”

4/12/18 Yale Center for Neuroepidemiology and Clinical Neurological Research Chalk Talk

“Clinical trial of DBS to improve consciousness in temporal lobe seizures”

5/29/18 NYU Department of Neurology Grand Rounds, New York, NY

“Dynamic cortical-subcortical networks in normal and impaired consciousness”

6/25/18 Association for the Scientific Study of Consciousness Tutorial, Krakow, Poland

“Functional neuroanatomy of cortical-subcortical networks for arousal and conscious

perception”

7/3/18 Neuroscience School of Advanced Studies, Course Lecturer, Venice, Italy

“Consciousness and Seizures Disorders”

8/28/18 European Congress on Epileptology Parallel Session Speaker, Vienna, Austria

“Methods and concepts to explain the role of thalamus in temporal lobe epilepsy”

11/2/18 Florida International University, Miami, FL, Biomedical Engineering Seminar  
 “Impaired Consciousness in Focal Seizures: Neuroimaging, Physiology and

Treatment with Deep Brain Stimulation”

11/16/18 Neurology Grand Rounds at North Shore University Hospital, Manhasset, NY

11/29/18 Stanford Neurosciences Institute Seminar, Stanford, CA

“Brain mechanisms of normal and impaired consciousness”  
12/1/18 American Epilepsy Society Investigators Workshop Speaker, New Orleans, LA  
 “Absence seizures as a pathological deviant of the normal quiet disengaged state”

2/26/19 Yale Clinical Neuroscience Imaging Center Symposium Speaker, New Haven, CT

“Neuroimaging of normal and impaired consciousness”

3/4/2019 Yale MACSIE (Monday Afternoon Coffee Seminars in Epilepsy) Speaker, New Haven

“Brain networks in consciousness and epilepsy”

3/29/19 Yale Epilepsy CME Symposium, New Haven, CT

“Driving and Epilepsy”  
4/4/19 UCL Centre for Neuroimaging Techniques Seminar, Queen Square, London

“Neuroimaging, electrophysiology and behavior in normal and impaired

consciousness”

4/5/19 Pitie-Salpetriere ICM Seminar, Paris, France

“Network mechanisms of normal and impaired consciousness”  
4/17/19 University of Connecticut Psychology Colloquium Speaker, Storrs, CT

“Consciousness and Epilepsy”

6/22/19 International League Against Epilepsy/International Epilepsy Congress (ILAE/IEC)

Parallel Session Speaker, Bangkok, Thailand “Probing Cortico-subcortical Networks to

Reverse Unconsciousness during Epileptic Seizures”  
6/24/19 International League Against Epilepsy/International Epilepsy Congress (ILAE/IEC)

Speaker, Bangkok, Thailand “Video-session: is this epilepsy or not?”  
7/1/19 Jingtao Xi’an, China Seminar

“Cortical and subcortical networks in normal consciousness and epilepsy”

7/4/19 University of Electronic Science and Technology, Chengdu, China Seminar

“Brain Circuits in Normal and Impaired Consciousness”  
8/4/19 Tel Aviv University, Psychological Science and Neuroscience Seminar, Tel Aviv, Israel

“Cortical and Subcortical Mechanisms of Conscious Perception”

8/13/19 Mayo Clinic Department of Neurology Research Seminar, Rochester, MN

“Thalamic Stimulation to Prevent Impaired Consciousness in Epilepsy”

9/13/19 Society for Innovative Neurosciences in Neurosurgery Speaker, New Haven, CT

“Mechanisms and Neurosurgical Treatment of Impaired Consciousness in Epilepsy”

9/20/19 Yale Anesthesia Interdisciplinary Symposium Speaker, New Haven, CT

9/26/19 Weill Cornell Key Note Speaker for Neurosurgery CME Symposium, New York, NY

“Consciousness and Epilepsy”  
12/2/19 Yale MACSIE (Monday Afternoon Coffee Seminars in Epilepsy) Speaker, New Haven

“Stimulation of the Thalamus for Arousal Restoral in TLE (START) Brain Initiative

Clinical Trial”

12/7/19 American Epilepsy Society Investigator Workshop Speaker  
 “Mechanisms and Treatment of Impaired Consciousness in Epilepsy”

1/13/20 Alpine Brain Imaging Meeting Symposium Speaker, Champéry, Switzerland

“Neuroimaging and Electrophysiology in Large Data Sets Reveal Neural Sequence of

Human Conscious Perception: Detect, Pulse, Switch and Wave”  
2/24/20 Kellaway Endowed Lectureship in Epilepsy, Baylor College of Medicine, Houston, TX

“Consciousness, Epilepsy and Neurostimulation”

3/10/20 European Winter Conference on Brain Research, Symposium Organizer and Speaker

Villars, Switzerland – *arrived on site but cancelled due to COVID-19*

“Neuroimaging and Neurostimulation to Restore Consciousness in Epilepsy”

6/9/20 North Shore University Hospital/Northwell Neuropsychology Seminar, Manhasset, NY

“Brain Mechanisms of Conscious Awareness” – *changed to teleconference*

9/16/20 Pitie-Salpetriere ICM Seminar, Paris, France

“Consciousness, Epilepsy and Neurostimulation” – *changed to teleconference*

10/1/20 Columbia MD/PhD Student Research Symposium Speaker

“Neural Mechanisms of Consciousness in Normal and Altered Brain States”

11/5/20 University of Illinois Chicago, Neurology Grand Rounds, Chicago, Illinois

“Neural Mechanisms of Normal and Altered Consciousness”

11/6/20 Open Mind Consortium Workshop Speaker

12/18/20 Yale Neurosurgery Clinical Neuroscience Grand Rounds, New Haven, CT

“Deep Brain Stimulation to Restore Consciousness in Temporal Lobe Epilepsy”

2/3/21 School of Health Sciences at Touro, Faculty Research Keynote Speaker, NY, NY

“From Patient to Lab and Back to Patient Again: Clinical Inspiration for Fundamental

Translational Research”

2/10/21 American Clinical Neurophysiology Symposium Speaker

“Novel DBS & Consciousness”

5/4/21 Yale Nuclear Medicine Grand Rounds, New Haven, CT

“Pearls and pitfalls of SPECT interpretation for epilepsy”

11/2/21 European Human Brain Project Seminar, Work Package 2 - Networks underlying brain

cognition and consciousness. “Identifying the brain networks in visual consciousness:

subcortical and cortical electrophysiology and fMRI independent of report”

11/2/21 Yale Neuropsychology Seminar, New Haven, CT

“Neuroanatomy through Clinical Cases”

11/29/21 Monday Afternoon Coffee Seminar in Epilepsy (MACSIE), New Haven, CT

“START Trial: Stimulation of the Thalamus for Arousal Restoral in Temporal lobe

epilepsy”

12/5/21 American Epilepsy Society Investigator Workshop Speaker

“Stimulation of the Thalamus for Arousal Restoral in Temporal lobe epilepsy: START”

1/26/22 NYU Department of Neurology, Epilepsy Seminar Speaker, New York, NY

“START Clinical Trial: Stimulation of the Thalamus for Arousal Restoral in Temporal

lobe epilepsy”

3/13/22 Dartmouth-Hitchcock Epilepsy Meeting Keynote Speaker, Stowe, VT

“Stimulation of the Thalamus for Arousal Restoral in TLE (START) Clinical Trial”

4/8/22 Yale Neurocritical Care / Stroke Research Seminar, New Haven, CT

“START Trial: Stimulation of the Thalamus for Arousal Restoral in Temporal lobe

epilepsy”

5/10/22 Neuroscience School of Advanced Studies, Course Lecturer, Venice, Italy

“Consciousness and Seizure Disorders”

5/31/22 Neuromodulation & Bioelectronic Medicine (NBM) Seminar Series, Mayo Clinic,

Rochester, MN. “START Clinical Trail: Stimulation of the Thalamus for Arousal

Restoral in Temporal Lobe Epilepsy”

9/14/22 New York Medical College Neurology Grand Rounds, Valhalla, NY

“Deep Brain Stimulation to Restore Consciousness in Temporal Lobe Epilepsy”

11/17/22 Yale MRRC Neuroscience Series, New Haven, CT

“Shared dynamic changes in subcortical arousal across perceptual modalities”

11/18/22 Yale Neurology Department Grand Rounds, New Haven, CT

“Impaired Consciousness in Epilepsy”

12/1/22 Vanderbilt Institute for Surgery and Engineering Seminar, Nashville, TN

“Stimulation of the Thalamus for Arousal Restoral in Temporal Lobe Epilepsy (START)

Clinical Trial”

12/3/22 American Epilepsy Society Presidential Symposium Speaker, Nashville, TN

“Excitation and Inhibition During Temporal Lobe Epileptic Seizures”

2/7-8/23 Israeli League Against Epilepsy Symposium Speaker, Herzliya, Israel

“Mechanisms and Treatment of Impaired Consciousness in Focal Seizures”

3/27/23 Tel Aviv University Psychological Sciences Colloquium, Tel Aviv, Israel

“Shared subcortical arousal systems across perceptual modalities”

5/9/23 Mayo Clinic Department of Neurology, Pellar Visiting Professorship, Jacksonville, FL

8/11/23 Brazilian Neuromodulation Society Speaker, Sao Paolo, Brazil

2/--/24 Gordon Research Conference, Speaker Ventura, CA

“Thalamic modulation of cortical arousal in normal consciousness and epileptic

unconsciousness”

**PUBLICATIONS:**

**1. NEUROSCIENCE BOOKS:**

Blumenfeld, H., *Neuroanatomy through Clinical Cases.* (2002). Sinauer Associates, Inc.,

Publishers. Sunderland, MA. 1-951.

Blumenfeld, H., *Neuroanatomy through Clinical Cases, 2nd Edition.* (2010). Sinauer Associates,

Inc., Publishers. Sunderland, MA.

Blumenfeld, H., *Neuroanatomy through Clinical Cases, 3rd Edition.* (2022). Oxford University

Press, New York, NY.

Cavanna AE, Nani A, Blumenfeld H, Laureys S (Eds). *Neuroimaging of Consciousness.*

(2013). Springer Publ, NY.

Faingold CL, Blumenfeld H (Eds). *Neuronal Networks in Brain Function, CNS Disorders, and*

*Therapeutics.* (2014). Elsevier, NY.

**2. MULTI-MEDIA EDUCATIONAL RESOURCES:**

Blumenfeld, H., 2000. *neuroexam.com.* An interactive online guide to the neurologic

examination, with streaming video demonstrations http://www.neuroexam.com

Blumenfeld, H. 2001. *The NeuroExam Video*. Sinauer Associates, Inc., Publishers.

A videotaped demonstration of the neurologic exam.

Blumenfeld, H. 2005. *Ictal-interictal SPECT Analyzed by SPM (ISAS).* Online guide to SPECT

image analysis for epilepsy, with software and normal database. <http://spect.yale.edu/>

Blumenfeld H. 2006. Neurology SPECT & PET – Epilepsy Section. Society of Nuclear

Medicine Continuing Medical Education. <http://www.snm.org/llsap/>

**3. PEER-REVIEWED ORIGINAL RESEARCH:**

Guffanti, A.A., Blumenfeld, H. and Krulwich, T.A. (1981). ATP synthesis in an uncoupler-

resistant mutant of *Bacillus megaterium.* *J. Biol. Chem.* 256, 8416-8421.

Castellucci, V.F., Frost, W., Goelet, P., Montarolo, P.D., Schacher, S., Morgan, J., Blumenfeld,

H. and Kandel, E.R. (1987). Cell and molecular analysis of long-term sensitization in

*Aplysia*.." In *Regulation et Plasticite Synaptiques*. *J. Physiol. (Paris)* 81, 349-357.

Castellucci, V.F., Blumenfeld, H., Goelet, P. and Kandel, E.R. (1989). Inhibitor of protein

synthesis blocks long-term behavioral sensitization in the isolated gill-withdrawal reflex of

*Aplysia* . *J. Neurobiol.* 20, 1-9.

Blumenfeld, H., Spira, M.E., Kandel, E.R. and Siegelbaum, S.A. (1990). Facilitatory and

inhibitory transmitters modulate calcium influx during action potentials in *Aplysia* sensory

neurons. *Neuron* 5, 487-499.

Blumenfeld, H., Zablow, L., Sabatini, B. (1992). Evaluation of cellular mechanisms for

modulation of calcium transients using a mathematical model of fura-2 Ca2+ imaging in

*Aplysia* sensory neurons. *Biophysical J.* 63, 1146-1164.

Eliot, L.S., Kandel, E.R., Siegelbaum, S.A. and Blumenfeld, H. (1993). Imaging terminals of

*Aplysia* sensory neurons demonstrates role of enhanced Ca2+ influx in presynaptic

facilitation. *Nature* 361, 634-637.

Blumenfeld, H., Cha, J.H. and Cudkowicz, M.E. (1996). Trimethoprim and sulfonamide-

associated meningoencephalitis with MRI correlates. *Neurology*, 46: 556-558.

Scott P, Barsan W, Frederiksen S, ... Blumenfeld H, ... Brennan KM. (1996). A randomized trial

of tirilazad mesylate in patients with acute stroke (RANTTAS). *Stroke,* 27(9): 1453-1458.

Kalkanis, S.N., Blumenfeld, H., Sherman, J.C., Krebs, D.E., Irizarry, M.C., Parker, S.W. and

Cosgrove, G.R. (1996). Delayed complications 36 years after hemispherectomy: a case

report . *Epilepsia,* 37(8): 758-762.

Shapiro, B.E., Soto, O., Shafqat, S. and Blumenfeld, H. (1997). Adult botulism. *Muscle and*

*Nerve*, 20: 100-102.

Blumenfeld, H., and McCormick, D.A. (2000). Corticothalamic inputs control the pattern of

activity generated in thalamocortical networks.  *J. Neurosci.* 20(13): 5153-5162.

Chang, D., Zubal, I.G., Gottschalk, C., Necochea, A., Stokking, R., Studholme, C., Corsi,

M., Slawski, J., Spencer, S.S., and Blumenfeld, H. (2002). Comparison of Statistical Parametric Mapping and SPECT Difference Imaging in Patients with Temporal Lobe Epilepsy. *Epilepsia.* 43(1): 68-74.

Zaatreh MM, Spencer DD, Thompson JL, Blumenfeld H, Novotny EJ, Mattson RH, Spencer SS.

(2002). Frontal lobe tumoral epilepsy: Clinical, neurophysiological features and

predictors of surgical outcome. *Epilepsia.* 43(7): 727-733.

Smith AJ, Blumenfeld H, Behar KL, Rothman DL, Shulman RG, Hyder F. (2002). Cerebral

energetics and spiking frequency: The neurophysiological basis of fMRI. *Proc Natl Acad*

*Sci, USA.* 99(16):10765-10770.

Hyder F, Kida I, Smith AJ, Blumenfeld H, Shulman RG, Rothman DL. (2002).

Quantitative fMRI of rat brain by multi-modal MRI and MRS measurements. *International*

*Symposium on Brain Activation and CBF Control (Minoru Tomita Ed.). International*

*Congress Series,* 1235: 57-71.

Motamedi M, Nguyen DK, Zaatreh M, Singh SP, Westerveld M, Thompson JL, Mattson R,

Blumenfeld H, Novotny E, Spencer SS. (2003). Levetiracetam efficacy in refractory partial-

onset seizures especially after failed epilepsy surgery. *Epilepsia.*  44(2): 211-214.

Weisman D, Hisama FM, Waxman SG, Blumenfeld H. (2003). Going deep to cut the

link: Cortical disconnection syndrome caused by a thalamic lesion. *Neurology.* 60 (11):

1865-66.

Blumenfeld, H., Westerveld, M., Ostroff, R.B., Vanderhill, S.D., Freeman, J., Necochea, A.,

Uranga, P., Tanhehco, T., Smith, A., Seibyl, J.P., Stokking, R., Studholme, C., Spencer,

S.S., Zubal, I.G. (2003). Selective frontal, parietal and temporal networks in generalized seizures. *Neuroimage,* 19: 1556-1566.

Blumenfeld, H., McNally, K.A., Ostroff, R., Zubal, I.G. (2003). Targeted prefrontal cortical

activation with bifrontal ECT. *Psychiatry Res: Neuroimaging.* 123 (3): 165-170.

Klein JP, Khera DS, Nersesyan H, Kimichi EY, Waxman SG, Blumenfeld H. (2004). Dysregulation of sodium channel expression in cortical neurons in a rodent model of absence epilepsy. *Brain Research,* 1000: 102-109.

Blumenfeld H, McNally KA, Vanderhill SD, Paige AL, Chung R, Davis K, Norden AD,

Stokking R, Studholme C, Novotny EJ, Zubal IG, Spencer SS. (2004). Positive and

negative network correlations in temporal lobe epilepsy. *Cerebral Cortex*, 14(8): 892-902.

Nersesyan H, Hyder F, Rothman D, Blumenfeld H. (2004). Dynamic fMRI and EEG recordings

during spike-wave seizures and generalized tonic-clonic seizures in WAG/Rij rats. *J Cereb*

*Blood Flow Metab*, 24(6): 589-599.

Nersesyan H, Herman P, Erdogan E, Hyder F, Blumenfeld H. (2004). Relative changes in

cerebral blood flow and neuronal activity in local microdomains during generalized seizures.

*J Cereb Blood Flow Metab*, 24(9): 1057-1068.

Blumenfeld H, Rivera M, McNally KA, Davis K, Spencer DD, Spencer SS. (2004). Ictal

neocortical slowing in temporal lobe epilepsy. *Neurology* 63: 1015-1021.

McNally KA, Paige AL, Varghese G, Zhang H, Novotny EJ, Spencer SS, Zubal IG, Blumenfeld

H. (2005). Localizing Value of Ictal-Interictal SPECT Analyzed by SPM (ISAS). *Epilepsia*,

46(9): 1450 –1464.

Kida I, Smith AJ, Blumenfeld H, Behar KL, Hyder F (2006). Lamotrigine suppresses neurophysiological responses to somatosensory stimulation in the rodent. *Neuroimage,* 29: 216-224.

Fong TG, Bogardus ST, Daftary A, Auerbach E, Blumenfeld H, Modur S, Leo-Summers L, Seibyl J, Inouye SK. (2006). Cerebral Perfusion Changes in Older Delirious Patients Using 99mTc HMPAO SPECT. *Journal of Gerontology Medical Sciences,* 61A (12): 1294–1299.

Enev M, McNally KA, Varghese G, Zubal IG, Ostroff R, Blumenfeld H. (2007). Imaging onset

and propagation of ECT-induced seizures. *Epilepsia,* 48(2):238-44*.*

Blumenfeld H, Rivera M, Vasquez JG, Shah A, Ismail D, Enev M, Zaveri HP. (2007).

Neocortical and thalamic spread of amygdala kindled seizures. *Epilepsia,* 48(2):254-62*.*

Maandag NJG, Coman D, Sanganahalli BG, Herman P, Smith AJ, Blumenfeld H, Shulman RG,

Hyder F. (2007). Energetics of neuronal signaling and fMRI activity. *Proc Natl Acad Sci,*

*USA,,*104(51):20546-20551.

Buch K, Blumenfeld H, SpencerS, NovotnyE, Zubal IG. (2008). Evaluating the accuracy of

perfusion/metabolism (SPET/PET) ratio in seizure localization.  *Eur J Nucl Med Mol*

*Imaging,* 35(3):579-88.

Schridde U, Khubchandani M, Motelow JE, Sanganahalli BG, Hyder F, Blumenfeld H. (2008).

Negative BOLD with large increases in neuronal activity. *Cerebral Cortex,* 18:1814–1827.

*PMCID: PMC2790390*

Blumenfeld H, Klein JP, Schridde U, Vestal M, Rice T, Khera DS, Bashyal C, Giblin K, Paul-

Laughinghouse C, Wang F, Phadke A, Mission J, Agarwal RK, Englot DJ, Motelow J,

Nersesyan H, Waxman SG, Levin AR. (2008). Early treatment suppresses the development

of spike-wave epilepsy in a rat model. *Epilepsia,* 49(3):400–409. *PMCID: PMC3143182*

Englot DJ, Mishra AM, Mansuripur PK, Herman P, Hyder F, Blumenfeld H. (2008). Remote

effects of focal hippocampal seizures on the rat neocortex. *Journal of Neuroscience,*

28(36):9066 –9081. *PMCID: PMC2590649*

Blumenfeld H, Lampert A, Klein JP, Mission J, Chen MC, Rivera M, Dib-Hajj S, Brennan AR,

Hains BC, Waxman SG. (2009). Role of hippocampal sodium channel Nav1.6 in kindling

epileptogenesis. *Epilepsia*, 50(1): 44-55. *PMCID: PMC3741044*

Sanganahalli BG, HermanP, BlumenfeldH, Hyder F. (2009). Oxidative Neuroenergetics in

Event-Related Paradigms. *Journal of Neuroscience,* 29(6):1707-1718. *PMCID:*

*PMC2760964*

HermanP, Sanganahalli BG, BlumenfeldH, Hyder F. (2009). Cerebral oxygen demand for

short-lived and steady-state events. *J Neurochem,* 109(s1): 73-79. [PMCID: 2714475]

Blumenfeld H, Varghese G, Purcaro MJ, Motelow JE, Enev M, McNally KA, Levin AR, Hirsch

L.J., Tikofsky R, Zubal IG, Paige AL, Spencer SS. (2009). Cortical and subcortical networks

in human secondarily generalized tonic-clonic seizures. *Brain,* 132(4): 999-1012. [PMCID:

2724910]

Ellens DJ, Hong E, Giblin K, Singleton MJ, Bashyal C, Englot DJ, Mishra AM, Blumenfeld H.

(2009). Development of spike-wave seizures in C3H/HeJ mice*. Epilepsy Research,* 85(1) 53-

59*.* [PMCID: PMC3432281]

Varghese G, Purcaro MJ, Motelow JE, Enev M, McNally KA, Levin AR, Hirsch L, Tikofsky R,

Paige AL, Zubal IG, Spencer SS, Blumenfeld H. (2009). Clinical use of ictal SPECT in

secondarily generalized tonic-clonic seizures. *Brain,* 132(8): 2102-2113. [PMCID: 2714057]

HeidaJG, Englot DJ, Sacktor TC, BlumenfeldH, Moshé SL. (2009). Separating kindling and

LTP: Lessons from studies of PKMzeta in developing and adult rats. *Neurosci Lett,* 453(3):

229-32. [NIHMSID#97473]

Chahboune H, Mishra AM, DeSalvo MN, Staib LH, Purcaro M, Scheinost D, Papademetris X,

Fyson SJ, Lorincz ML, Crunelli V, Hyder F, Blumenfeld H. (2009). DTI abnormalities in

anterior corpus callosum of rats with spike-wave epilepsy. *Neuroimage,* 47: 459-466*.*

*PMCID: PMC2712639*

Englot DJ, Modi B, Mishra AM, DeSalvo M, Hyder F, Blumenfeld H. (2009). Cortical deactivation

induced by subcortical network dysfunction in limbic seizures. *Journal of Neuroscience,*

29(41):13006 –13018*. PMCID: PMC2778759*

Owuor K, Harel N, Englot D, Hisama F, Blumenfeld H, Strittmatter S. (2009). LGI1-associated

epilepsy through altered ADAM23-dependent neuronal morphology. *Mol Cell Neurosci,*

42(4):448-57.

Brown FC, Tuttle C, Westerveld M, Ferraro FR, Chmielowiec T, Vandemore M, Gibson-Beverly

G, Bemus L, Roth RM, Blumenfeld H, Spencer DD, Spencer SS. (2010). Visual Memory in

post-Anterior Right Temporal Lobectomy Patients and Adult Normative Data for the Brown

Location Test (BLT). *Epilepsy and Behavior*, 17: 215-220.

Zaveri HP, Pincus SM, Goncharova II, Novotny EJ, Duckrow RB, Spencer DD, Blumenfeld H,

Spencer SS. (2010). Background intracranial EEG spectral changes with anti-epileptic drug

taper. *Clinical Neurophysiology,* 121: 311–317.

DeSalvoMN, Ulrich Schridde U, Mishra AM, Motelow JE, Purcaro MJ, Danielson N, Bai X, Hyder

F, Blumenfeld H. (2010). Focal BOLD-fMRI changes in bicuculline-induced tonic-clonic

seizures in the rat. *Neuroimage*, 50: 902-909. [NIHMSID #[177467](https://www.nihms.nih.gov/db/sub.cgi?mid=177467&type=PDF&from=track_recent&page=file)] *PMCID: PMC2946206*

Bai X, Vestal M, Berman R, Negishi M, Spann M, Vega C, DeSalvo M, Novotny EJ, Constable

RT, Blumenfeld H. (2010). Dynamic timecourse of typical childhood absence seizures:

EEG, behavior and fMRI. *Journal of Neuroscience,* 30(17):5884 –5893. [PMCID: 2946206].

ScheinostD, TeisseyreTZ, DistasioM, DeSalvoMN, PapademetrisX, Blumenfeld H. (2010).

New Open Source Ictal SPECT Analysis Method Implemented in BioImage Suite. *Epilepsia*,

51(4):703-7. [PMCID: 2963625].

Yang L, Morland TB, Schmits K, Rawson E, Narasimhan P, Motelow JE, Purcaro MJ, Peng K,

Raouf S, DeSalvo MN, Oh T, Wilkerson J, Bod J, Srinivasan A, Kurashvili P, Anaya J, Manza

P, Danielson N, Ransom CB, Huh L, Elrich S, Padin-Rosado J, Naidu Y, Detyniecki K, Hamid

H, Farooque P, Astur R, Xiao B, Duckrow RB, Blumenfeld H. (2010). A Prospective Study

of Loss of Consciousness in Epilepsy Using Virtual Reality Driving Simulation and Other

Video Games. *Epilepsy & Behavior*, 18: 238–246. [PMCID: 3741051]

Vega C, Vestal M, DeSalvo M, Berman R, Chung M, Blumenfeld H, Spann M. (2010).

Differentiation of Attention-Related Problems in Childhood Absence Epilepsy. *Epilepsy &*

*Behavior,* 19: 82-85*.* [PMCID: PMC2943027]

Santoro B, Lee JY, Englot DJ, Seal SR, Piskorowski RA, Siegelbaum SA, Winawer MR,

Blumenfeld H. (2010). Increased seizure severity and seizure-related death in mice lacking

HCN1 channels. *Epilepsia*, 51(8):1624-7. [PMCID: 2952649]

Berman R, Negishi M, Vestal M, Spann M, Chung M, Bai X, Purcaro M, Motelow JE, Danielson

N, Dix-Cooper L, Enev M, Novotny EJ, Constable RT, Blumenfeld H. (2010). Simultaneous

EEG, fMRI, and behavior in typical childhood absence seizures. *Epilepsia*, 51(10):2011-22.

[PMCID: 2953613]

Englot DJ, Yang L, Hamid H, Danielson N, Bai X, Marfeo A, Yu L, Gordon A, Purcaro MJ,

Motelow JE, Agarwal R, Ellens DJ, Golomb JD, Shamy MCF, Zhang H, Carlson C, Doyle W,

Devinsky O, Vives K, Spencer DD, Spencer SS, Schevon C, Zaveri HP, Blumenfeld H.

(2010). Impaired consciousness in temporal lobe seizures: role of cortical slow activity.

*Brain*, 133(12): 3764-77. [PMCID: 2995886]

Killory BD, Bai X, Negishi M, Vega C, Spann MN, Vestal M, Guo J, Berman R, Danielson N,

Trejo G, Shisler D, Novotny EJ, Constable RT, Blumenfeld H. (2011). Impaired attention and

network connectivity in childhood absence epilepsy. *Neuroimage,* 56(4): 2209–2217.

[PMCID: 3105167]

Bai X, Guo J, Killory B, Vestal M,Berman R, Negishi M, Danielson N, Novotny EJ,Constable RT,

Blumenfeld H. (2011). Resting Functional Connectivity between the Hemispheres in

Childhood Absence Epilepsy. *Neurology,* 76 (23) 1960-1967. [PMCID: 3109878]

Vega C, Guo J, Killory B, Danielson N, Vestal M, Berman R, Martin L, Gonzalez J, Blumenfeld H,

Spann M.N. (2011). Symptoms of Anxiety and Depression in Childhood Absence Epilepsy.

*Epilepsia,* 52(8):e70-4. [PMCID: 3145036]

Mishra AM, Ellens DJ, Schridde U, Motelow JE, Purcaro MJ, DeSalvo MN, Enev M, Sanganahalli

B, Hyder F, Blumenfeld H. (2011). Where fMRI and electrophysiology agree to disagree:

corticothalamic and striatal activity patterns in the WAG/Rij rat. *Journal of Neuroscience,* 31:

15053-15064. [PMCID: PMC3432284]

Brinkmann BH, Jones DT, Stead M, Kazemi N, O’Brien TJ, So E, Blumenfeld H, Mullan BP,

Worrell GA. (2012). Statistical Parametric Mapping Demonstrates Asymmetric Uptake with

Tc-99m ECD and Tc-99m HMPAO SPECT in Normal Brain. *J Cereb Blood Flow Metab,*

32(1):190-198.

Yang L, Shklyar I, Lee HW, Ezeani C, Anaya J, Balakirsky S, Han X, Enamandram S, Men C,

Cheng JY, Nunn A, Mayer T, Francois C, Albrecht M, Hutchison AL, Yap E-L, Ing K,

Didebulidze G, Xiao B, Hamid H, Farooque P, Detyniecki K, Giacino JT, Blumenfeld H.

(2012). Impaired consciousness in epilepsy investigated by a prospective responsiveness in

epilepsy scale (RES). *Epilepsia,* 53(3):437–447.

McPherson A, Rojas L, Bauerschmidt A, Ezeani CC, Yang L, Motelow JE, Farooque P,

Detyniecki K, Giacino JT, Blumenfeld H. (2012). Testing for minimal consciousness in

complex partial and generalized tonic-clonic seizures. *Epilepsia,* 53(10): e180-3.

[NIHMS397105]

Bailey CJ, Sanganahalli BG, Herman P, Blumenfeld H, Gjedde A, Hyder F. (2013). Analysis of

time and space invariance of BOLD responses in the rat visual system. *Cerebral Cortex,*

23(1): 210-222. [PMCID: PMC3513959]

Bauerschmidt A, Koshkelashvili N, Ezeani CC, Yoo JY, Zhang Y, Manganas LN, Kapadia K,

Palenzuela D, Schmidt CC, Lief R, Kiely B, Choezom T, McClurkin M, Shorten A, Detyniecki

K, Hirsch LJ, Giacino JT, Blumenfeld H. (2013). Prospective assessment of ictal behavior

using the revised Responsiveness in Epilepsy Scale (RES-II). *Epilepsy & Behavior,* 26(1):

25–28. [PMCID: PMC3741052]

Dezsi G, Ozturk E, Stanic D, Powell KL, Blumenfeld H, O'Brien TJ, Jones NC. (2013).

Ethosuximide reduces epileptogenesis and behavioural comorbidity in the GAERS model of

genetic generalised epilepsy. *Epilepsia*, 54(4): 635-43. *PMCID: PMC3618492*

Sanganahalli BG, Herman P, Behar KL, Blumenfeld H, Rothman DL, Hyder F. (2013).

Functional MRI and neural responses in a rat model of Alzheimer's disease. *Neuroimage,*

79: 404-11. *PMCID: PMC3700380*

Mishra A, Bai X, Motelow J, DeSalvo M, Danielson N, Sanganahalli B, Hyder F, Blumenfeld H.

(2013). Increased resting functional connectivity in spike–wave epilepsy in WAG/Rij rats.

*Epilepsia,* 54(7): 1214-22. *PMCID: PMC3703864*

Herman P, Sanganahalli BG, Blumenfeld H, Rothman DL, Hyder F. (2013). Quantitative basis

for neuroimaging of cortical laminae with calibrated fMRI. *Proc Natl Acad Sci, USA,*

110(37):15115-20. *PMCID: PMC3773779*

van Luijtelaar G, Mishra AM, Edelbroek P, Coman D, Frankenmolen N, Schaapsmeerders P,

Covolato G, Danielson N, Niermann H, Janeczko K, Kiemeneij A, Burinov J, Bashyal C,

Coquilette M, Luttjohann A, Hyder F, Blumenfeld H, van Rijn CM. (2013). Anti-

epileptogenesis: electrophysiology, diffusion tensor imaging and behavior in a genetic

absence model. *Neurobiol Dis,* 60: 126–138. *PMCID: PMC3952020*

Lee HW, Youngblood MW, Farooque P, Han X, Jhun S, Chen W, Goncharova I, Vives K,

Spencer DD, Zaveri H, Hirsch LJ, Blumenfeld H. (2013). Seizure Localization using Three-

Dimensional Surface Projections of Intracranial EEG Power. *Neuroimage,* 83: 616-626.

*PMCID: PMC* *3815983*

Yoo JY, Farooque P, Chen W, Youngblood MW, Zaveri HP, Gerrard JL, Spencer DD, Hirsch LJ,

Blumenfeld H. (2014). Ictal spread of medial temporal lobe seizures with and without

secondary generalization: An intracranial EEG analysis. *Epilepsia,* 55 (2): 289-95. *PMCID:*

*PMC4103687*

Berg AT, Levy SR, Testa FM, Blumenfeld H. (2014). Long-term seizure remission in childhood

absence epilepsy: might initial treatment matter? *Epilepsia,* 55 (4): 551-7. *PMCID:* PMC3999182

Cunningham C, Chen WC, Shorten A, McClurkin M, Choezom T, Schmidt CP, Chu V, Bozik A,

Best C, Chapman M, Furman M, Detyniecki K, Giacino JT, Blumenfeld H. (2014). Impaired

consciousness in partial seizures is bimodally distributed. *Neurology,* 82 (19): 1736-44.

*PMCID: PMC4032205*

Mishra AM, Bai X, Sanganahalli BG, Waxman SG, Shatillo O,Grohn O, Hyder F, Pitkänen A,

Blumenfeld H. (2014). Decreased Resting Functional Connectivity after Traumatic Brain

Injury in The Rat. *PLOS One,* 9(4): e95280, 1-9. *PMCID: PMC3991600*

Lee HW, Arora J, Papademetris X, Tokuglu F, Negishi M, Scheinost D, Farooque P, Blumenfeld

H, Spencer D, Constable RT. (2014). fMRI intrinsic connectivity mapping reveals neural

networks involving seizure generation: comparison with intracranial seizure onset zones.

*Neurology,* 83(24): 2269-77. *PMCID: PMC4277677*

Alkawadri R, Gaspard N, Zaveri H, Goncharova II, Duckrow RB, Blumenfeld H, Spencer DD,

Hirsch LJ. (2014). The Spatial and Signal Characteristics of Physiologic High Frequency

Oscillations. *Epilepsia,* 55 (12) :1986-95. *PMCID: In process.*

Li W, Motelow JE, Zhan Q, Hu YC, Kim R, Chen WC, Blumenfeld H. (2015). Cortical network

switching: Possible role of the lateral septum and cholinergic arousal. *Brain Stimulation,* 8:

36-41. *PMCID: PMC4277718*

Gummadavelli A, Motelow JE, Smith N, Zhan Q, Schiff ND, Blumenfeld H. (2015). Thalamic

stimulation to improve level of consciousness after seizures: Evaluation of electrophysiology

and behavior. *Epilepsia,* 56 (1): 114-24. *PMCID: PMC4689309*

Motelow JE, Li W, Zhan Q, Mishra AM, Sachdev RNS, Liu G, Gummadavelli A, Zayyad Z, Lee

HS, Chu V, Andrews JP, Englot DJ, Herman P, Sanganahalli BG, Hyder F, Blumenfeld H.

(2015). Decreased subcortical cholinergic arousal in focal seizures. *Neuron*, 85: 561–572.

*PMCID: PMC4319118.*

Youngblood MW, Chen WC, Mishra AM, Enamandram S, Sanganahalli BG, Motelow JE, Bai HX,   
 Frohlich F, Gribizis A, Lighten A, Hyder F, Blumenfeld H. (2015). Rhythmic 3-4 Hz discharge

is insufficient to produce cortical BOLD fMRI decreases in generalized seizures.

*Neuroimage*, 109: 368-377. *PMCID: PMC4340775.*

Punia V, Farooque P, Chen W, Hirsch LJ, Berg AT, Multi-Center Study of Epilepsy Surgery,

Blumenfeld H. (2015). Epileptic auras and their role in driving safety in people with epilepsy.

*Epilepsia,* 56(11):e182-5.

Furman M, Zhan Q, McCafferty C, Lerner BA, Motelow JE, Meng J, Ma C, Buchanan GF, Witten

IB, Deisseroth K, Cardin JA, and Blumenfeld H. (2015). Optogenetic Stimulation of

Cholinergic Brainstem Neurons During Focal Limbic Seizures: Effects on Cortical

Physiology. *Epilepsia,* 56(12):e198-202. *PMCID: PMC4679683*

Shinnar S, Cnaan A, Hu F, Clark P, Dlugos D, Hirtz DG, Masur D, Mizrahi EM, Moshé SL,

Glauser TA; Childhood Absence Epilepsy Study Group (includes Blumenfeld H). (2015).

Long-term outcomes of generalized tonic-clonic seizures in a childhood absence epilepsy

trial. *Neurology*, 85(13):1108-14.

Touloumes G, Morse E, Chen WC, Gober L, Dente J, Lilenbaum R, Katzenstein E, Pacelli A,

Johnson E, Si Y, Sivaraju A, Grover E, Khozein R, Cunningham C, Hirsch LJ, Blumenfeld H.

(2016). Human Bedside Evaluation versus Automatic Responsiveness Testing in Epilepsy

(ARTiE). *Epilepsia,* 57(1):e28-32. *PMCID: PMC4707993.*

Zhan Q, Buchanan GF, Motelow JE, Andrews J, Vitkovskiy P, Chen WC, Serout F,

Gummadavelli A, Kundishora A, Furman M, Li W, Bo X, Richerson GB, Blumenfeld H.

(2016). Impaired serotonergic brainstem function during and following seizures. *J Neurosci*,

36(9):2711–2722. *PMCID: PMC4879214.*

Sanganahalli B, Herman P, Rothman D, Blumenfeld H, Hyder F. (2016). Metabolic demands of

neural-hemodynamic associated and disassociated areas in brain. *Journal of Cerebral Blood*

*Flow and Metabolism,* 36(10):1695-1707. *PMCID: PMC5076793.*

Guo JN, Kim R, Chen Y, Negishi M, Jhun S, Weiss S, Ryu JH, Bai X, Xiao W, Feeney E,

Rodriguez-Fernandez J, Mistry H, Crunelli V, Crowley MJ, Mayes LC, Constable RT,

Blumenfeld H. (2016). Impaired consciousness in patients with absence seizures

investigated by functional MRI, EEG, and behavioural measures: a cross-sectional study.

*Lancet Neurology,* 15: 1336-1345. *PMCID: PMC5504428.*Avital Cnaan A, Shlomo Shinnar S, Ravindra Arya R, Peter C. Adamson PC, Peggy O. Clark PO,

Dennis Dlugos D, Deborah G. Hirtz DG, David Masur D, Tracy A. Glauser TA; For the

Childhood Absence Epilepsy Study Group (includes Blumenfeld H). (2017). Second

monotherapy in childhood absence epilepsy. *Neurology*, 88(2):182-190. *PMCID:*

*PMC5224720*Glauser TA, Holland K, O’Brien VP,Keddache M, Martin LJ, Clark PO, Cnaan A, Dlugos D, Hirtz

DG, Shinnar S, Grabowski G; For the Childhood Absence Epilepsy Study Group (includes

Blumenfeld H). (2017). Pharmacogenetics of Antiepileptic Drug Efficacy in Childhood

Absence Epilepsy. *Ann Neurol,* 81:444–453. *PMCID In Process.*

Kundishora A, Gummadavelli A, Ma C, Liu M, McCafferty C, Schiff ND, Willie JT, Gross RE,

Gerrard J, Blumenfeld H. (2017). Restoring conscious arousal during focal limbic seizures

with deep brain stimulation. *Cerebral Cortex,* 27 (3): 1964-1975. *PMCID: PMC5964488.*

Feng L, Motelow JE, Ma C, Biche W, McCafferty C, Smith N, Liu M, Zhan Q, Jia R, Xiao B,

Duque A, Blumenfeld H. (2017). Seizures and sleep in the thalamus: Focal limbic seizures

show divergent activity patterns in different thalamic nuclei. *J Neurosci*, 37(47):11441-11454.

*PMCID: PMC5700426*  
Quraishi IH, Benjamin CF, Spencer DD, Blumenfeld H, Alkawadri R. (2017). Impairment of

consciousness induced by bilateral electrical stimulation of the frontal convexity. *Epilepsy*

*Behav Case Rep,* 8: 117-122. *PMCID: PMC5707211*

Tinaz S, Chow C, Kuo PH, Krupinski E, Blumenfeld H, Louis ED, Zubal G. (2018). Semi-

quantitative analysis of dopamine transporter scans in patients with Parkinson's disease.

*Clinical Nuclear Medicine,* 43(1):e1-e7. *PMCID In Process.*  
  
Christopher F.A. Benjamin, Alexa X Li, Hal Blumenfeld, R Todd Constable, Rafeed Alkawadri,

Stephan Bickel, Christoph Helmstaedter, Stefano Meletti, Richard Bronen, Simon K. Warfield,

Jurriaan M. Peters, David Reutens, Monika Połczyńska, Dennis D. Spencer, Lawrence J.

Hirsch. (2018). Presurgical language fMRI: Clinical practices and patient outcomes in

epilepsy surgical planning. *Human Brain Mapping,* 39(7):2777-2785. *PMCID: PMC6033659*

Christopher F.A. Benjamin, Isha Dhingra, Alexa X Li, Hal Blumenfeld, R Todd Constable, Rafeed

Alkawadri, Stephan Bickel, Christoph Helmstaedter, Stefano Meletti, Richard Bronen, Simon

K. Warfield, Jurriaan M. Peters, David Reutens, Monika Połczyńska, Susan Bookheimer,

Lawrence J. Hirsch, Dennis D. Spencer. (2018). Presurgical language fMRI: Technical

practices in epilepsy surgical planning. *Human Brain Mapping, 39(10):4032-4042*. *PMCID In*

*Process.*

Phillip Hsin Kuo, Naghmehossadat Eshghi, Sule Tinaz, Hal Blumenfeld, Elan D Louis, and

George Zubal. (2019). Optimization of Parameters for Quantitative Analysis of 123I-

ioflupane SPECT Images for Monitoring of Progression of Parkinson's Disease. *J Nuc Med   
 Tech*, 47(1):70-74. *PMCID In Process.*Benjamin Tolchin, Barbara A. Dworetzky, Steve Martino, Hal Blumenfeld, Lawrence J. Hirsch,

and Gaston Baslet. (2019). Adherence with psychotherapy and treatment outcomes for

patients with psychogenic nonepileptic seizures. *Neurology,* 92(7):e675-e679. *PMCID In*

*Process.*

Benjamin Tolchin, Gaston Baslet, Joji Suzuki, Steve Martino, Hal Blumenfeld, Lawrence J.

Hirsch, Hamada Altalib, Barbara A. Dworetzky. (2019). Randomized controlled trial of

motivational interviewing for psychogenic nonepileptic seizures. *Epilepsia,* 60(5):986-995.

*PMCID In Process.*

John P. Andrews, Abhijeet Gummadavelli, Pue Farooque, Jennifer Bonito, Christopher Arencibia,   
 Hal Blumenfeld and Dennis D. Spencer. (2019). Association of seizure spread with surgical

failure in epilepsy. *JAMA Neurology,* 76(4):462-469. *PMCID In Process.*Herman WX, Smith RE, Kronemer SI, Watsky RE, Chen WC, Gober L, Touloumes GJ, Khosla M,

Raja A, Horien CL, Morse E, Botta K, Hirsch LJ, Alkawadri R, Gerrard JL, Spencer DD,  
Blumenfeld H. (2019). A switch and wave of neuronal activity in the cerebral cortex during  
the first second of conscious perception. *Cerebral Cortex,* 29(2):461-474. *PMCID: PMC6319177*

John P. Andrews, Zongwei Yue, Jun Hwan Ryu, Garrett Neske, David A. McCormick and Hal

Blumenfeld. (2019). Mechanisms of decreased cholinergic arousal in focal seizures: in vivo

whole-cell recordings from the pedunculopontine tegmental nucleus. *Exp Neurol,* 314: 74-81.

*PMCID: PMC6503533.*Elliot Morse, Kathryn Giblin, Mi Hae Chung, Carolin Dohle, Anne Berg, Hal Blumenfeld. (2019).

Historical trend toward improved long-term outcome in childhood absence epilepsy. *Epilepsy*

*Res*, 152:7-10. *PMCID: PMC6573015*

Brian Nils Lundstrom, Melanie Boly, Robert Duckrow, Hitten Zaveri, Hal Blumenfeld. (2019).

Slowing less than 1 Hz is decreased near the seizure onset zone. *Scientific Reports,*

9(1):6218, 1-10.

Qi Yan, Nicolas Gaspard, Hitten P. Zaveri, Hal Blumenfeld, Lawrence J. Hirsch, Dennis D.

Spencer, Rafeed Alkawadri. (2019). The Connectivity Index: An Effective Metric for Grading

Epileptogenicity. *Journal of Neurosurgery,* in press.

Zubeda Sheikh, Hal Blumenfeld, Lawrence J Hirsch. (2019). Contralateral Ictal Ptosis: Is it a

reliable lateralizing sign in epilepsy? *Neurol Clin Prac,* 9(6):513-515.

Maha Neha Saleem, Christopher Andrew Arencibia, Kevin McKenna, Sabrina Cristofaro, Kamil   
 Detyniecki, Daniel Friedman, Jacqueline French, Hal Blumenfeld, on behalf of the HEP

Investigators. (2019). Investigation of patient and observer agreement on description of

seizures at initial clinical visit. *Ann Clin Transl Neurol,* 6(12):2601-2606.

Jiajia Li, Sharif I. Kronemer, Wendy X. Herman, Hunki Kwon, Jun Hwan Ryu, Christopher Micek,

Ying Wu, Jason Gerrard, Dennis D. Spencer, Hal Blumenfeld. (2019). Default mode and

visual network activity in an attention task: Direct measurement with intracranial EEG.

*Neuroimage*, 201:116003. *PMCID In Process.*

Eli Cohen, Prince Antwi, Barbara C. Banz, Peter Vincent, Rick Saha, Christopher A. Arencibia,

Jun H. Ryu, Ece Atac, Nehan Saleem, Shiori Tomatsu, Kohleman Swift, Claire Hu, Heinz

Krestel, Pue Farooque, Susan Levy, Jia Wu, Michael Crowley, Federico E. Vaca, Hal

Blumenfeld. (2020). Realistic Driving Simulation during Generalized Epileptiform Discharges

to Identify EEG Features Related to Motor Vehicle Safety: Feasibility and Pilot Study.

*Epilepsia,* 61:19–28.  
  
Zongwei Yue, Isaac Freedman, Peter Vincent, John Andrews, Christopher Micek, Mark Aksen,

Reese Martin, David Zuckerman, Quentin Perrenoud, Garrett Neske, Lim-Anna Sieu, Xiao

Bo, Jessica Cardin, Hal Blumenfeld. (2020). Up and Down States of Cortical Neurons in

Focal Limbic Seizures. *Cerebral Cortex,* 30: 3074–3086. *PMCID: PMC7197089*

Jingwen Xu, Maria Milagros Galardi, Brian Pok, Kishan K. Patel, Charlie W. Zhao, John P.

Andrews, Shobhit Singla, Cian P. McCafferty, Li Feng, Eric. T. Musonza, Adam. J.

Kundishora, Abhijeet Gummadavelli, Jason L. Gerrard, Mark Laubach, Nicholas D. Schiff, Hal

Blumenfeld. (2020). Thalamic stimulation improves postictal cortical arousal and behavior.

*Journal of Neuroscience,* 40(38):7343–7354. *PMCID: PMC7534908*

Charlie W Zhao, Li Feng, Lim-Anna Sieu, Brian Pok, Abhijeet Gummadavelli and Hal Blumenfeld.

(2020). Parallel pathways to decreased subcortical arousal in focal limbic seizures.

*Epilepsia,* 61: e186–e191. *PMCID: PMC8491398.*

Rong Li, Jun Hwan Ryu, Peter Vincent, Max Springer, Dan Kluger, Erik A. Levinsohn, Yu Chen,

Huafu Chen and Hal Blumenfeld. (2021). The pulse: transient fMRI signal increases in

subcortical arousal systems during transitions in attention. *Neuroimage,* 232: 117873, 1-15.

*PMCID: PMC8278331.*

Abhijeet Gummadavelli, Reese Martin, Derek Goshay, Lim-Anna Sieu, Jingwen Xu, Benjamin F.

Gruenbaum, Cian McCafferty, Jason L. Gerrard, and Hal Blumenfeld. (2021). Cortical low-

frequency power correlates with behavioral impairment in animal model of focal limbic

seizures. *Epilepsia,* In press. *PMCID: PMC8349876.*

Reese A. Martin, Arthur Cukiert, Hal Blumenfeld. (2021). Short-term Changes in Cortical

Physiological Arousal Measured by EEG During Thalamic Centromedian Deep Brain

Stimulation. *Epilepsia,* 62: 2604–2614. *PMCID In Process.*

Hunki Kwon, Sharif I. Kronemer, Kate L. Christison-Lagay, Aya Khalaf, Jiajia Li, Julia Z Ding,

Noah C Freedman, and Hal Blumenfeld. (2021). Early Cortical Signals in Visual Stimulus

Detection. *Neuroimage,* 244: 118608, 1-11. *PMCID In Process.*

Charlie W. Zhao, Rahiwa Gebre, Yigit Baykara, William Chen, Petr Vitkovskiy, Ningcheng Li,

Michelle Johnson, Eric Y. Chen, Dan Kluger, and Hal Blumenfeld. (2022). Reliability of

patient self-report of cognition, awareness and consciousness during seizures. *Ann Clin*

*Transl Neurol,* 9(1):16-29. *PMCID In Process.*

Avisha Kumar, Reese Martin, William Chen, Andrew Bauerschmidt, Mark W. Youngblood,

Courtney Cunningham, Yang Si, Cel Ezeani, Zachary Kratochvil, Jared Bronen, James

Thomson, Katherine Riordan, Ji Yeoun Yoo, Romina Shirka, Louis Manganas, Heinz Krestel,

Lawrence J. Hirsch, and Hal Blumenfeld. (2022). Simulated Driving in the Epilepsy

Monitoring Unit: Effects of Seizure Type, Consciousness and Motor Impairment. *Epilepsia,*

63: e30–e34. *PMCID: PMC8883409.*

Adithya Sivaraju, Lawrence Hirsch, Nicolas Gaspard, Pue Farooque, Jason Gerrard, Yunshan

Xu, Yanhong Deng, Eyiyemisi Damisah, Hal Blumenfeld\*, and Dennis D. Spencer\*. (2022).

Factors Predicting Outcome After Intracranial EEG Evaluation in Patients with Medically

Refractory Epilepsy. *Neurology,* In Press. *PMCID: PMC9259091.* \*Shared senior authors.

Aya Khalaf, Sharif I. Kronemer, Kate Christison-Lagay, Hunki Kwon, Jiajia Li, Kun Wu, and Hal

Blumenfeld. (2022). Early neural activity changes associated with stimulus detection during

visual conscious perception. *Cerebral Cortex,* 33(4): 1347 - 1360. *PMCID In Process.*

Violeta Contreras Ramirez, Aparna Vaddiparti, Hal Blumenfeld. (2022). Testing awareness in

focal seizures: clinical practice and interpretation of current guidelines. *Ann Clin Transl*

*Neurol,* 9(5):762-765. *PMCID: PMC9082375.*

Violeta Contreras Ramirez, Bogdan Patedakis Litvinov, Nisali Anuradha Gunawardane, Charlie

W. Zhao, Courtney Yotter, Imran H. Quraishi, Hal Blumenfeld. (2022). Evaluating

consciousness and awareness during focal seizures: Responsiveness testing versus recall

testing. *Epileptic Disorders,* In Press. *PMCID In Process.*

Basavaraju G. Sanganahalli, Garth J. Thompson, Maxime Parent, Justus V. Verhagen, Hal

Blumenfeld, Peter Herman, Fahmeed Hyder. (2022). Thalamic activations in rat brain by

fMRI during tactile (forepaw, whisker) and non-tactile (visual, olfactory) sensory stimulations.

*PLOS ONE,* 17(5):e0267916. *PMCID: PMC9075615*.

Elsa Juan, Urszula Górska, Csaba Kozma, Cynthia Papantonatos, Tom Bugnon, Colin Denis,

Vaclav Kremen, Greg Worrell, Aaron Struck, Lisa Bateman, Edward M. Merricks, Hal Blumenfeld, Giulio Tononi, Catherine Schevon, Melanie Boly. (2022). Distinct signatures of loss of consciousness during Focal Impaired Awareness vs Focal to Bilateral Tonic Clonic seizures. *Brain*, In Press. *PMCID In Process.*

Max Springer, Aya Khalaf, Peter Vincent, Jun Hwan Ryu, Yasmina Abukhadra, Sandor Beniczky,

Tracy Glauser, Heinz Krestel, Hal Blumenfeld. (2022). A Machine Learning Approach for

Predicting Impaired Consciousness in Absence Epilepsy. *Ann Clin Transl Neurol,*

9(10):1538-1550. *PMCID: PMC9539371.*

Mariana M Gusso, Kate L. Christison-Lagay, David Zuckerman, Ganesh Chandrasekaran, Sharif

I. Kronemer, Julia Z. Ding, Noah C. Freedman, Percy Nohama, Hal Blumenfeld. (2022).

More than a feeling: scalp EEG and eye correlates of conscious tactile perception. *Consc*

*Cogn,* In Press. *PMCID In Process.*

Sharif I. Kronemer, Mark Aksen, Julia Z. Ding, Jun Hwan Ryu, Qilong Xin, Zhaoxiong Ding, Jacob

S. Prince, Hunki Kwon, Aya Khalaf, Sarit Forman, David S. Jin, Kevin Wang, Kaylie Chen,

Claire Hu, Akshar Agarwal, Erik Saberski, Syed Mohammad Adil Wafa, Owen P. Morgan, Jia

Wu, Kate L. Christison-Lagay, Nicholas Hasulak, Martha Morrell, Alexandra Urban, R. Todd

Constable, Michael Pitts, R. Mark Richardson, Michael J. Crowley, Hal Blumenfeld. (2022).

Human visual consciousness involves large scale cortical and subcortical networks

independent of task report and eye movement activity. *Nature Communications*,13: 7342.  
 <https://doi.org/10.1038/s41467-022-35117-4> *PMCID: PMC9707162.*

Cian McCafferty, Benjamin F. Gruenbaum, Renee Tung, Jing-Jing Li, Xinyuan Zheng, Peter

Salvino, Peter Vincent, Zachary Kratochvil, Jun Hwan Ryu, Aya Khalaf, Kohl Swift, Rashid

Akbari, Wasif Islam, Prince Antwi, Emily A. Johnson, Petr Vitkovskiy, James Sampognaro,

Isaac G. Freedman, Adam Kundishora, Antoine Depaulis, François David, Vincenzo Crunelli,

Basavaraju G. Sanganahalli, Peter Herman, Fahmeed Hyder, Hal Blumenfeld. (2023).

Decreased but diverse activity of cortical and thalamic neurons in consciousness-impairing

rodent absence seizures. *Nature Communications*, 14: 117. [https://doi.org/10.1038/s41467- 022-35535-4](https://doi.org/10.1038/s41467-%20022-35535-4) *PMCID: PMC9832004.*

**4. REVIEW ARTICLES AND BOOK CHAPTERS**

Blumenfeld, H. (2002). The thalamus and seizures. *Archives of Neurology*, 59: 135-137.

Norden A, Blumenfeld H. (2002). The Role of Subcortical Structures in Human

Epilepsy. *Epilepsy and Behavior*. 3: 219-231.

Blumenfeld, H. (2003). From Molecules to Networks: Cortical/Subcortical Interactions

in the Pathophysiology of Idiopathic Generalized Epilepsy. *Epilepsia*. 44(Suppl. 2): 7-15.

Blumenfeld, H., Taylor J. (2003). Why do seizures cause loss of consciousness?

*The Neuroscientist,* 9(5) 301-310.

McNally KA, Blumenfeld H. (2004). Focal network involvement in generalized seizures: New

insights from ECT. *Epilepsy and Behavior,* 5: 3-12.

Hyder F, Blumenfeld H. (2004). Relationship between CMRO2 and neuronal activity. In: *Brain*

*Energetics and Neuronal Activity: Applications to fMRI and Medicine*. RG Shulman, DL

Rothman (Eds). John Wiley & Sons, Inc. New York, 173-194.

Hope T, Blumenfeld H. (2005). Cellular physiology of status epilepticus. In: *Current Clinical*

*Neurology: Status Epilepticus: A Clinical Perspective.* Ed: Frank W. Drislane. Humana

Press Inc., Totowa, NJ*.* Ch 8: 159-180.

Blumenfeld H (2005). Consciousness and epilepsy: Why are patients with absence seizures

absent? *Prog Brain Res*  150: 271-286. [NIHMSID 314846]

Blumenfeld H (2005). Cellular and network mechanisms of spike-wave seizures. *Epilepsia,*

46(Suppl. 9):21–33.

Blumenfeld H, Novoty EJ. (2007). Pathophysiology of Myoclonus. In: *UCB Kit The UCB*

*Educational Kit on Epilepsies Vol 2 : IGE with Myoclonic Jerks*. Ed: C P Panayiotopoulos.

Ransom C, Blumenfeld H. (2007). Acquired epilepsy. In: *Molecular Neurology.* Ed: SG

Waxman. Elsevier Academic Press, CH 23: 347-370.

Blumenfeld H. (2007). Functional MRI studies of animal models in epilepsy. *Epilepsia*

48(Suppl. 4):18–26.

Blumenfeld H, Coulter DA. (2008). Thalamocortical anatomy and physiology. In: *Epilepsy:*

*A\_Comprehensive Textbook,* *2nd Edition*. Eds: J. Engel, Jr. and T. A. Pedley. Lippincott

Williams & Wilkins, Philadelphia, PA. Ch 31: 353-366.

Motelow JE, Blumenfeld H. (2009). Functional neuroimaging of spike-wave seizures. In:

*Dynamic Brain Imaging -**Multi-Modal Methods and In Vivo Applications.* Ed: F. Hyder.

Humana Press, New York. Series: Methods in Molecular Biology, Vol. 489, Ch 9: p. 189-209.

<http://www.springerlink.com/content/978-1-934115-74-9/>  *PMCID: PMC3749239*

Blumenfeld H. (2009). The neurological examination of consciousness. In: *The Neurology of*

*Consciousness.* Eds: S. Laureys, G. Tononi. Elsevier, Ltd. Ch 2, p. 15-30.

Blumenfeld H. (2009). Epilepsy and consciousness. In: *The Neurology of Consciousness:*

*Cognitive Neuroscience and Neuropathology.* Eds: S. Laureys, G. Tononi. Elsevier, Ltd.

Ch 19, p. 247-260.

Englot DJ, Blumenfeld H. (2009). Functional MRI in basic epilepsy research. In: *Encyclopedia*

*of Basic Epilepsy Research*, Schwartzkroin, P. A. (Ed). Oxford: Academic Press.

Vol 2, 539-544.

Purcaro MJ, Blumenfeld H. (2009). SPECT in epilepsy research. In: *Encyclopedia of Basic*

*Epilepsy Research*, Schwartzkroin, P. A. (Ed). Oxford: Academic Press. Vol 2, 558-564.

Huh L, Blumenfeld H, Novoty EJ. (2009). Age related focal epileptic seizures and syndromes  
in children and adolescents (Symptomatic). In: *UCB Kit The UCB Educational Kit on Epilepsies Vol 5 : Focal Epilepsies: Seizures, Syndromes and Management*. Ed: C P Panayiotopoulos.

Peng K, Blumenfeld H. (2009). Brain imaging and ECT. In: *Electroconvulsive and Neuromodulation Therapies*, C. Swartz, S. Lisanby (Eds). Cambridge University Press. 94-108.

Kim S, Zubal IG, Blumenfeld H. (2009). Epilepsy localization by ictal and interictal SPECT.

In: *Functional Cerebral SPECT and PET Imaging, 4th ed.* Eds: Van Heertum RL, Tikofsky RL, Ichise M. Philadelphia: Lippincott Williams & Wilkins. 131-148.

Yu L, Blumenfeld H. (2009). Theories of impaired consciousness in epilepsy. *Ann N Y Acad Sci.* 1157:48-60. [PMCID: PMC4681578]

Englot DJ, Blumenfeld H. (2009). Consciousness and epilepsy: Why are complex-partial seizures complex? *Prog Brain Res,* 177: 147-170.

Ellens DJ, Blumenfeld H. (2010). EEG-fMRI in animal models. In: C. Mulert and L.Lemieux

(Eds.) *EEG-fMRI. Physiological Basis, Technique, and Applications.* Springer Verlag Berlin

Heidelberg, 485-510.

Giblin KA, Blumenfeld H. (2010). Is epilepsy a preventable disorder? New insights from animal models. *The Neuroscientist,* 16(3):253-75. [NIHMSID # 221032]

Vestal M, Blumenfeld H. (2010). Pathophysiology of Absence Seizures. In: *Atlas of Epilepsies*. C.P. Panayiotopoulos (ed.), Springer-Verlag, London. 225-234.

Herman P, Sanganahalli BG, Coman D, Bailey CJ, Blumenfeld H, Hyder F. (2010). Transient

neural energetics by fMRI for short and long stimuli. *Hirosaki Med J*, 61(Suppl.), S11-S22.

Hyder F, Sanganahalli BG, Herman P, Coman D, Maandag NJG, Behar KL, Blumenfeld H,

Rothman DL. (2010). Neurovascular and neurometabolic couplings in dynamic calibrated

fMRI: Transient oxidative neuroenergetics for block-design and event-related paradigms.

*Frontiers in Neuroenergetics,* 2: 1-11. *PMCID: PMC2936934*

Danielson NB, Guo JN, Blumenfeld H. (2011). The default mode network and altered

consciousness in epilepsy. *Behav Neurol*, 24(1): 55-65. *PMCID: PMC3150226*

Mishra AM, Bai H, Gribizis A, Blumenfeld H. (2011). Neuroimaging biomarkers of

epileptogenesis. *Neurosci Lett*, 497(3): 194-204. [PMCID: PMC3432283]

Blumenfeld H. (2011). Guest Editor, Special Issue:New Strategies for Preventing

Epileptogenesis. *Neurosci Lett* 497(3):153-256.

Blumenfeld H. (2011). New strategies for preventing epileptogenesis: Perspective and overview.

*Neurosci Lett* 497(3):153-154. [PMCID: PMC3432282]

Blumenfeld H. (2011). Epilepsy and the Consciousness System: Transient Vegetative State?

*Neurology Clinics*, 29(4): 801-823. [PMCID: PMC3432285]

Hyder F, Herman P, Sanganahalli BG, Coman D, Blumenfeld H, Rothman DL. (2011). Role of

ongoing, intrinsic activity of neuronal populations for quantitative neuroimaging of functional

magnetic resonance imaging-based networks. *Brain Connectivity*, 1(3):185-93. *PMCID:*

*PMC3621320*

Blumenfeld H. (2012). Impaired consciousness in epilepsy. *The Lancet Neurology,* 11: 814–

826. *PMCID: PMC3732214*

Youngblood MW, Han X, Farooque P, Jhun S, Bai X, Yoo JY, Lee HW, Blumenfeld H. (2013).

Intracranial EEG surface renderings: new insights into normal and abnormal brain function.

*The Neuroscientist,* 19(3): 238 - 247.

Blumenfeld H, Jackson GD. (2013). Should consciousness be included in the classification of

focal (partial) seizures? *Epilepsia,* 54(6): 1125-30. *PMCID: PMC3683876*

Furman M, Blumenfeld H. (2013). Temporal lobe seizures. In: Cavanna AE, Nani A, Blumenfeld

H, Laureys S (Eds). *Neuroimaging of Consciousness.* Springer Publ, NY. CH4: 51-62.

Detyniecki K, Blumenfeld H. (2014). Consciousness of seizures and consciousness during

seizures: Are they related? *Epilepsy Behav,* 30: 6-9.

Chen WC, Chen EY, Gebre RZ, Johnson MR, Li N, Vitkovskiy P, Blumenfeld H. (2014).

Epilepsy and driving: potential impact of transient impaired consciousness. *Epilepsy Behav,*

30: 50-7. *PMCID: PMC4098969*

Guo JN, Blumenfeld H. (2014). Network Imaging. In: Faingold CL, Blumenfeld H (Eds),

*Neuronal Networks in Brain Function, CNS Disorders, and Therapeutics,* Elsevier. Ch 6, p.

77-89.

Motelow J, Blumenfeld H. (2014). Consciousness and Subcortical Arousal Systems. In:

Faingold CL, Blumenfeld H (Eds), *Neuronal Networks in Brain Function, CNS Disorders, and*

*Therapeutics,* Elsevier. Ch 21, p. 277-298.

Kim R, Hyder F, Blumenfeld H. (2014). Physiological Basis of BOLD fMRI Decreases.

In: Zhao M, Ma H, Schwartz TH, (Eds). *Neurovascular Coupling Methods, Neuromethods*,

Vol. 88, 221-236. Springer Publ, NY.

Blumenfeld H. (2014). Consciousness and Seizures. In: *The Cognitive Neurosciences, 5th*

*edition*, Gazzaniga MS, Mangun GR (Eds). The MIT Press, Cambridge, MA. Ch 71, p. 821-

837.

Blumenfeld H, Meador K. (2014). Consciousness as a Useful Concept in Epilepsy

Classification. *Epilepsia,* 55(8):1145–1150. *PMCID: PMC4149314*

Blumenfeld H. (2014). A Master Switch for Consciousness? *Epilepsy & Behavior*, 37C :234-

235.

Blumenfeld H. (2014). What is a seizure network? Remote network effects of focal seizures.

*Adv Exp Med Biol,* 813: 63-70.

Blumenfeld H., Meador K, Jackson GD. (2014). The Return of Consciousness to Epilepsy

Seizure Classification. *Epilepsia*, 56(3):345–347. *PMCID: PMC4688007*

Sedigh-Sarvestani M, Bateman LM, Blumenfeld H, Loddenkemper T. (2015). Seizures and

brain regulatory systems: Consciousness, sleep, and autonomic systems. *J Clin*

*Neurophysiol,* 32(3):188-93. *PMCID: PMC4362811*

Gummadavelli A, Kundishora AJ, Willie JT, Andrews JP, Gerrard JL, Spencer DD, Blumenfeld H.

(2015). Neurostimulation to improve level of consciousness in patients with epilepsy.

*Neurosurgical Focus,* 38(6):E10. *PMCID: PMC6300138*

Faingold CL, Blumenfeld H. (2015). Targeting Neuronal Networks with Combined Drug and

Stimulation Paradigms Guided by Neuroimaging to Treat Brain Disorders. *Neuroscientist.*

21(5): 460-74. *PMCID: PMC6287502*  
  
Blumenfeld H. (2016). Neuroanatomical Basis of Consciousness. In: *The Neurology of*

*Consciousness, 2e.* Eds: S. Laureys, O. Gosseries, G. Tononi. Elsevier, Ltd. Ch 1: 3-30.

Blumenfeld H. (2016). Epilepsy and Consciousness. In: *The Neurology of Consciousness, 2e.*

Eds: S. Laureys, O. Gosseries, G. Tononi. Elsevier, Ltd. Ch 16: 255-270.

Youngblood MW, Blumenfeld H. (2016). Biological Basis of Generalized Epilepsies –

Pathophysiology. In: Johnston M, Adams H, Fatemi A, Moshé SL (Eds). *Neurobiology of*

*Disease, 2e*. Oxford University Press, Oxford, UK. Ch 37, p. 282-288.

Wykes R, Khoo HM, Caciagli L, Blumenfeld H, Golshani P, Kapur J, Mehta A, Stern J,

Bernasconi A, Dedeurwaerdere S, Bernasconi N. (2019). WONOEP Appraisal: Epilepsy

Network Concepts from an Imaging Perspective. *Epilepsia,* 60(7):1293-1305. *PMCID:  
PMC6667743*

Mishra AM, Blumenfeld H. (2019). Prevention of epileptogenesis in animal models. In: *Imaging*

*Biomarkers in Epilepsy.* Eds: A. Bernasconi, N. Bernasconi, M. Koepp. Cambridge

University Press, Cambridge, UK. Ch 13, p. 135-147.

Antwi P, Atac E, Ryu JH, Arencibia CA, Tomatsu S, Saleem N, Wu J, Crowley M, Banz B, Vaca

FE, Krestel H, and Blumenfeld H. (2019). Driving status of patients with generalized spike-  
 wave on EEG but no clinical seizures. *Epilepsy & Behavior,* In press.

M. Michel, D. Beck, N. Block, H. Blumenfeld, et al. (2019). Opportunities and Challenges for a

Maturing Science of Consciousness. *Nature Hum Behav,* 3(2):104-107. PMCID:

PMC6568255.

Benjamin Tolchin, Gaston Baslet, Steve Martino, Joji Suzuki, Hal Blumenfeld, Lawrence J.

Hirsch, Hamada Altalib, Barbara A. Dworetzky. (2020). Motivational interviewing for

psychogenic nonepileptic seizures: techniques to improve psychotherapy adherence and

outcomes. *J Neuropsych Clin Neurosci,* 32(2):125-131.

Irene Wang, Andrea Bernasconi, Boris Bernhardt, Hal Blumenfeld, Fernando Cendes, Yotin

Chinvarund, Graeme Jackson, Victoria Morgan, Stefan Rampp, Anna Elisabetta Vaudano,

Paolo Federico. (2020). MRI Essentials in Epileptology: A Review from the ILAE Imaging

Taskforce. *Epileptic Disorders,* 22(4):421-437. *PMCID: In Process.*

Paolo Federico, Andrea Bernasconi, Boris Bernhardt, Hal Blumenfeld, Fernando Cendes, Yotin

Chinvarun, Graeme D Jackson, Victoria Morgan, Stefan Rampp, Anna Elisabetta Vaudano,

Irene Wang. (2020). ILAE Neuroimaging Task Force highlight: Review MRI scans with

semiology in mind. *Epileptic Disorders,*  In press.

Singla S, Garcia GE, Rovenolt GE, Soto AL, Gilmore EJ, Hirsch LJ, Blumenfeld H, Sheth KN,

Omay SB, Struck AF, Westover MB, Kim JA. (2020). Detecting Seizures and Epileptiform

Abnormalities in Acute Brain Injury. *Curr Neurol Neurosci Rep.* 20(9):42.

Gruenbaum, Benjamin; Sandhu, Mani Ratnesh; Bertasi, Raphael; Bertasi , Tais ; Schonwald,

Antonia; Kurup, Anirudh; Gruenbaum , Shaun; Freedman , Isaac; Funaro, Melissa;

Blumenfeld, Hal; Sanacora, Gerard. (2021). Absence seizures and its relationship to

depression and anxiety: evidence for bidirectionality. *Epilepsia,* 62(5):1041-1056. *PMCID: In*

*Process.*

Blumenfeld, H. (2021). Arousal and Consciousness in Focal Seizures. *Epilepsy Currents*, 21(5): 353–359.

Abhijeet Gummadavelli, Basavaraju G. Sanganahalli, Peter Herman, Fahmeed Hyder and Hal

Blumenfeld. (2022). EEG-fMRI in animal models. In: C. Mulert and L.Lemieux (Eds.) *EEG-*

*fMRI, 2nd Edition. Physiological Basis, Technique, and Applications.* Springer Verlag Berlin

Heidelberg, *In Press*.

Karolina Janacsek, Tanya M. Evans, Mariann Kiss, Leela Shah, Hal Blumenfeld, Michael T.

Ullman. (2022). Subcortical Cognition: The Fruit Below the Rind. *Annu Rev Neurosci,* 45:

361 - 386. *PMCID: In Process.*

Sándor Beniczky, William O. Tatum, Hal Blumenfeld, Hermann Stefan, Jayanti Mani, Louis

Maillard, Firas Fahoum, Kollencheri Puthenveettil Vinayan, Luis Carlos Mayor, Maria

Vlachou, Margitta Seeck, Philippe Ryvlin, Philippe Kahane. (2022). Seizure semiology: ILAE

glossary of terms and their significance. *Epileptic Disorders,* 24(3):447-495. *PMCID: In*

*Process.*  
Blumenfeld, H. (2023). Brain Mechanisms of Conscious Awareness: Detect, Pulse, Switch, and

Wave. *The Neuroscientist,* 29(1): 9–18. *PMCID: PMC8995398.*

**5. ABSTRACTS:**

Matsuo, V., Buettner-Ennever, J., Cohen, B., Fradin, J. and Blumenfeld, H. (1983). Effects of

pretectal lesions on components of the horizontal optokinetic response. Soc. Neurosci.

Abs. 9, 749.

Spira, M.E., Blumenfeld, H., Schachar, S. and Siegelbaum, S.A. (1987). Measurement of free

intracellular calcium in *Aplysia* sensory neurons using fura-2. Soc. Neurosci. Abs. 13,

1238.

Blumenfeld, H., Bug, B., Buttner, N., Sweatt, J.D. and Siegelbaum, S.A. (1988). Does

FMRFamide-stimulated release of arachidonic acid depend on Na/H exchange or internal

calcium? Soc. Neurosci. Abs. 14, 1206.

Blumenfeld, H., Kandel, E.R. and Siegelbaum, S.A. (1989). IP3 injections release intracellular

calcium in *Aplysia* sensory neurons. Soc. Neurosci. Abs. 15, 483.

Blumenfeld, H., Eliot, L.S., Edmonds, B.W., Kandel, E.R. and Siegelbaum, S.A. (1991). 5-HT

increases Ca2+ influx during action potentials in *Aplysia* sensory neurons by spike

broadening and by direct calcium channel modulation. Soc. Neurosci. Abs. 17, 1485.

Eliot, L.S., Blumenfeld, H., Kandel, E.R. and Siegelbaum, S.A. (1991). Imaging [Ca]i transients

at *Aplysia* sensorimotor synapses: contributions of direct and indirect modulation to

presynaptic facilitation. *Soc. Neurosci. Abs.* 17, 1485.

Blumenfeld, H. and Irizarry, M.C. (1994). Normal pressure hydrocephalus as a late

complication of hemispherectomy. Boston Society of Neurology and Psychiatry, Stanley

Cobb Resident Assembly, 1994.

Cudkowicz, M.C., Cha, J.H. and Blumenfeld, H. (1994). Bactrim encephalopathy: A diagnosis

of exclusion. Boston Society of Neurology and Psychiatry, Stanley Cobb Resident

Assembly, 1994.

McCormick, D.A., Blumenfeld, H., Luthi, A., and Kim, U. (1999). Cellular mechanisms of

synchronized thalamocortical rhythms. *Focus on Epilepsy V. Generalized Epilepsy: From*

*Genes to Clinic. Quebec City*, 1999.

Blumenfeld, H., and McCormick, D.A. (1999). Abnormal cortical burst firing may cause spike-

and-wave seizures through thalamic GABAB receptors. *Soc. Neurosci. Abs.,* 25.

Blumenfeld, H., and McCormick, D.A. (1999). Switch from sleep spindles to spike-and-wave

seizures: Role of cortical burst firing in activating thalamic GABAB receptors. *Epilepsia*.

Blumenfeld H., Norden A., Studholme C., Zubal G., Spencer S. (2000). Bilateral Thalamic and

Brainstem Involvement in Seizures Revealed by SPECT Ictal-Interictal Difference Imaging.

*Amer. Acad. of Neurol. 52nd Annual Meeting Abs.* *Neurology,* 54(7), Suppl. 3: S02.002.

Blumenfeld H, and McCormick DA (2000). Thalamic neurons fire in bursts during spindle

waves and spike-wave seizures recorded *in vivo* from WAG/Rij rats. *Soc. Neurosci. Abs.,*

26: 737 (274.17).

Bradley C, Paige L, Chang D, Studholme C, Stokking R, Norden A, Zubal IG, Spencer SS, and

Blumenfeld H. (2000). Thalamic and pontomesencephalic reticular formation involvement

in seizures studied by SPECT ictal-interictal difference imaging. *Soc. Neurosci. Abs.*, 26:

1010 (376.1).

Chang D, Stokking R, Studholme C, Smith A, Smith J, Corsi M, Morano G, Ostroff R, Seibyl J,

Zubal IG, Spencer SS, and Blumenfeld H. (2000). Regional cerebral blood flow measured with SPECT difference imaging during electroconvulsive therapy (ECT)-induced seizures. *Soc. Neurosci. Abs.*, 26: 1009 (375.15).

Blumenfeld H, and McCormick DA. (2000). Burst Firing in Thalamic Neurons Recorded *In*

*Vivo* from WAG/Rij Rats During Spindle Waves and Spike-Wave Seizures. *Epilepsia.*

41(Suppl. 7): 28.

Paige L, Bradley C, Chang D, Studholme C, Stokking R, Norden A, Zubal IG, Spencer SS, and

Blumenfeld H. (2000). SPECT Ictal-Interictal Difference Imaging Reveals Thalamic and

Brainstem Reticular Formation Involvement in Seizures. *Epilepsia.* 41 (Suppl. 7): 68.

Bradley C, Paige L, Chang D, Stokking R, Studholme C, Tanhehco T, Corsi M, Ostroff R, Seibyl

J, Zubal IG, Spencer SS, and Blumenfeld H. (2000). Electroconvulsive Therapy (ECT)-

Induced Seizures as a Model System for Human Epilepsy Studied by SPECT Difference

Imaging. *Epilepsia.* 41 (Suppl. 7): 65.

Blumenfeld H, Gale K, Bertram EH, and Spencer SS. (2000) Epilepsy as a disorder of large-

scale neural networks. *Epilepsia.* 41 (Suppl. 7): 75.

Zubal IG, Chang DJ, Gottschalk C, Necochea A, Stokking R, Studholme C, Corsi M, Slawski J,

Spencer SS, Blumenfeld H. (2001) Difference Calculation Versus SPM in Analyzing Ictal-

Interictal Epilepsy SPECT Scans. *J Nucl Med, SNM Abs.*

Corsi M, Zubal IG, Freeman J, Uranga P, Tanhehco T, Morano G, Seibyl JS, Blumenfeld H.

(2001). Evaluation of Cerebral Blood Flow (CBF) Changes during Electroconvulsive

Therapy (ECT) - Induced Seizures Using 99mTechnetium-HMPAO Brain SPECT. *Society*

*of Nuclear Medicine, Abs.*

Hyder F, Smith A, Blumenfeld H, Behar KL, Rothman DL, Shulman RG. (2001). Probing

neuronal populations by fMRI and electrophysiology in rat brain. *Soc. Neurosci. Abs.*, 27.

Chang DJ, Zubal IG, Gottschalk C, Freeman J, Necochea A, Stokking R, Studholme C, Corsi

M, Spencer SS, Blumenfeld H. (2001). Statistical Parametric Mapping: A New Approach

to Analysis of Ictal SPECT Scans in Temporal Lobe Epilepsy Compared to Conventional

Difference Imaging. *Soc. Neurosci. Abs.*, 27.

Zaatreh MM, Spencer DD, Thompson JT, Blumenfeld H, Novotny EJ, Spencer SS. (2001).

Frontal lobe tumoral epilepsy: Characteristics and predictors of surgical outcome.

*Epilepsia.*

Blumenfeld H, and McCormick DA. (2001). The role of thalamocortical burst firing in the

transition from normal activity to epileptic seizures. *ANA Research Symposium.*

Nersesyan H, Hyder F, RothmanD, McCormickD, Blumenfeld H. (2002). Comparison of

BOLD fMRI and Electrophysiology Recordings during Spike-Wave Seizures in WAG/Rij

Rats. *Soc. Neurosci. Abs.* Online, 796.1.

Blumenfeld H, Vanderhill S, Ahoya L, Chung R, Adamiak K, Paige L, Corsi M, Novotny EJ,

Zubal IG, Spencer SS. (2002). Cortical and Subcortical Networks in Human Temporal

Lobe Seizures. *Soc. Neurosci. Abs.*, 796.2. Online at http://www.sfn.org/

Vanderhill S, Westerveld M, Ostroff R, Spencer SS, Zubal IG, Blumenfeld H. (2002). Are

“Generalized” seizures truly generalized? Selective networks activated in human tonic

clonic seizures. *Soc. Neurosci. Abs.,* 796.3. Online at http://www.sfn.org/

Vasquez JG, Blumenfeld H. (2002). Neocortical involvement during limbic seizures in kindled

rats. *Soc. Neurosci. Abs.*, 796.4. Online at http://www.sfn.org/

Nersesyan H, Hyder F, RothmanD, McCormickD, Blumenfeld H. (2002). BOLD fMRI and

Electrophysiological Recordings of Spike-Wave Seizures in WAG/Rij Rats. *Epilepsia.* 43

(Suppl. 7): 272.

Blumenfeld H, Vanderhill S, Paige L, Corsi M, Novotny EJ, Zubal IG, Spencer SS. (2002).

Imaging Cortical and Subcortical Networks in Human Temporal Lobe Seizures. *Epilepsia.*

43 (Suppl. 7): 310.

Vanderhill S, Westerveld M, Ostroff R, Spencer SS, Zubal IG, Blumenfeld H. (2002). Focal

Cognitive and Neuroimaging Changes Associated with Propagation of Generalized Tonic-

Clonic Seizures in Electroconvulsive Therapy. *Epilepsia.* 43 (Suppl. 7): 312.

Gale K, SpencerSS, Blumenfeld H, Meisler MH, Bertram EH. (2002). Epilepsy Triggers,

Targets, and Treatments: The Transformation from Physiological to Pathological and Back.

*Soc. Neurosci. Abs.,* 313. Online at http://www.sfn.org/

Kida I, Smith A, Behar K, Blumenfeld H, Hyder F. (2003). Efficacy of lamotrigine investigated with fMRI and electrophysiology: Implications for treatment in epilepsy. *International Society for Magnetic Resonance in Medicine, Abs.*

Kida I, Smith AJ, Behar KL, Blumenfeld H, Hyder F (2003) Involvement of voltage-gated Na+ channels in neurovascular and neuroenergetic responses. *J Cereb Blood Flow Metab* 23 Suppl. 1:138.

Daftary A, Blumenfeld H, McNally K, Agostini J, Seibyl J, Inouye S. (2003). Cerebral perfusion changes in the elderly delirious patients using Tc-99m HMPAO SPECT. *J Nucl Med, SNM Abs.*

Ostroff RB, McNally KA, Zubal IG, Blumenfeld H. (2003). Ictal imaging in ECT: Lead

placement determines focal regions of activation. *Assoc. Conv. Ther. Abs.*

Klein JP, Khera DS, Nersesyan H, Kimchi EY, Waxman SG, Blumenfeld H. (2003).

Dysregulation of sodium channel expression in cortical neurons in a rodent model of

absence epilepsy. *Epilepsia.*

Nersesyan H, Herman P, Maandag N, Hyder F, Blumenfeld H. (2003). Parallel increases in

neuronal firing and cerebral blood flow during spike-wave seizures, tonic-clonic seizures,

and somatosensory processing. *Epilepsia.*

Nersesyan H, Patel S, Rivera M, Rothman D, Hyder F, Blumenfeld H. (2003). Combined BOLD

fMRI and EEG recordings during spontaneous spike-wave seizures and bicuculline-induced

generalized tonic-clonic seizures in WAG/Rij Rats. *Epilepsia.*

McNally KA, Vanderhill SD, Paige AL, Doernberg S, Chung R, Adamiak K, Novotny EJ, Zubal

IG, Spencer SS, Blumenfeld H. (2003). Excitatory and inhibitory network interactions during

loss of consciousness in temporal lobe epilepsy. *Epilepsia.* 44

Zaatreh MM, Spencer DD, Wu B, Blumenfeld H, Novotny EJ, Spencer SS. (2003). Intracranial

Ictal Diffuse Electrodecremental Events in Extratemporal Epilepsy: Frequency and

Implications. *Epilepsia.*

Negishi M, Blumenfeld H, Spencer DD, Constable RT. (2003). Epileptiform localization from

simultaneous EEG-fMRI recordings. *Epilepsia*

Klein JP, Khera DS, Nersesyan H, Kimchi EY, Waxman SG, Blumenfeld H. (2003).

Voltage-gated sodium channels Nav1.1 and Nav1.6 are overexpressed in cortical neurons in the absence epileptic WAG/Rij rat. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Nersesyan H, Herman P, Maandag N, Hyder F, Blumenfeld H. (2003). Changes in neuronal

firing and cerebral blood flow during spike-wave seizures, tonic-clonic seizures, and

somatosensory processing. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Nersesyan H, Patel S, Rivera M, Rothman D, Hyder F, Blumenfeld H. (2003). BOLD fMRI

signal changes do not involve the whole brain uniformly during spike-wave seizures and

bicuculline-induced generalized tonic-clonic seizures in WAG/Rij Rats. *Soc. Neurosci. Abs.,*

Online at [http://www.sfn.org/](http://web.sfn.org/)

McNally KA, Vanderhill SD, Paige AL, Doernberg S, Chung R, Adamiak K, Novotny EJ, Zubal

IG, Spencer SS, Blumenfeld H. (2003). Network mechanisms for loss of consciousness in

temporal lobe epilepsy. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Maandag NJG, Smith AJ, Trübel HKF, Blumenfeld H, Rothman DL, Shulman RG, Hyder F.

(2003). Dissociating localized and delocalized contributions of neural activity. *Soc.*

*Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Kida I, Smith AJ, Behar KL, Blumenfeld H, Hyder F. Lamotrigine suppresses the stimulation-

induced neural and metabolic responses in the rat. [http://www.sfn.org/](http://web.sfn.org/) Program No. 61.15.

*2003 Abstract Viewer/Itinerary Planner.* Washington, DC: Society for Neuroscience, 2003.

Online.

McNally K, Blumenfeld H, Ostroff R, Westerveld M. (2003). Focal cognitive and neuroimaging

changes associated with electroconvulsive therapy. *Natl. Acad. Neuropsych. Abs.*

Ismail D, Rivera M, Shah A, Vasquez JG, Agarwal R, Blumenfeld H. (2004). Kindling

strengthens amygdala connections with neocortex. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

Rivera M, McNally KA, Shamy MCF, Spencer DD, Spencer SS, Blumenfeld H. (2004). Sleep-

like ictal neocortical slowing (SLINS) in temporal lobe epilepsy. *Soc. Neurosci. Abs.,* Online

at [http://www.sfn.org/](http://web.sfn.org/)

Paige, AL, McNally KA, Zubal IG, Novotny EJ, Spencer SS, Blumenfeld H. (2004). Sensitivity

of ictal verses post-ictal SPECT injections for localizing focal epilepsy. *Soc. Neurosci. Abs.,*

Online at [http://www.sfn.org/](http://web.sfn.org/)

McNally KA, Davis K, Doernberg SB, Zubal IG, Spencer SS, Blumenfeld H. (2004). Cerebral

blood flow changes during secondarily generalized tonic-clonic seizures. *Soc. Neurosci.*

*Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Shah A, Rivera M, Ismail D, Vasquez JG, Agarwal R, Blumenfeld H. (2004). Neocortical

spread of limbic kindled seizures. *Epilepsia. AES abstracts.*

Rivera M, McNally KA, Davis K, Spencer DD, Spencer SS, Blumenfeld H. (2004). Impaired

function of association cortex during temporal lobe seizures. *Epilepsia. AES abstracts.*

Paige, AL, McNally KA, Zubal IG, Novotny EJ, Spencer SS, Blumenfeld H. (2004). Importance

of true ictal SPECT in localizing temporal and extra-temporal epilepsy. *Epilepsia. AES*

*abstracts.*

McNally KA, Davis K, Doernberg SB, Zubal IG, Spencer SS, Blumenfeld H. (2004). Ictal

SPECT in secondarily generalized tonic-clonic seizures. *Epilepsia. AES abstracts.*

Negishi M, Blumenfeld H, Novotny EJ, Spencer DD, Constable RT. (2004). A combined EEG

(electroencephalography) reference method for simultaneous EEG-fMRI (functional

magnetic resonance imaging) recording of epilepsy. *Epilepsia. AES abstracts.*

McNally KA, Paige AL, Varghese G, Zubal IG, Novotny EJ, Spencer SS, Blumenfeld H. (2005).

Localizing Value of Ictal-interictal SPECT Analyzed by SPM (ISAS). *American Academy of*

*Neurology Abs.*

Maandag NJG, Smith AJ, Trubel HKF, Blumenfeld H, Shulman RG, Hyder F (2005).

Neurophysiological basis of localized and delocalized fMRI activity patterns. *ISMRM.*

Blumenfeld H, Khubchandani M, Schridde U, Nersesyan H, Rothman D, Hyder F. (2005)

Dynamic multi-modal recordings of neuronal activity, cerebral blood flow, and fMRI during

rodent spike-wave seizures. *ISMRM,* Program No. 308.

Maandag NJG, Smith AJ, Blumenfeld H, Shulman RG, Hyder F (2005). Neural basis of

localized and delocalized fMRI patterns. *Brain’05.*

Blumenfeld H, Nersesyan H, Khubchandani M, Schridde U, Nersesyan H, Berman R, Rothman

D, Hyder F. (2005). High resolution measurements of neuronal activity, cerebral blood

flow, and fMRI during spike-wave seizures in WAG/Rij rats. *Brain’05.*

Klein JP, Schridde U, Nersesyan H, Agarwal RK, Levin AR, Waxman SG, Blumenfeld H.

(2005). The effect of seizure blockade with ethosuximide on sodium and HCN1 channel

expression in the epileptic WAG/Rij rat brain. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

Klein JP, Schridde U, Nersesyan H, Agarwal RK, Levin AR, Waxman SG, Blumenfeld H.

(2005). Seizure blockade with ethosuximide normalizes Nav1.1, Nav1.6, and HCN1 channel

expression in epileptic WAG/Rij rats. *Epilepsia. AES abstracts.*

KhubchandaniM, SchriddeU, HyderF, Blumenfeld H. (2005). Combined EEG/fMRI reveals

regional BOLD increases and decreases in rodent spike-wave and tonic-clonic seizure

models. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

KhubchandaniM, SchriddeU, HyderF, Blumenfeld H. (2005). Spontaneous absence and

bicuculline induced generalized tonic-clonic seizures show different patterns of selective

increased/decreased activity in rats revealed by combined EEG/BOLD fMRI recordings.

*Epilepsia. AES abstracts.*

MissionJF, KleinJP, LampertA, RiveraM, ChenM, HainsBC, ShahAD, BrennanAR, Varghese

G, WaxmanSG, BlumenfeldH. (2005). Altered sodium channel expression and the mouse

kindling model of epileptogenesis. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

LampertA, KleinJP, MissionJF, RiveraM, ChenM, HainsBC, ShahAD, BrennanAR, Varghese

G, WaxmanSG, BlumenfeldH. (2005). The role of altered sodium channel expression in

kindling epileptogenesis. *Epilepsia, 46(Suppl. 8): 292 (AES Abstract 3.051).*

BermanR, NegishiM, ConstableRT, NovotnyEJ, LevyS, BlumenfeldH. (2005). Simultaneous

EEG and fMRI recordings of childhood absence seizures. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

BermanR, NegishiM, ConstableRT, NovotnyEJ, LevyS, BlumenfeldH. (2005). Combined

EEG and fMRI during typical childhood absence seizures at 3T. *Epilepsia. AES abstracts.*

Golomb JD, Shamy M, Levin AR, Davis K, McNally KA, Vives K, Spencer DD, Spencer SS,

Zaveri H, Blumenfeld H. (2005). Quantitative analysis of intracranial EEG patterns:

Evidence for neocortical slowing in temporal lobe seizures. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

Golomb JD, Shamy M, Levin AR, Davis K, McNally KA, Vives K, Spencer DD, Spencer SS,

Zaveri H, Blumenfeld H. (2005). Neocortical slowing during temporal lobe seizures

demonstrated by quantitative analysis of intracranial EEG. *Epilepsia. AES abstracts.*

VargheseGI, McNallyKA, LevinAR, HirschLJ, TikofskyRS, PaigeAL, ZubalIG, SpencerSS,

BlumenfeldH. (2005). Localizing value of ictal SPECT in secondarily generalized tonic-

clonic seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

VargheseGI, McNallyKA, LevinAR, HirschLJ, TikofskyRS, PaigeAL, ZubalIG, SpencerSS,

BlumenfeldH. (2005). Comparisons between ictal and postictal changes in cerebral blood

flow in secondarily generalized tonic-clonic seizures. *Epilepsia. AES abstracts.*

NegishiM, NovotnyEJ, BlumenfeldH, SpencerSS, SpencerDD, Constable RT. (2005).

Investigation of the radio-frequency (RF) pulse artifact in simultaneous

electroencephalogram-functional magnetic resonance imaging (EEG-fMRI) recording.

*Epilepsia. AES abstracts.*

NovotnyEJ, ScharffE, ZaveriH, BlumenfeldH, PapademetrisX, SpencerSS, SpencerDD,

DuckrowRB, HetheringtonHP, Duncan J. (2005). Correlation of Magnetic Resonance

Spectroscopic Imaging and intracranial EEG recording in lateralization of epilepsy. *Soc.*

*Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

ScharffE, ZaveriH, PapademetrisX, BlumenfeldH, DuckrowRB, HetheringtonHP, SpencerSS,

SpencerDD, Duncan J, NovotnyEJ. (2005). Correlation of Magnetic Resonance

Spectroscopic Imaging and Intracranial EEG localization of seizures. *Epilepsia. AES*

*abstracts.*

Buch, K, Blumenfeld H, Spencer S, Novotny E, Zubal IG. (2005). Evaluating the Accuracy of

SPECT-PET Ratios in Seizure Localization. *Soc Nuc Med Northeast Regional Conf, Abs.*

Soufer, R., J.D. Bremner, M.M. Burg, and H. Blumenfeld. (2005). *Gender differences among*

*normal and coronary disease (CAD) subjects during mental stress (MS): A positron*

*emission tomography (PET) study.* Psychosom Med, 2005. 67: p. A8-9.

Burg, M.M., A. Vashist, F. Jadbabaie, H. Blumenfeld, and Soufer. R. (2005). *Central nervous*

*system (CNS) activity during mental stress as a function of trait based measures of anger: A*

*positron emission tomography (PET) study.* Psychosom Med, 2005. 67: p. A8-9.

Vashist, A., M.M. Burg, J.A. Arrighi, F. Jadbabaie, H. Blumenfeld, R. Lampert, B. Graeber, and

R. Soufer. (2005). Central nervous system correlates of myocardial ischemia:

Neurocardiac distinctions between mental stress and dobutamine provocation*.* Psychosom

Med, 2005. 67: p. A8-9.

Scharff E, Papademetris X, Hetherington HP, Pan JW, Zaveri H, Blumenfeld H, Duckrow RB,

Spencer SS, Spencer DD, Duncan JS, Novotny EJ. (2006). Correlation of magnetic

resonance spectroscopic imaging and intracranial EEG localization of seizures. *Third IEEE*

*International Symposium on Biomedical Imaging* (<http://biomedicalimaging.org/>)

Papademetris X, Vives KP, DiStasio M, Staib LH, Neff M, Flossman S, Frielinghaus N, Zaveri

H, Novotny EJ, Blumenfeld H, Constable RT, Hetherington HP, Duckrow RB, Spencer SS,

Spencer DD, Duncan JS. (2006). Development of a research interface for image guided

intervention: Initial application to epilepsy neurosurgery.  *Third IEEE International*

*Symposium on Biomedical Imaging* (<http://biomedicalimaging.org/>)

Lampert A, Klein J, Mission J, Rivera M, Chen MC, Hains BC, Rush AM, Shah AD, Brennan A,

Varghese G, Waxman SG, Blumenfeld H. (2006). Upregulation in hippocampal sodium

channel Nav1.6 expression after amygdala kindling in the mouse. *Federation of European*

*Physiological Society, Munich.*

Katz A, Zubal IG, Westerveld M, Blumenfeld H, Seibyl J. (2006). Neuropsychological Testing

and SPECT/PET Ratio-Images in Patients with Lyme Encephalopathy - Pre and Post

Antibiotic Treatment Studies. *American Society of Neuroimaging, Miami, Florida.*

Blumenfeld H, Lampert A, Klein JP, Schridde U, Waxman SG. (2006). Abnormal Expression of

Sodium Channels in Partial and Generalized Epilepsy. *Gordon Research Conference,*

*Waterville, ME.*

Berman R, Negishi M, Spann M, Enev M, Constable RT, Novotny EJ, BlumenfeldH. (2006).

Simultaneous EEG, fMRI and Cognitive Testing in Typical Childhood Absence Epilepsy.

*Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Berman R, Negishi M, Spann M, Enev M, Constable RT, Novotny EJ, BlumenfeldH. (2006).

Combined EEG, fMRI, and Cognitive Testing during Typical Childhood Absence Seizures at

3T. *Epilepsia. AES abstracts.*

U. Schridde, M. Khubchandani, B.G. Sanganahalli, D. Englot, F. Hyder, H. Blumenfeld. (2006).

Combined fMRI and neurophysiological recordings reveal a local dissociation between the

BOLD response, cerebral blood flow, and neuronal activity in a tonic-clonic seizure model.

*Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

U. Schridde, M. Khubchandani, B.G. Sanganahalli, D. Englot, F. Hyder, H. Blumenfeld. (2006).

Hippocampal Neuronal Activity Increases but BOLD fMRI Signal Decreases in a Rodent

Tonic-Clonic Seizure Model. *Epilepsia. AES abstracts.*

A. Phadke, T. Rice, D.S. Khera, J.P. Klein, J. Mission, H. Nersesyan, R.K. Agarwal, A.R. Levin,

D. Englot, U. Schridde, S.G. Waxman, H. Blumenfeld. (2006). Blockade of activity-

dependent plasticity in sodium and HCN1 channel expressionisassociated with blockade of

epilepsy development. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

T. Rice, A. Phadke, D.S. Khera, J.P. Klein, J. Mission, C. Bashyal, H. Nersesyan, R.K. Agarwal,

A.R. Levin, D. J. Englot, U. Schridde, S.G. Waxman, H. Blumenfeld. (2006).

Antiepileptogenic Effects of Early Ethosuximide Administration: Preventing the

Development of Molecular Abnormalities and Spike-Wave Seizures in WAG/Rij Rats.

*Epilepsia. AES abstracts.*

Miro Enev, Kelly McNally, George Varghese, I. George Zubal, Robert B Ostroff, Blumenfeld H.

(2006). Imaging onset and propagation of ECT-induced seizures. *Soc. Neurosci. Abs.,*

Online at [http://www.sfn.org/](http://web.sfn.org/)

Miro Enev, Kelly McNally, George Varghese, I. George Zubal, Robert B Ostroff, Blumenfeld H.

(2006). Imaging Early and Late CBF Changes during ECT-Induced Tonic-Clonic Seizures.

*Epilepsia. AES abstracts.*

Englot DJ, Schridde U, BlumenfeldH. (2006). Ictal Neocortical Slowing in a Rodent Model of

Limbic Seizures. *Epilepsia. AES abstracts.*

Negishi M, Blumenfeld H, Novotny EJ, Fertig E, Spencer DD, Spencer SS, Constable RT.

(2006). Spectral Analysis of Interictal fMRI Data. *Epilepsia. AES abstracts.*

Novotny EJ, Negishi M, Fertig E. Blumenfeld H, Spencer DD, Constable RT. (2007). Combined

EEG and fMRI in Presurgical Evaluation of Pediatric Epilepsy. *Child Neurology Soc Abs.*

Mishra AM, SchriddeU, Motelow JE, HyderF, Blumenfeld H. (2007). Physiology and imaging of

increases and decreases in BOLD signals during spike-wave seizures in WAG/Rij rats. *Soc.*

*Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Mishra AM, SchriddeU, Motelow JE, HyderF, Blumenfeld H. (2007). Electrophysiology and

functional neuroimaging of increases and decreases in BOLD signals during spike-wave

seizures in WAG/Rij rats. *Epilepsia. AES abstracts.*

Englot DJ, Blumenfeld H. (2007). Ictal slowing and decreased cerebral blood flow in the rat

neocortex during limbic seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Englot DJ, Blumenfeld H. (2007). Neocortical slowing and thalamic involvement during limbic

seizures in rats. *Epilepsia. AES abstracts.*

Dix-Cooper L, Spann M, Berman R, Westerveld M, Negishi M, Motelow J, Constable RT,

Novotny EJ, Blumenfeld H. (2007). Attention problems in childhood absence epilepsy.

*Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Spann M, Dix-Cooper L, Berman R, Westerveld M, Negishi M, Motelow J, Constable RT,

Novotny EJ, Blumenfeld H. (2007). Interictal Disruption of Sustained Attention in Childhood

Absence Epilepsy. *Epilepsia. AES abstracts.*

Negishi M, Fertig E, TeisseyreTZ, Blumenfeld H, HuhL, Novotny EJ Spencer DD, Spencer S,

Constable RT. (2007). Comparison of spike correlated fMRI and difference SPECT

analyses of epilepsy. *Epilepsia. AES abstracts.*

Rajeevan N, Negishi M, Fertig E, Huh L, Novotny EJ, Blumenfeld H, Spencer DD, Spencer S,

Constable RT. (2007). Simultaneous fMRI-EEG and Functional Connectivity Analysis in

Epilepsy Surgical Planning. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Constable R, Rajeevan N, Negishi M, Fertig E, Huh L, Novotny E, Blumenfeld H, Spencer DD,

Spencer SS. (2007). Resting state fMRI for revealing networks and assessing functional

connectivity and hemispheric asymmetry in epilepsy. *Epilepsia. AES abstracts.*

Rajeevan N, Negishi M, Fertig E, Huh L, Novotny E, Blumenfeld H, Spencer D, Spencer S, and

Constable R. (2008). Simultaneous EEG-fMRI and Functional Connectivity in Epilepsy

Research and Surgical Planning. *Human Brain Mapping abstracts.*

A. M. Mishra, D. J. Ellens, U. Schridde, J. E. Motelow, M. J. Purcaro, F. Hyder, and H.

Blumenfeld. (2008). Simultaneous fMRI/CBV and EEG during spike-wave seizures in

WAG/Rij rats. *ISMRM.*

D. J. Englot, A. M. Mishra, M. Purcaro, P. Herman, F. Hyder, and H. Blumenfeld. (2008).

Simultaneous fMRI and electrophysiology during intracerebral stimulation of partial seizures.

*ISMRM.*

Halima Chahboune, Asht Mangal Mishra, Xenophon Papademetris, Fahmeed Hyder, and Hal

Blumenfeld. (2008). Corpus callosum injury and seizures in WAG/Rij rats: Correlation

between DTI and disease phenotype. *ISMRM.*

R. Berman, M. Negishi, M. Spann, M. Chung, M. J. Purcaro, E. Novotny, R. Constable, and H.

Blumenfeld. (2008). Combined EEG, fMRI, and Cognitive Testing in Childhood Absence

Epilepsy. *ISMRM.*

BG Sanganahalli, P Herman, H Blumenfeld, F Hyder. (2008). Energetics of neural signaling

and fMRI activity. *Intnl Soc Neurochem Abstracts.*

BG Sanganahalli, P Herman, H Blumenfeld, F Hyder. (2008). Transient energetics from high

field fMRI. *Gordon Research Conference.*

D.J. Englot, A.M. Mishra, P.K. Mansuripur, P. Herman, F. Hyder, and H. Blumenfeld. (2008).

Remote neocortical effects of partial temporal lobe seizures in rats. *Soc. Neurosci. Abs.*

Online at [http://www.sfn.org/](http://web.sfn.org/)

D.J. Englot, A.M. Mishra, P.K. Mansuripur, P. Herman, F. Hyder, and H. Blumenfeld. (2008).

Negative BOLD and decreased metabolism in the rat neocortex during partial limbic seizures.

*Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Ellens DJ, Giblin K, Bashyal C, Singleton MJ, Mishra AM, Blumenfeld H. (2008). The C3H/HeJ

mouse: a model for investigating effects of chronic seizure suppression on developmental

epileptogenesis *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Ellens DJ, Giblin K, Bashyal C, Singleton MJ, Hong E, Mishra AM, Blumenfeld H. (2008).

Investigation of chronic seizures suppression in developmental epileptogenesis in the

C3H/HeJ mouse model. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Morland T, Wilkerson J, Schmitts K, Rawson E, Bod J, Purcaro M, Chung M, Motelow J, Peng K,

Raouf S, DeSalvo M, Oh T, Ransom C, Huh L, Elrich S, Padin-Rosado J, Astur R, Duckrow

R, Spencer SS, Blumenfeld H. (2008). Why do epileptic seizures cause loss of

consciousness: a prospective study using virtual reality driving simulation. *Soc. Neurosci.*

*Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Wilkerson J, Morland T, Schmitts K, Rawson E, Bod J, Purcaro M, Chung M, Motelow J, Peng K,

Raouf S, DeSalvo M, Oh T, Ransom C, Huh L, Elrich S, Padin-Rosado J, Astur R, Duckrow

R, Spencer SS, Blumenfeld H. (2008). Virtual reality driving simulation to assess impaired

consciousness in epilepsy. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Sanganahalli BG, Herman P, Blumenfeld H, Hyder F. (2008). Probing somatosensory

interactions with fMRI. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Mishra AM, Ellens DJ, Schridde U, Purcaro MJ, Hyder F, Blumenfeld H. (2008). Spatio-

temporal dynamics of the BOLD fMRI signal changes and physiology during spike-wave

seizures in WAG/Rij rats. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Mishra AM, Ellens DJ, Schridde U, Purcaro MJ, Hyder F, Blumenfeld H. (2008). Increases and

decreases in fMRI, BOLD, CBV and electrophysiology measurements during spike-wave

seizures in WAG/Rij rats. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Marfeo A, Yu L, Gordon A, Agarwal R, Ellens DJ, Golomb JD, Shamy M, Levin AR, Davis K,

McNally KA, Vives K, Spencer DD, Spencer SS, Schevon C, Zaveri HP, Blumenfeld H.

(2008). Quantitative analysis of intracranial EEG changes associated with impaired

consciousness in temporal lobe seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Marfeo A, Yu L, Gordon A, Agarwal R, Ellens DJ, Golomb JD, Shamy M, Levin AR, Davis K,

McNally KA, Vives K, Spencer DD, Spencer SS, Schevon C, Zaveri HP, Blumenfeld H.

(2008). Intracranial EEG: Quantitative analysis and behavioral impairment in temporal lobe

epilepsy. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Bai X, Berman R, Negishi M, Novotny EJ, Constable RT, Blumenfeld H. (2008). Timing and

correlation of fMRI network changes in typical childhood absence seizures. *Soc. Neurosci.*

*Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Bai X, Berman R, Negishi M, Novotny EJ, Constable RT, Blumenfeld H. (2008). fMRI

timecourse and correlation analysis in typical childhood absence seizures. *Epilepsia. AES*

*abstracts.* <http://www.aesnet.org/>

Rajeevan N, Negishi M, Novotny E, Blumenfeld H, Spencer D, Spencer S, Constable T. (2008).

Evaluating epileptic networks in surgical planning by simultaneous EEG-fMRI and functional

Connectivity. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Scheinost D, Teisseyre T, Distasio M, Vives K, Blumenfeld H, Papademetris X. (2008). Ictal-

interictal SPECT subtraction analysis by BioimageSuite: Implementation and validation.

*Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Santoro B, Lee J, Seal S, Englot D, Piskorowski R, Siegelbaum S, Winawer M, Blumenfeld H.

(2008). Neurological phenotype and increased seizure susceptibility of HCN1 knock-out

mice. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Bai X, Vestal M, Berman R, Negishi M, Novotny EJ, Constable RT, Blumenfeld H. (2009).

Analysis of fMRI timecourse and correlation in typical childhood absence seizures. *ISMRM.*

Chahboune H, Mishra AM, DeSalvo M, Staib L, Lorincz M, Crunelli V, Hyder F, Blumenfeld H.

(2009). DTI abnormalities in anterior corpus callosum of rats with spike-wave epilepsy.

*ISMRM.*

Sangahahalli BG, Herman P, Blumenfeld H, Hyder F. (2009). Comparision of α-chloralose and

domitor anesthesia for fMRI and electrophysiology studies. *ISMRM.*

Sangahahalli BG, Herman P, Blumenfeld H, Hyder F. (2009). Sensory integration studies in

rodent by fMRI: Intra- and inter-hemispheric effects. *ISMRM.*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). Transcortical BOLD impulse

response functions: Implications for layer-specific CMRO2 calculation. *ISMRM.*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). Stimulation frequency

independent brief- and long-lasting BOLD responses: Implication for the dynamic CMRO2

calculation. *ISMRM.*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). BOLD impulse response functions

in the forelimb and whisker barrel cortex: Implications for CMRO2 calculation. *ISMRM.*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). Layer specific BOLD impulse

response functions in rat cortex. *Brain09*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). BOLD impulse response functions

for event related and steady-state paradigms: Implications for CMRO2. *Brain09.*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). BOLD impulse response functions

for different somatosensory modalities: Implications for CMRO2. *Brain09.*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). Multi-compartment CBV changes

with laser-Doppler and fMRI. *Brain09.*

Sangahahalli BG, Herman P, Blumenfeld H, Hyder F. (2009). Cortical and sub-cortical

activations in rat brain by fMRI. *Brain09*

Sangahahalli BG, Herman P, Blumenfeld H, Hyder F. (2009). Dynamic calibrated fMRI for event

related oxidative energetics.  *Brain09*

Sangahahalli BG, Herman P, Blumenfeld H, Hyder F. (2009). fMRI and electrophysiological

studies with alpha choralose and domitor anesthesia. *Brain09*

Scheinost D, Blumenfeld H, Papademetris X. (2009). An improved unbiased method for

diffSPECT quantification in epilepsy. *IEEE International Symposium on Biomedical Imaging*

*(ISBI). p.* 927 - 930. <http://ieeexplore.ieee.org/>

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). Layer-specific cerebral oxidative

metabolism by fMRI. *ISOTT.*

Herman P, Sangahahalli BG, Blumenfeld H, Hyder F. (2009). Layer-specific cerebral oxidative

metabolism by high field fMRI. *ESMRMB.*

Mishra AM, Bai X, Purcaro MJ, Motelow JE, DeSalvo MN, Hyder F, Blumenfeld H. (2009).

Resting functional connectivity as a biomarker of spike-wave epilepsy in WAG/Rij rats. *Soc.*

*Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

DeSalvo M, Schridde U, Mishra A, Motelow J, Purcaro M, Hyder F, Blumenfeld H. (2009).

Spatio-temporal dynamics of BOLD fMRI signal changes in a bicuculline induced generalized

tonic-clonic seizure model. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Englot DJ, Modi B, Mishra AM, DeSalvo M, Hyder F, Blumenfeld H. (2009). Septal activation,

neocortical deactivation, and diminished behavior during limbic seizures in rats. *Soc.*

*Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Yang L, Kurashvili P, Peng K, Raouf S, Oh T, Daftari A, Hamid H, Detyniecki K, Naidu M,

Ransom C, DeSalvo M, Giacino J, Blumenfeld H. (2009). Responsiveness in epilepsy scale

(RES): A new prospective behavioral measure of impaired consciousness during seizures.

*Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Bai X, Vestal M, Guo J, Berman R, Negishi M, Novotny E, Constable T, Blumenfeld H. (2009).

Resting functional connectivity of brain regions affected by typical childhood absence

epilepsy. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Vestal M, Bai X, Negishi, M, Berman R, Vega C, Spann M, DeSalvo M, McAuliffe C, Novotny EJ,

Constable RT, Blumenfeld H. (2009). Functional neuroimaging of interical attention in

childhood absence epilepsy. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Vestal M, Bai X, Negishi M, Berman R, Vega C, Spann M, DeSalvo M, McAuliffe C, Novotny E,

Constable R, Blumenfeld H. (2009). Childhood absence epilepsy: Functional neuroimaging

of interictal attention. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Bai X, Vestal M, Guo J, Berman R, Negishi M, Novotny E, Constable T, Blumenfeld H. (2009).

Resting functional connectivity in patients with typical childhood absence seizures. *Epilepsia.*

*AES abstracts.* <http://www.aesnet.org/>

Yang L, Kurashvili P, Sreenivasan A, Manza J, Hamid H, Detyniecki K, Naidu M, Ransom C,

DeSalvo M, Giacino J, Blumenfeld H. (2009). Responsiveness in epilepsy scale (RES): A

new tool for measuring impaired consciousness during seizures. *Epilepsia. AES abstracts.*

<http://www.aesnet.org/>

Vega C, Commissariat P, Chung M, Vestal M, DeSalvo M, Blumenfeld H, Spann M. (2009).

ADHD Symptoms in childhood absence epilepsy. *Epilepsia. AES abstracts.*

<http://www.aesnet.org/>

Mishra A, Bai X, Purcaro M, Motelow J, DeSalvo M, Hyder F, Blumenfeld H. (2009). Interictal

resting functional connectivity in WAG/Rij rats: a possible biomarker of epilepsy. *Epilepsia.*

*AES abstracts.* <http://www.aesnet.org/>

Englot D, Modi B, Mishra A, DeSalvo M, Hyder F, Blumenfeld H. (2009). Involvement of the

lateral septum in cortical deactivation during limbic seizures in rats. *Epilepsia. AES*

*abstracts.* <http://www.aesnet.org/>

DeSalvo M, Schridde U, Mishra A, Motelow J, Purcaro M, Hyder F, Blumenfeld H. (2009).

Timing and localization of BOLD fMRI signal changes in a bicuculline induced tonic-clonic

seizure model. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Sangahahalli BG, Herman P, Bailey CJ, Rothman DL, Blumenfeld H, Hyder F. (2010). Cortical

and subcortical activations by high field fMRI for different sensory stimuli. *ISMRM*

Sangahahalli BG, Herman P, Blumenfeld H, Hyder F. (2010). BOLD impulse response functions

and baseline-dependent response adaptation. *ISMRM*

Dezsi G, Blumenfeld H, Salzberg MR, O’Brien TJ, Jones NC. (2010). Ethosuximide treatment inhibits epileptogenesis and alleviates behavioral comorbidities in the GAERS model of absence epilepsy. *AOEC,* Online at <http://www.epilepsymelbourne2010.org/>

D. Englot, L. Yang, H. Hamid, N. Danielson, X. Bai, A. Marfeo, L. Yu, A. Gordon, M. Purcaro, J.

Motelow, R. Agarwal, D. Ellens, J. Golomb, M. Shamy, H. Zhang, C. Carlson, W. Doyle, O. Devinsky, K. Vives, D. Spencer, S. Spencer, C. Schevon, H. Zaveri, H. Blumenfeld. (2010). Ictal Neocortical Slow Activity And Impaired Consciousness In Temporal Lobe Epilepsy. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

D. Englot, L. Yang, H. Hamid, N. Danielson, X. Bai, A. Marfeo, L. Yu, A. Gordon, M. Purcaro, J.

Motelow, R. Agarwal, D. Ellens, J. Golomb, M. Shamy, K. Vives, D. Spencer, S. Spencer, C. Schevon, H. Zaveri, H. Blumenfeld. (2010). Ictal Neocortical Slow rhythms And Loss of Consciousness In Temporal Lobe Epilepsy Patients. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

G. Dezsi, H. Blumenfeld, M. Salzberg, T. O’Brien, N. Jones. (2010). Ethosuximide Treatment

Inhibits Epileptogenesis And Alleviates Behavioural Co Morbidities In The GAERS Model Of

Absence Epilepsy. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

C Vega, J. Guo, B. Killory, M. Vestal, R. Berman, M. Chung, M. Spann, H. Blumenfeld. (2010).

Anxiety And Depression Symptoms In Childhood Absence Epilepsy. *Epilepsia. AES*

*abstracts.* <http://www.aesnet.org/>

K. Detyniecki, L. Yang, S. Enamandram, H. Lee, P. Farooque, H. Hamid, C. Vega, R. Duckrow,

H. Blumenfeld. (2010). Seizure Recognition During Inpatient Video/EEG Monitoring.

*Epilepsia. AES abstracts.* <http://www.aesnet.org/>

Bruce P. Hermann, Ph.D., Rochelle Caplan, M.D., Hal Blumenfeld, M.D., Ph.D. (2010). Insights

from Neuroimaging on Brain Development in Children with “Epilepsy Only.”*Epilepsia. AES*

*abstracts.* <http://www.aesnet.org/>

X. Bai, B. Killory, J. Guo, M. Vestal, R. Berman, M. Negishi, E. Novotny, R. Constable, H.

Blumenfeld. (2010). Cluster Analysis Applied to fMRI Data in Typical Childhood Absence

Seizures. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

X. Bai, B. Killory, J. Guo, M. Vestal, R. Berman, M. Negishi, E. Novotny, R. Constable, H.

Blumenfeld. (2010). Cluster Analysis of fMRI Data in Typical Childhood Absence

Seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

A. Mishra, D. Coman, N. Danielson, C. Bhasyal, M. Coquillette, M. Negishi, M. Vestal, B. Killory,

T. van Rijn, P. Edelbroek, R. Constable, F. Hyder, G. van Luijtelaar, H. Blumenfeld. (2010).

Diffusion Tensor MRI In Absence Epilepsy. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

A. Mishra, D. Coman, N. Danielson, C. Bhasyal, M. Coquillette, M. Negishi, M. Vestal, B. Killory,

T. van Rijn, P. Edelbroek, R. Constable, F. Hyder, G. van Luijtelaar, H. Blumenfeld. (2010).

Diffusion Tensor Imaging In Absence Epilepsy. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

N. Danielson, J. Guo, B. Killory, X. Bai, M. Negishi, M. Vestal, R. Berman, C. Vega, M. Spann, E.

Novotny, R. Constable, H. Blumenfeld. (2010). Ictal BOLD Changes And Behavioral

Performance Variability In Childhood Absence Epilepsy. *Epilepsia. AES abstracts.*

<http://www.aesnet.org/>

J. Guo, N. Danielson, B. Killory, X. Bai, M. Negishi, M. Vestal, R. Berman, C. Vega, M. Spann, E.

Novotny, R. Constable, H. Blumenfeld. (2010). Variability in attention performance and fMRI

signal changes during typical childhood absence seizures. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

B. Killory, X. Bai, M. Negishi, C. Vega, M. Spann, M. Vestal, R. Berman, N. Danielson, J. Guo, S.

Foote, E. Novotny, R. Constable, H. Blumenfeld. (2010). Absence Seizures Impair Attention

And Network Connectivity In Children. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

B. Killory, X. Bai, M. Negishi, C. Vega, M. Spann, M. Vestal, R. Berman, N. Danielson, J. Guo, S.

Foote, C. McAuliffe, EJ. Novotny, R.T. Constable, H. Blumenfeld. (2010). Impaired Attention

And Network Connectivity In Childhood Absence Epilepsy. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

J. Motelow, A. Mishra, D. Englot, B. Sanganahalli, K. Furman, F. Hyder, H. Blumenfeld. (2010).

Cortical And Subcortical Network Dysfunction In Limbic Seizures: High Field BOLD fMRI In A

Rodent Complex Partial Seizure Model. *Epilepsia. AES abstracts.* <http://www.aesnet.org/>

J. Motelow, A. Mishra, D. Englot, B. Sanganahalli, F. Hyder, H. Blumenfeld. (2010).

Neocortical Dysfunction is Associated with Subcortical Network Changes in Limbic Seizures:

Investigations in a Rodent Model with High Field BOLD fMRI. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

L. Yang, L. Hyang, T. Morland, N. Danielson, M. Desalvo, M. Purcaro, J. Anaya, P. Manza, A.

Sreenivasan, C. Men, J. Cheng, A. Nunn, T. Mayer, C. Francois, S. Enamandram, M.

Albrecht, A. Hutchison, E. Yap, K. Ing, I. Shklyar, S. Balakirsky, K. Detyniecki, H. Hamid, P.

Farooque, B. Xiao, J.T. Giacino, R.B. Duckrow, H. Blumenfeld. (2010). Epileptic Loss Of

Consciousness Investigated By Prospective Behavioral Tests. *Epilepsia. AES abstracts.*

<http://www.aesnet.org/>

L. Yang, L. Hyang, T. Morland, N. Danielson, M. Desalvo, M. Purcaro, J. Anaya, P. Manza, A.

Sreenivasan, C. Men, J. Cheng, A. Nunn, T. Mayer, C. Francois, S. Enamandram, M.

Albrecht, A. Hutchison, E. Yap, K. Ing, I. Shklyar, K. Detyniecki, H. Hamid, P. Farooque, B.

Xiao, J.T. Giacino, R.B. Duckrow, H. Blumenfeld. (2010). Exploring mechanism of impaired

consciousness in epilepsy: Prospective techniques and preliminary results. *Soc. Neurosci.*

*Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)Basavaraju G. Sanganahalli, Peter Herman, Douglas L. Rothman, Hal Blumenfeld, Fahmeed

Hyder. (2011). Multi-modal verification that unilateral tactile stimulation evokes contralateral

cortical but bilateral thalamic activations. *ISMRM*

Basavaraju G. Sanganahalli, Peter Herman, Douglas L. Rothman, Hal Blumenfeld, Fahmeed

Hyder. (2011). Comparative oxidative demands in cortex and subcortex revealed by high

field calibrated fMRI. *ISMRM*

Herman P, Sanganahalli BG, Coman D, Blumenfeld H, Hyder F. (2011). Energetic basis of

resting-state fluctuations in neural and neuroimaging signals*. Brain’11.*

Sanganahalli BG, Herman P, Rothman DL, Blumenfeld H, Hyder F. (2011). Oxidative

neuroenergetics in cortex and subcortex by calibrated fMRI. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

Mishra AM, Bai X, Sanganahalli B, Hyder F, Waxman SG, Grohn O, Pitkanen A, Blumenfeld H.

(2011). Abnormal resting functional connectivity as a biomarker of epileptogenesis in the

lateral fluid percussion injury posttraumatic epilepsy rat model. *Soc. Neurosci. Abs.,* Online

at [http://www.sfn.org/](http://web.sfn.org/)

A. M. Mishra, X. Bai, A. Lighten, B. G. Sangannahalli, F. Hyder, S. G. Waxman, O. Grohn, A.

Pikanen, H. Blumenfeld. (2011). Resting Functional Connectivity Is A Biomarker Of

Epileptogenesis In The Lateral Fluid Percussion Injury Posttraumatic Epilepsy Rat Model.

*AES abstracts.* <http://www.aesnet.org/>

Ezeani CC, Detyniecki K, Yang L, Lee HW, Lighten A, Pierce A, Farooque P, Eugene MC,

Chaabani J, Hamid H, Duckrow RB, Blumenfeld H. (2011). Awareness of epileptic seizures

during continuous video/EEG (VEEG) monitoring. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

Ezeani CC, Detyniecki K, Yang L, Lee HW, Lighten A, Pierce A, McPherson A, Rojas L,

Farooque P, Eugene MC, Chaabani J, Hamid H, Duckrow RB, Blumenfeld H. (2011).

Seizure Awareness During Video/EEG (VEEG) Monitoring. *AES abstracts.*

<http://www.aesnet.org/>

Guo JN, Gonzalez JL, Bai X, Negishi M, Danielson N, Han X, Loftfield E, Berman R, Vega C,

Spann M, Novotny E, Constable RT, Blumenfeld H. (2011). EEG and fMRI correlates of

variable performance during typical childhood absence seizures. *Soc. Neurosci. Abs.,* Online

at [http://www.sfn.org/](http://web.sfn.org/)

J. Guo, X. Bai, M. Negishi, N. Danielson, X. Han, J. Gonzalez, E. Loftfield, M. Wang, H. Mistry,

R. Berman, C. Vega, M. Spann, E. Novotny, R. T. Constable, H. Blumenfeld. (2011). EEG

and fMRI Correlates Of Ictal Task Performance During Childhood Absence Seizures. *AES*

*abstracts.* <http://www.aesnet.org/>

Motelow JE, Mishra AM, Sachdev RNS, Sanganahalli BG, Gummadavelli A, Cromer JA, Englot

DJ, Hyder F, Blumenfeld H. (2011). Cortical slow oscillations during limbic seizures are

associated with hypothalamic seizure activity and suppressed brainstem firing. *Soc.*

*Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

J. E. Motelow, A. M. Mishra, R. N. Sachdev, B. G. Sanganahalli, A. Gummadavelli, D. J. Englot,

Z. A. Zayyad, J. A. Cromer, F. Hyder, H. Blumenfeld. (2011). Neocortical Slow Oscillations

In Limbic Seizures: Role Of Suppressed Firing In Subcortical Arousal Circuits. *AES*

*abstracts.* <http://www.aesnet.org/>

Lee HW, Han X, Farooque P, Jhun S, Goncharova I, Zaveri H, Vives K, Spencer D, Duckrow RB,

Hirsch LJ, Blumenfeld H. (2011). 3D surface rendering of intracranial EEG power for seizure

localization: Comparison to traditional visual analysis. *Soc. Neurosci. Abs.,* Online at

[http://www.sfn.org/](http://web.sfn.org/)

H. W. Lee, X. Han, P. Farooque, S. Jhun, I. Goncharova, H. Zaveri, K. Vives, D. Spencer, R.

Duckrow, L. Hirsch, H. Blumenfeld. (2011). A Novel Approach To Visualize Intracranial EEG:

3D Color Movies Of EEG Power For Seizure Localization. *AES abstracts.*

<http://www.aesnet.org/>

H. W. Lee, J. Arora, X. Papademetris, F. Tokoglu, M. Negishi, D. Scheinost, P. Farooque, I.

Goncharova, H. Zaveri, R. B. Duckrow, L. J. Hirsch, K. P. Vives, D. D. Spencer, H.

Blumenfeld, R. T. Constable. (2011). New Insights Into Epileptic Networks Using fMRI

Intrinsic Connectivity Mapping: Comparison With Intracranial Seizure Onset Zones. *AES*

*abstracts.* <http://www.aesnet.org/>

Herman P, Sachdev RNS, Sanganahalli BG, Blumenfeld H, McCormick DA, Hyder F. (2012).

Baseline-dependent neurovascular coupling and its implications for resting-state fMRI.

*ISMRM*

Sanganahalli BG, Herman P, Rothman DL, Blumenfeld H, Hyder F. (2012). Cortical and thalamic

sensory responses in rat brain by fMRI and neurophysiology. *ISMRM*

Herman P, Sanganahalli BG, Coman D, Jiang L, Sachdev RNS, McCormick DA, Blumenfeld H,

Behar K, Rothman D, Hyder F. (2012). Energetic basis of spontaneous fluctuations in

neuronal activity and neuroimaging signals. *Human Brain Mapping*

A. Bauerschmidt, N. Koshkelashvili, B. Kiely, C. Ezeani, J. Yoo, Y. Zhang, L. Manganas, Z.

Kratochvil, L. Rojas, A. McPherson, K. Kapadia, D. Palenzuela, C. Schmidt, R. Lief, L. Hirsch, K. Detyniecki, J. Giacino and H. Blumenfeld. (2012). Prospective evaluation of ictal behavior using the revised Responsiveness in Epilepsy Scale (RES II). *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

A. Bauerschmidt, N. Koshkelashvili, B. Kiely, C. Ezeani, J. Yoo, Y. Zhang, L. Manganas, Z.

Kratochvil, L. Rojas, A. McPherson, K. Kapadia, D. Palenzuela, C. Schmidt, R. Lief, L. Hirsch, K. Detyniecki, J. Giacino and H. Blumenfeld. (2012). The Revised Responsiveness In Epilepsy Scale (RES-II): An Improved Tool For Assessment Of Ictal Impairment. *AES abstracts.* <http://www.aesnet.org/>

M. Youngblood, A. Mishra, S. Enamandram, B. Sanganahalli, J. Motelow, H. Bai, A. Gribizis, A.

Lighten, F. Hyder and H. Blumenfeld. (2012). EEG-fMRI in a ferret model of generalized tonic-clonic seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

M. Youngblood, A. Mishra, S. Enamandram, B. Sanganahalli, J. Motelow, H. Bai, A. Gribizis, A.

Lighten, F. Hyder and H. Blumenfeld. (2012). Neuroimaging And EEG During Generalized

Tonic-Clonic Seizures In Ferrets. *AES abstracts.* <http://www.aesnet.org/>

J. Motelow, A. Gummadavelli, V. Chu, A. Mishra, R. Sachdev, B. Sanganahalli, M. Furman, D.

Englot, F. Hyder and H. Blumenfeld. (2012). Brainstem cholinergic and thalamic dysfunction

during limbic seizures: Possible mechanism for cortical slow oscillations and impaired consciousness. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

J. Motelow, A. Gummadavelli, V. Chu, A. Mishra, R. Sachdev, B. Sanganahalli, M. Furman, D.

Englot, F. Hyder and H. Blumenfeld. (2012). Decreased Subcortical Arousal In Limbic Seizures: Brainstem Cholinergic And Thalamic Inhibition During Cortical Slow Oscillations. *AES abstracts.* <http://www.aesnet.org/>

J. Guo, S. Jhun, A. Bai, M. Negishi, J. Rodriguez-Fernandez, H. Mistry, W. Xiao, C. Bailey, M.

Crowley, R.T. Constable,L.C. Mayes and H. Blumenfeld. (2012). Characterization of childhood absence seizures and ictal performance on high-density EEG. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

J. Guo, S. Jhun, A. Kundishora, R. Kim, X. Bai, M. Negishi, G. Castellucci, J. Rodriguez-

Fernandez, H. Mistry, C. Bailey, M. Crowley, R. Constable,L. Mayes and H. Blumenfeld. (2012). High-Density EEG And Behavioral Performance During Childhood Absence Seizures. *AES abstracts.* <http://www.aesnet.org/>

J. Rodriguez-Fernandez, S. Jhun, J. Guo, J. Gonzalez, W. Xiao, M. Negishi, X. Bai, N.

Danielson, X. Han, R. Constable and H. Blumenfeld. (2012). Attention performance during

typical childhood absence seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

S. Jhun, J. Rodriguez-Fernandez, J. Guo, J. Gonzalez, W. Xiao, M. Negishi, X. Bai, N.

Danielson, X. Han, R. Constable and H. Blumenfeld. (2012). Ictal Deficits In Behavior

During Childhood Absence Epilepsy. *AES abstracts.* <http://www.aesnet.org/>

J. Yeoun Yoo, M. Youngblood, I. Quraishi, W. Chen, H. Zaveri, L. Hirsch and H. Blumenfeld.

(2012). Onset And Propagation Of Temporal Lobe Seizures With VS Without Secondary

Generalization: An Intracranial EEG Analysis. *AES abstracts.* <http://www.aesnet.org/>

C. Ezeani, K. Detyniecki, A. Bauerschmidt, F. Winstanley, R. Duckrow, L. Hirsch and H.

Blumenfeld. (2012). Accuracy Of Patients’ Seizure Reporting During Video EEG Monitoring. *AES abstracts.* <http://www.aesnet.org/>

Sanganahalli BG, Herman P, Behar K, Blumenfeld H, Rothman DL, Hyder F. (2013). Functional

MRI and neural responses in a rat model of Alzheimer's disease. *ISMRM*

Herman P, Sanganahalli BG, Rothman DL, Blumenfeld H, Hyder F. (2013). Neurometabolic and

neurovascular couplings across cortical layers of rat brain. *ISMRM*

Herman P, Sachdev RNS, Yu Y, Sanganahalli BG, Blumenfeld H, McCormick DA, Hyder F.

(2013). State-dependent resting-state coherence between neural activity and blood flow.

*Brain’13.*

Herman P, Sanganahalli BG, Rothman DL, Blumenfeld H, Hyder F. (2013). Laminar neural

activity and flow-metabolism couplings in cerebral cortex. *Brain’13.*

Xiao WR, Guillod PD, Chen W, Watsky RE, Martin LS, Youngblood MW, Aronberg RM, Bailey

CA, Crowley MJ, van den Honert R, Engell AD, Gerrard JL, Spencer DD, Mayes LC,

McCarthy G, Blumenfeld H. (2013). A behavioral paradigm for investigating the mechanisms

of conscious report. *ASSC 17.*

Blumenfeld H, Motelow JE, Gummadavelli A, Zhan Q, Li W, Furman M, Sanganahalli B, Hyder

F. (2013). Neurostimulation to Increase Consciousness in Complex Partial Seizures.

*IWSP6.*

M. Furman, Q. Zhan, B. A. Lerner, J. Meng, J. E. Motelow, W. Li, I. B. Witten, K. Deisseroth, J. A. Cardin, H. Blumenfeld. (2013). Optogenetic stimulation of cholinergic mesopontine neurons for preventing cortical dysfunction during seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

M. Furman, Q. Zhan, B. A. Lerner, J. Meng, J. Motelow, C. Ma, W. Li, I. B. Witten, K. Deisseroth, J. A. Cardin, H. Blumenfeld. (2013). Restoring Fast Cortical Activity In A Rat Model Of Complex Partial Seizures Using Optogenetic Stimulation. *AES abstracts.* <http://www.aesnet.org/>

Q. Zhan, M. Furman, B. A. Lerner, J. Meng, J. E. Motelow, W. Li, I. B. Witten, K. Deisseroth, J. A. Cardin, H. Blumenfeld. (2013). Selective expression of channelrhodopsin-2 in brainstem cholinergic neurons in a rat model of complex partial seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Q. Zhan, M. Furman, B. A. Lerner, J. Meng, J. Motelow, C. Ma, W. Li, I. B. Witten, K. Deisseroth, J. A. Cardin, H. Blumenfeld. (2013). Highly Specific Channelrhodopsin-2 Expression In Cholinergic Mesopontine Neurons In A Rat Model Of Complex Partial Seizures. *AES abstracts.* <http://www.aesnet.org/>

J. E. Motelow, A. Gummadavelli, W. Li, Q. Zhan, B. G. Sanganahalli, M. Furman, F. Hyder, H. Blumenfeld. (2013). Stimulating intralaminar thalamus during complex partial seizures to restore normal cortical activity. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

J. Motelow, A. Gummadavelli, W. Li, Q. Zhan, B. Sanganahalli, M. Furman, F. Hyder, H. Blumenfeld. (2013). Restoring Normal Cortical Activity During Complex Partial Seizures: A Novel Use For Thalamic Deep Brain Stimulation. *AES abstracts.* <http://www.aesnet.org/>

W. Li, J. Motelow, G. Liu, A. Gummadavelli, Z. Zayyad, H. S. Lee, Q. Zhan, A. M. Mishra, R. N. S. Sachdev, B. G. Sanganahalli, M. Furman, D. Englot, F. Hyder, H. Blumenfeld. (2013). Decreased choline in frontal cortex and thalamus in partial limbic seizures: mechanism of depressed consciousness. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

W. Li, J. Motelow, G. Liu, A. Gummadavelli, Z. Zayyad, J. Chin, H. Lee, Q. Zhan, A. Mishra, R. N. Sachdev, B. Sanganahalli, M. Furman, D. Englot, F. Hyder, H. Blumenfeld. (2013). Role Of Decreased Cholinergic Neurotransmission In Reduced Corticothalamic Arousal During Complex Partial Seizures. *AES abstracts.* <http://www.aesnet.org/>

C. Cunningham, W. Chen, A. Shorten, T. Choezom, M. Mcclurkin, C. Schmidt, A. Bozik, C. Best, M. Chapman, V. Chu, M. Furman, J. T. Giacino, H. Blumenfeld. (2013). Epilepsy and consciousness: Behavioral deficits in partial seizures are bimodally distributed. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

C. Cunningham, W. Chen, A. Shorten, M. McClurkin, T. Choezom, C. Schmidt, V. Chu, A. Bozik, C. Best, M. Chapman, M. Furman, K. Detyniecki, J. Giacino, H. Blumenfeld. (2013). Partial Seizures Show Bimodal Distribution Of Impaired Consciousness. *AES abstracts.* <http://www.aesnet.org/>

W. Chen, A. Bauerschmidt, M. W. Youngblood, C. Cunningham, C. Ezeani, Z. Kratochvil, J. Bronen, J. Thomson, K. Riordan, J. Y. Yoo, R. Shirka, L. Manganas, L. J. Hirsch, H. Blumenfeld. (2013). Prospective testing of driving during clinical and subclinical seizures in patients with epilepsy. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

W. Chen, A. Bauerschmidt, M. W. Youngblood, C. Cunningham, N. Li, R. Gebre, M. Johnson, E. Chen, P. Vitkovskiy, Y. Baykara, D. Kluger, C. Ezeani, Z. Kratochvil, J. Bronen, J. Thomson, K. Riordan, J. Yoo, R. Shirka, L. Manganas, L. Hirsch, H. Blumenfeld. (2013). Driving With Epilepsy: A Prospective Study Using A Driving Simulator During Clinical And Subclinical Seizures. *AES abstracts.* <http://www.aesnet.org/>

R. Kim, J. N. Guo, S. Jhun, H. Mistry, W. R. Xiao, A. Kundishora, G. Castellucci, S. Braun, J. Rodriguez-Fernandez, X. Bai, M. Negishi, C. Bailey, M. J. Crowley, R. T. Constable, L. C. Mayes, H. Blumenfeld. (2013). Relating fMRI signals to impaired attention during absence seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

R. Kim, J. Guo, S. Jhun, H. Mistry, W. R. Xiao, A. Kundishora, G. Castellucci, S. Braun, J. Rodríguez-Fernandez, X. Bai, M. Negishi, C. Bailey, M. J. Crowley, T. Constable, L. C. Mayes, H. Blumenfeld. (2013). Impaired Attention Is Associated With Greater fMRI Signal Changes During Absence Seizures. *AES abstracts.* <http://www.aesnet.org/>

J. N. Guo, R. Kim, S. Jhun, H. Mistry, W. R. Xiao, A. Kundishora, G. Castellucci, S. Braun, J. Rodriguez-Fernandez, X. Bai, M. Negishi, C. Bailey, M. J. Crowley, R. T. Constable, L. C. Mayes, H. Blumenfeld. (2013). Task performance is related to EEG signals during childhood absence seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

J. Guo, R. Kim, S. Jhun, H. Mistry, W. R. Xiao, A. Kundishora, G. Castellucci, S. Braun, J. Rodríguez-Fernandez, X. Bai, M. Negishi, C. Bailey, M. J. Crowley, T. Constable, L. C. Mayes, H. Blumenfeld. (2013). EEG Amplitude Is Related To Ictal Task Performance In Childhood Absence Epilepsy. *AES abstracts.* <http://www.aesnet.org/>

W. R. Xiao, W. C. Chen, F. L. Hell, R. E. Watsky, P. D. Guillod, N. Tsai, L. S. Martin, M. W. Youngblood, R. M. Aronberg, C. A. Bailey, M. J. Crowlely, R. N. Van Den Honert, A. D. Engell, J. L. Gerrard, D. D. Spencer, L. C. Mayes, G. McCarthy, H. Blumenfeld. (2013). Developing a task to investigate conscious report across sensory modalities. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Zhan, Q. Buchanan, G.F. Motelow, J.E. Serout, F. Chen, W. Gummadavelli, A. Andrews, J. Furman, M. Li, W. Richerson, G.B. Blumenfeld, H. (2014). Impaired function of brainstem serotonergic nuclei during seizures: implications for depressed arousal, breathing and sudden unexpected death in epilepsy (SUDEP). *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Q. Zhan, G. Buchanan, J. Motelow, F. Serout, W. Chen, A. Gummadavelli, J. Andrews, P. Vitkovskiy, M. Furman, W. Li, G. Richerson, H. Blumenfeld. (2014). Peri-Ictal Impairment Of

Brainstem 5-HT Neurons: Insight Into Depressed Arousal, Reduced Ventilation And Sudden Unexpected Death In Epilepsy (SUDEP). *AES abstracts.* <http://www.aesnet.org/>

J. N. Guo, R. Kim, S. Jhun, W. Xiao, E. Feeney, X. Bai, M. Negishi, M. J. Crowley, L. C. Mayes, R. T. Constable, H. Blumenfeld. (2014). Mechanism of impaired consciousness in typical childhood absence seizures. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

J. N. Guo, R. Kim, S. Jhun, W. Xiao, E. Feeney, X. Bai, M. Negishi, M. J. Crowley, L. C. Mayes, T. Constable, H. Blumenfeld. (2014). Neural Mechanism of Impaired Consciousness in Typical Childhood Absence Seizures. *AES abstracts.* <http://www.aesnet.org/>

W.R. Xiao, W.C. Chen, R.E. Watsky, R. Kim, E.A.B. Levinsohn, J.L. Gerrard, D.D. Spencer, H. Blumenfeld. (2014). Mechanisms of large-scale network switching in task engagement and conscious report. *Soc. Neurosci. Abs.,* Online at [http://www.sfn.org/](http://web.sfn.org/)

A. Gummadavelli, J. E. Motelow, N. Smith, Q. Zhan, N. D. Schiff, H. Blumenfeld. (2014). Intralaminar thalamic neurostimulation to improve consciousness after seizures. *Soc. Neurosci. Abs.* 314.20*,* Online at [http://www.sfn.org/](http://web.sfn.org/)

A. Gummadavelli, J. Motelow, N. Smith, Q. Zhan, N. Schiff, H. Blumenfeld. (2014). Thalamic Deep Brain Stimulation To Improve Consciousness After Seizures. *AES abstracts.* <http://www.aesnet.org/>

Y. Si, E. Gudbranson, W. C. Chen, M. Midura, R. Wu, B. Geng, P. Vitkovskiy, A. Sivaraju, R. Sainju, A. Fernandez, A. Alareddy, I. Quraishi, R. B. Duckrown, L. J. Hirsch, H. Blumenfeld. (2014). Effects of subclinical epileptiform discharges on driving performance in people with epilepsy. *Soc. Neurosci. Abs.* 606.04*,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Y. Si, E. Gudbranson, W. Chen, M. Midura, R. Wu, B. Geng, P. Vitkovskiy, A. Sivaraju, R. Sainju,

A. Fernandez, A. Alareddy, I. Quraishi, R. Duckrow, L. Hirsch, H. Blumenfeld. (2014). Prospective Evaluation Of The Effects Of Clinical And Subclinical Epileptoform Discharges On Driving Safety. *AES abstracts.* <http://www.aesnet.org/>

N. Li, J. Thomson, W. Chen, D. Kluger, C. Cunningham, R. Gebre, Y. Si, J. Blumenfeld, E. Chen, M. Johnson, P. Vitkovskiy, Y. Baykara, E. Gudbranson, A. Morawo, H. Blumenfeld. (2014). A portable handheld device for prospective driving evaluation in the epilepsy monitoring unit. *Soc. Neurosci. Abs.* 606.05*,* Online at [http://www.sfn.org/](http://web.sfn.org/)

N. Li, J. Thomson, W. Chen, D. Kluger, C. Cunningham, R. Gebre, Y. Si, J. Blumenfeld, E. Chen, M. Johnson, P. Vitkovskiy, Y. Baykara, E. Gudbranson, A. Morawo, H. Blumenfeld. (2014). Prospective Driving Performance Evaluation Using A Portable Handheld Device In The Epilepsy Monitoring Unit. *AES abstracts.* <http://www.aesnet.org/>

V. Punia, P. Farooque, W. Chen, L. Hirsch, A. Berg, H. Blumenfeld. (2014). Factors Influencing Driving Impairment In Persons With Refractory Epilepsy. *AES abstracts.* <http://www.aesnet.org/>

Herman P, Sanganahalli BG, Coman D, Blumenfeld H, Jiang L, Rothman DL, Hyder F. (2015). Neurophysiological and neuroenergetic basis of spontaneous BOLD signal fluctuations in resting-state fMRI connectivity maps. *ISMRM*

Xiao WR, Smith RE, Touloumes GT, Weiss SS, Watsky RE, Chen WC, Gerrard JL, Spencer DD, Blumenfeld H. (2015). Physiological Markers of Human Conscious Visual Perception. *ASSC 19.*

Touloumes G, Gebre R, Gober L, Chen W, Sivaraju A, Grover E, Khozein R, Morse E, Dente J, Lilenbaum R, Blumenfeld H. (2015). Automatic Computer-controlled Behavioral Testing to Assess Ictal and Postictal Consciousness in Epilepsy Patients. Abstract number 2.160. *AES abstracts 2015.* <http://www.aesnet.org/>

G Touloumes, W Chen, A Sivaraju, R Khozein, E Morse, C Cunningham, LJ Hirsch, H Blumenfeld. (2015). Automated ictal and postictal behavioral testing of epilepsy patients. *Soc. Neurosci. Abs.* 493.12*,* Online at [http://www.sfn.org/](http://web.sfn.org/)

C. McCafferty, A. J. Kundishora, E. Johnson, J. Sampognaro, N. Smith, Y. Si, P. Antwi, P. Vitkovskiy, A. Morawo, H. Blumenfeld. (2015). Minimally stressful rat head fixation to investigate electrophysiological, behavioral and hemodynamic correlates of absence seizures. Abstract number 3.030. *AES abstracts 2015.* <http://www.aesnet.org/>

C.P. McCafferty, A. Kundishora, J. Sampognaro, E. Johnson, N. Smith, Y. Si, P. Antwi, A. Morawo, H. Blumenfeld. (2015). A head-fixation protocol allowing electrophysiological, hemodynamic and behavioral measurements in a polygenic rodent model of absence epilepsy. *Soc. Neurosci. Abs.* 588.14*,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Adam J. Kundishora, Abhijeet Gummadavelli, Cian McCafferty, Chanthia Ma, Mengran Liu, William Biche, Li Feng, Jason Gerrard, Hal Blumenfeld. (2015). Restoring consciousness during and after seizures with dual-site thalamic and pontine neurostimulation. Abstract number 2.034. *AES abstracts 2015.* <http://www.aesnet.org/>

Adam J. Kundishora, Abhijeet Gummadavelli, Chanthia Ma, Mengran Liu, Cian McCafferty, Jason Gerrard, Hal Blumenfeld. (2015). Dual-site pontine and thalamic neurostimulation to restore consciousness during and after seizure. *Soc. Neurosci. Abs.* 496.11*,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Xiao WR, Smith RE, Touloumes GJ, Horien CL, Raja A, Morese E, Watsky RE, Weiss SA, Weiss SA, Chen WC, Spencer DD, Gerrard JL, Blumenfeld H. (2015). Intracranial EEG signatures of conscious visual experience. *Soc. Neurosci. Abs.* 818.24*,* Online at [http://www.sfn.org/](http://web.sfn.org/)

Morawo, A., Pereira, S., Pisani, M., Blumenfeld, H., Hirsch, L., Sheth, K., Gilmore, E. (2016).

Understanding the Pathophysiology of Brain Failure in Sepsis using EEG and NIRS. *American Academy of Neurology.*

Wendy R Xiao, Sharif I Kronemer, Leah Gober, Rachel E Smith, Syed A. Wafa, Anusha Raja, Elliot Morse, Rebecca E Watsky, Corey L Horien, Erik Saberski, Owen Morgan, George J Touloumes, William C Chen, Dennis D. Spencer, Jason L Gerrard, Hal Blumenfeld. (2016). An organized wave of intracranial broadband gamma activity during the first second of conscious visual perception. *ASSC 20, abstracts,*Online at <http://assc20.org/wp-content/uploads/2016/02/Abstracts_Concurrent_Sessions.pdf>

Sharif I Kronemer, Wendy R Xiao, Leah Gober, Rachel E Smith, Syed A. Wafa, Anusha Raja, Elliot Morse, Rebecca E Watsky, Corey L Horien, Erik Saberski, Owen Morgan, George J Touloumes, William C Chen, Dennis D. Spencer, Jason L Gerrard, Hal Blumenfeld. (2016). The cortical event-related potential and alpha wave signatures for visual consciousness. *ASSC 20,* Online at <http://assc20.org/wp-content/uploads/2016/02/Abstracts_Concurrent_Sessions.pdf>  
  
L Gober, Y Si, G Touloumes, W Chen, E Morse, R Gebre, A Bauerschmidt, M Youngblood, C Cunningham, C Ezeani, Z Kratochvil, J Bronen, J Thomson, K Riordan, L Hirsch, H Blumenfeld. (2016). Driving simulation testing of patients with epilepsy during inpatient video/EEG monitoring. *Soc. Neurosci. Abstracts 2016,* Abstract No. 408.04. Online at [http://www.sfn.org/](http://web.sfn.org/)

L. Gober, Y. Si, G.Touloumes, W. Chen, A. Bauerschmidt, M. Youngblood, C. Cunningham, C. Ezeani, Z. Kratochvil, J. Bronen, J. Thomson, K. Riordan, J. Yoo, R. Shirka, L. Manganas, L. Hirsch, H. Blumenfeld. (2016). Testing of patients with epilepsy on driving simulation during inpatient video/EEG monitoring. *AES. Abstracts 2016,* Abstract No. 2.276. Online at <http://www.aesnet.org/>

Y. Chen, S. Braun, J. Guo, H. Blumenfeld. (2016). Mechanisms of widespread cortical fMRI increases and decreases in absence seizures. *Soc. Neurosci. Abstracts 2016,* Abstract No. 408.03. Online at [http://www.sfn.org/](http://web.sfn.org/)

Y. Chen, S. Braun, J. Guo, H. Blumenfeld. (2016). Neural basis of widespread cortical fMRI increases and decreases in absence seizures*. AES. Abstract 2016*, Abstract No. 2.136. Online at <http://www.aesnet.org/>

R. Gebre, M. Dhakar, E. Grover, I. Quraishi, E. Sternberg, I. George, A. Sivaraju, J. Bonito, H. Zaveri, L. Gober, S. Ahammad, S. Ghoshal, L. Hirsch, D. D. Spencer, J. L. Gerrard, H. Blumenfeld. (2016). Frontal lobe seizures and impaired consciousness: intracranial EEG markers. *Soc. Neurosci. Abstract 2016,* Abstract No. 408.05. Online at [http://www.sfn.org/](http://web.sfn.org/)

R. Gebre, M. Dhakar, E. Grover, I. Quraishi, E. Sternberg, I. George, A. Sivaraju, J. Bonito, H. Zaveri, L. Gober, S. Ahammad, S. Ghoshal, P. Farooque, L. Hirsch, D. Spencer, J. Gerrard, H. Blumenfeld. (2016). Intracranial markers of loss of consciousness in frontal lobe seizures. *AES. Abstract*, Abstract No. 2.001. Online at <http://www.aesnet.org/>

L. Feng, J. Motelow, W. Biche, C. McCafferty, N. Smith, M. Liu, Q. Zhan, R. Jia, A. Duque, H. Blumenfeld. (2016). Modulation of thalamic neuronal activity during focal limbic seizures differs by thalamic subnucleus. *Soc. Neurosci. Abstracts 2016*, Abstract No. 594.01. Online at [http://www.sfn.org/](http://web.sfn.org/)

L. Feng, J. Motelow, W. Biche, C. McCafferty, N. Smith, M. Liu, Q. Zhan, R. Jia, A. Duque, H. Blumenfeld. (2016). Different roles for different thalamic nuclei in modulation of neuronal activity during focal limbic seizures. *AES. Abstract 2016*, Abstract No. 1.144. Online at <http://www.aesnet.org/>

M. M. Galardi, J. Xu, C. P. McCafferty, E. T. Musonza, J. Y. Pok, T. R. Liao, A. J. Kundishora, A. Gummadavelli, J. L. Gerrard, M. Laubach, H. Blumenfeld. (2016). Behavioral assessment of the effect of dual-site pontine and thalamic neurostimulation to improve arousal during and after seizures. *Soc. Neurosci. Abstracts 2016*, Abstract No. 594.02. Online at [http://www.sfn.org/](http://web.sfn.org/)

M. Galardi, J. Xu, E. Musonza, J. Pok, J. Osteen, T. Liao, A. Kundishora, A. Gummadavelli, L. Feng, C. McCafferty, J. Gerrard, M. Laubach, H. Blumenfeld. (2016). Dual-site pontine and thalamic neurostimulation to improve ictal and postictal arousal: assessment of its effect with a behavioral task*. AES. Abstract 2016*, Abstract No. 2.044. Online at <http://www.aesnet.org/>

C.P. McCafferty, A. Kundishora, J. Sampognaro, E. Johnson, W. Islam, P. Vitkovskiy, P. Antwi, N. Smith, A. Morawo, J. Xu, M. Galardi, H. Blumenfeld. (2016). Mechanisms of absence seizures investigated by relating hemodynamics, electrophysiology, and behavioral severity in an awake rodent model. *Soc. Neurosci. Abstracts 2016*, Abstract No. 594.03. Online at [http://www.sfn.org/](http://web.sfn.org/)

C. McCafferty, J. Sampognaro, E. Johnson, W. Islam, P. Vitkovskiy, P. Antwi, N. Smith, A. Morawo, A. Kundishora, J. Osteen, L. Makusha, J. Xu, M. Galardi, H. Blumenfeld. (2016). Neuronal and hemodynamic determinants of absence seizure severity. *AES. Abstract 2016*, Abstract No. 2.048. Online at <http://www.aesnet.org/>

R. Li, D. Kluger, E. Levinsohn, Y. Chen, W. Xiao, H. Blumenfeld. (2016). Cortical and subcortical involvement in switching between task positive network and default mode network. *Soc. Neurosci. Abstract 2016*, Abstract No. 646.28. Online at [http://www.sfn.org/](http://web.sfn.org/)

S. M. A. Wafa, B. Kiely, W. R. Xiao, Y. Chen, L. M. Gober, J.

, S. I. Kronemer, E. Saberski, O. Morgan, Z. Ding, M. J. McGinley, D. A. McCormick, H. Blumenfeld. (2016). Machine learning to predict pupillary dynamics in conscious visual perception. *Soc. Neurosci. Abstract 2016*, Abstract No. 646.15. Online at [http://www.sfn.org/](http://web.sfn.org/)

S. I. Kronemer, W. R. Xiao, L. Gober, R. E. Smith, S. M. A. Wafa, A. Raja, E. Morse, R. E. Watsky, C. L. Horien, E. Saberski, O. Morgan, G. J. Touloumes, W. C. Chen, D. D. Spencer, J. L. Gerrard, H. Blumenfeld. (2016). Intracranial cortical event-related potentials and alpha wave gating of visual consciousness. *Soc. Neurosci. Abstract 2016*, Abstract No. 646.04. Online at [http://www.sfn.org/](http://web.sfn.org/)

W.R. Xiao, S. I. Kronemer, L. M. Gober, R. E. Smith, S. M. A. Wafa, A. Raja, E. C. Morse, R. E. Watsky, C. L. Horien, E. Saberski, O. Morgan, G. J. Touloumes, W. C. Chen, D. D. Spencer, J. L. Gerrard, H. Blumenfeld. (2016). Broadband gamma activity in the formation of a conscious visual experience in humans. *Soc. Neurosci. Abstract 2016*, Abstract No. 646.12. Online at [http://www.sfn.org/](http://web.sfn.org/)

E. Morse, K. Giblin, M. Chung, C. Dohle, A. Berg, H. Blumenfeld. (2016). Does effective treatment improve long-term outcome in Childhood Absence Epilepsy? A historical meta-analysis. *AES. Abstract 2016*, Abstract No. 1.205. Online at <http://www.aesnet.org/>

Peter Herman, Basavaraju G. Sangannahali, Douglas L. Rothman, Hal Blumenfeld, Fahmeed Hyder. (2107). Metabolic demand of neural-hemodynamic associated and disassociated areas with calibrated fMRI. Brain ’17.  
  
Kronemer SI, Forman S, Ryu JH, Khosla M, Saberski E, Xiao WR, Constable RT, Blumenfeld H. (2017). The subcortical neural mechanisms of network switching for visual conscious perception. *ASSC Abstracts 2017.*   
  
Gruenbaum BF, Sampognaro J, Yue Z, Ryu JH, Herman P, Sanganahalli B, Hyder F, Depaulis A, McCafferty CP, Blumenfeld H. (2017) Insights into neural mechanisms and neurovascular relationships underlying variable impairments in consciousness following absence seizures. *American Society of Anesthesiologists / Society for Neuroscience in Anesthesiology and Critical Care Annual Meetings*, Boston, Massachusetts.

J. Ryu, Y. Chen, S. Braun, J. N. Guo, H. Blumenfeld. (2017). Neural activity model of hemodynamic response during absence seizures. *Soc. Neurosci. Abstract 2017*, Abstract No. 205.01. Online at [http://www.sfn.org/](http://web.sfn.org/)

N. Saleem, C. Arencibia, Z. Sheikh, T. Liao, L. Gober, R. Khozein, L. Hirsch, H. Blumenfeld. (2017). Evaluating the feasibility of automated responsiveness testing in epilepsy (ARTiE). *Soc. Neurosci. Abstract 2017*, Abstract No. 205.02. Online at [http://www.sfn.org/](http://web.sfn.org/)

C. A. Arencibia, R. Gebre, M. Dhakar, E. Grover, I. Quraishi, E. Sternberg, I. George, A. Sivaraju, J. Bonito, H. P. Zaveri, L. Gober, S. Ghoshal, P. Farooque, L. Hirsch, J. Gerrard, D. Spencer, S. Ahammad, H. Blumenfeld. (2017). Impaired consciousness in frontal lobe seizures: Quantitative analysis of intracranial electroencephalography. *Soc. Neurosci. Abstract 2017*, Abstract No. 205.03. Online at [http://www.sfn.org/](http://web.sfn.org/)

E. Juan, T. Bugnon, G. Findlay, R. Verhagen, A. Mensen, C. A. Schevon, O. Devinsky, R. Maganti, G. Tononi, H. Blumenfeld, M. Boly. (2017). Diverse mechanisms for ictal loss of consciousness: A comparison of intracranial recordings during complex partial and secondarily generalized seizures. *Soc Neurosci. Abstract 2017*, Abstract No. 205.04. Online at [http://www.sfn.org/](http://web.sfn.org/)

R. Y. Verhagen, G. Findlay, B. Jones, E. Juan, T. Bugnon, A. Mensen, H. Blumenfeld, G. Tononi, R. Maganti, M. Boly. (2017). Neural correlates of loss of consciousness in simple versus complex partial seizures: A high-density EEG study. *Soc Neurosci. Abstract 2017*, Abstract No. 205.05. Online at [http://www.sfn.org/](http://web.sfn.org/)

C. P. McCafferty, B. Gruenbaum, Z. Yue, J. Sampognaro, J. Ryu, A. Kundishora, P. Herman, B. Sanganahalli, F. Hyder, A. Depaulis, H. Blumenfeld. (2017). Variable impairment of consciousness in rodent absence seizures: Neuronal and hemodynamic mechanisms. *Soc. Neurosci. Abstract 2017*, Abstract No. 293.11. Online at [http://www.sfn.org/](http://web.sfn.org/)

J. P. Andrews, Z. Yue, G. T. Neske, D. A. McCormick, H. Blumenfeld. (2017). Mechanism of decreased subcortical cholinergic arousal in focal limbic seizures: whole-cell recordings *In vivo*. *Soc. Neurosci. Abstract*, Abstract No. 293.12. Online at [http://www.sfn.org/](http://web.sfn.org/)

J. Xu, M. M. Galardi, J. Y. Pok, C. P. McCafferty, L. Feng, A. Gummadavelli, A. J. Kundishora, J. L. Gerrard, M. Laubach, N. D. Schiff, H. Blumenfeld. (2017). Behavioral assessment of intralaminar thalamic neurostimulation to improve consciousness during the postictal period of seizures. *Soc Neurosci. Abstract 2017*, Abstract No. 293.13. Online at [http://www.sfn.org/](http://web.sfn.org/)

L.-A. Sieu, L. Feng, C. Ma, W. Zhao, J. Cardin, H. Blumenfeld. (2017). Uncovering limbic seizure networks using optogenetic and neuroanatomical tracing approaches *In vivo*. *Soc. Neurosci. Abstract 2017*, Abstract No. 293.14. Online at [http://www.sfn.org/](http://web.sfn.org/)

S. Forman, S. I. Kronemer, E. Sarberski, J. H. Ryu, M. Khosla, W. R. Xiao, R. T. Constable, H. Blumenfeld. (2017). Subjective conscious perception shortens reaction time independently of objective task performance. *Soc. Neurosci. Abstract 2017*, Abstract No. 804.10. Online at <http://www.sfn.org/annual-meeting/past-and-future-annual-meetings>

W. R. Xiao, S. I. Kronemer, J. L. Gerrard, D. D. Spencer, H. Blumenfeld. (2017). Effect of peri-stimulus alpha activity phase and power on detection of threshold visual perceptual stimuli. *Soc. Neurosci. Abstract 2017*, Abstract No. 804.11. Online at [http://www.sfn.org/](http://web.sfn.org/)

S. I. Kronemer, S. Forman, J. Ryu, M. Khosla, E. Sarberski, W. R. Xiao, R. Constable, H. Blumenfeld. (2017). The cortical and subcortical neural mechanisms of visual perception. *Soc. Neurosci. Abstract 2017*, Abstract No. 804.12. Online at <http://www.sfn.org/annual-meeting/past-and-future-annual-meetings>

Z. Ding, J. S. Prince, S. Forman, O. Morgan, C. W. Zhao, S. Wafa, Y. Chen, W. Xiao, S. I. Kronemer, K. L. Christison-Lagay, S. Steinerberger, M. McGinley, D. McCormick, H. Blumenfeld. (2017). Machine learning to predict conscious visual perception using pupillary dynamics. *Soc. Neurosci. Abstract 2017*, Abstract No. 804.13. Online at <http://www.sfn.org/annual-meeting/past-and-future-annual-meetings>

C. P. McCafferty, B. F. Gruenbaum, Z. Yue, J. Sampognaro, J. H. Ryu, A. Kundishora, A. Kwan, P. Herman, B. Sanganahalli, F. Hyder, A. DePaulis, H. Blumenfeld. (2017). Neuronal mechanisms of impaired consciousness in Absence seizures. *AES. Abstract 2017*, Abstract No. 1.042. Online at <http://www.aesnet.org/>

N. Saleem, C. A. Arencibia, K. McKenna, S. Cristofaro, K. Detyniecki, D. Friedman, J. French, H. Blumenfeld. (2017). Investigation of patient and observer agreement on description of seizures. *AES. Abstract 2017*, Abstract No. 1.089. Online at <http://www.aesnet.org/>

C. A. Arencibia, R. Gebre, M. Dhakar, E. Grover, I. Quraishi, E. Sternberg, I. George, A. Sivaraju, J. Bonito, H. Zaveri, S. Ghoshal, P. Farooque, L. Hirsch, D. Spencer, J. L. Gerrard, S. Ahammad, L. Gober, H. Blumenfeld. (2017). Impaired consciousness in frontal lobe seizures is associated with widespread broad-band intracranial EEG power increase. *AES. Abstract 2017*, Abstract No. 1.144. Online at <http://www.aesnet.org/>

J. H. Ryu, Y. Chen, S. Braun, J. N. Guo, H. Blumenfeld. (2017). Whole brain model of neural activity during absence seizures: an fMRI Study. *AES. Abstract 2017*, Abstract No. 1.253. Online at <http://www.aesnet.org/>

J. Xu, M. M. Galardi, J. Y. Pok, C. McCafferty, L. Feng, A. J. Kundishora, A. Gummadavelli, J. L. Gerrard, M. Laubach, N. D. Schiff, H. Blumenfeld. (2017). Intralaminar thalamic neurostimulation to improve consciousness during the postictal period of seizures: assessment of its effect with a behavioral task. *AES. Abstract 2017*, Abstract No. 2.130. Online at <http://www.aesnet.org/>

J. P. Andrews, Z. Yue, J. H. Ryu, G. Neske, D. McCormick, H. Blumenfeld. (2017). Seizure effects on cholinergic arousal: mechanistic insights through whole-cell recording *in vivo*. *AES. Abstract 2017*, Abstract No. 3.015. Online at <http://www.aesnet.org/>

L.-A. Sieu, L. Feng, C. Ma, C. W. Zhao, J. Cardin, H. Blumenfeld. (2017). Uncovering limbic seizure networks *in vivo*: an optogenetic and neuroanatomical tracing approach. *AES. Abstract 2017*, Abstract No. 3.118. Online at <http://www.aesnet.org/>

Lundstrom B, Boly M, Duckrow R, Zaveri H, Blumenfeld H. (2017). Slow wave activity from bilateral subdural electrodes during awake, sleep, and postictal states. *ICCN 2017.*Christopher F.A. Benjamin PhD, Isha Dhingra MD, Alexa X Li BAB, Hal Blumenfeld MD PhD, R Todd Constable PhD, Rafeed Alkawadri MDA, Stephan Bickel MD PhD, Christoph Helmstaedter PhD, Stefano Meletti MD PhD, Richard Bronen MD, Simon K. Warfield PhD, Jurriaan M. Peters MD PhD, David Reutens MD, Monika Połczyńska PhD, Lawrence J. Hirsch MD, & Dennis D. Spencer MD. 2018. What does clinical language fMRI look like? Results from a survey of 63 analysts.  *EAN Abstracts 2018.*

P. Antwi, B. Banz, C.A. Arencibia, J. Ryu, E. Atac, S. Tomatsu, H. Krestel, J. Wu, M. Crowley, F.E Vaca, H. Blumenfeld. (2018). High fidelity simulated driving paradigm for identifying EEG features of generalized spike-wave discharges that impair driving ability. *Soc. Neurosci. Abstract 2018*, Abstract No. 290.01. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

J. Pok, L.-A. Sieu, L. Feng, C. MA, C.W. Zhao, J. Cardin, H. Blumenfeld. (2018). Limbic seizures depress cortical activation via subcortical pathways. *Soc. Neurosci.* Abstract 2018, Abstract No. 561.01. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

L.-A. Sieu, S. Singla, C. McCafferty, M. Valcarce-Aspegren, A. Niknahad, Q. Perrenoud, J. Cardin, H. Blumenfeld. (2018). Mouse model of electrically inducible focal seizures with impaired consciousness. *Soc. Neurosci.* Abstract 2018, Abstract No. 561.02. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

B.F. Gruenbaum, C. P. McCafferty, Z. B. Kratochvil, P. Herman, J. Ryu, B. G. Sanganahalli, P. Antwi, W. Islam, E. Johnson, P. Vitkovyskiy, I. G. Freedman, A. J. Kundishora, A. Depaulis, F. Hyder, H. Blumenfeld. (2018). Neural and hemodynamic mechanisms underlying variable consciousness impairment in rodent and absence seizures. *Soc. Neurosci.* Abstract 2018, Abstract No. 561.11. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

Z. B. Kratochvil, C. P. McCafferty, P. Herman, J. Ryu, B. G. Sanganahalli, B.F. Gruenbaum, P. Antwi, W. Islam, E. A. Johnson, P. Vitkovyskiy, I. Freedman, A. J. Kundishora, A. Depaulis, F. Hyder, H. Blumenfeld. (2018). Awake fMRI in a rat model of absence epilepsy. *Soc. Neurosci.* Abstract 2018, Abstract No. 561.12. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

K. L. Christison-Lagay, C. Micek, S. I. Kronemer, S. Forman, M. Aksen, A. Abdel-Aty, F. Van Duyne, M. Boly, E. Juan, T. Bugnon, E. M. Yeagle, J. L. Herrero, S. Bickel, A. D. Mehta, L. J. Hirsch, J. L Gerrard, D. D. Spencer, H. Blumenfeld. (2018). Investigating auditory conscious perception with a threshold task and intracranial EEG. *Soc. Neurosci.* Abstract 2018, Abstract No. 789.07. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

J. LI, S. Kronemer, H. Kwon, C. Micek, J. Ryu, M. Aksen, W. Herman, Y. Wu, J. Gerrard. D. D. Spencer, H. Blumenfeld. (2018). Intracranial EEG topography of neural networks with transient and sustained shifts in attention. *Soc. Neurosci.* Abstract 2018, Abstract No. 789.08. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

#### C. Micek, K. L. Christison-Lagay, M. Williams, S. I Kronemer, W. X. Herman, J. Li, L. J. Hirsch, J. L. Gerrard, D. D. Spencer, H. Blumenfeld. (2018). Relationships between stimulus opacity and intracranial broadband gamma power in a conscious visual perception task. *Soc. Neurosci.* Abstract 2018, Abstract No. 789.09. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

S. I. Kronemer. M. Aksen, H. Kwon, C. Micek, K. L. Christison-Lagay, S. Forman, J. S. Prince, J. Ding, J. Ryu, M. Khosla, E. Saberski, U. Aydin, C. Grova, J. Wu, M. Crowley, R. T. Constable, H. Blumenfeld. (2018). Early and late electrophysiological changes to visual conscious perception. *Soc. Neurosci.* Abstract 2018, Abstract No. 789.10. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

S. Forman, K. L. Christison-Lagay, C. Micek, S. I. Kronemer, M. Aksen, M. M. Chun, H. Blumenfeld. (2018). Potential novel mechanism for the attention blink in a conscious perception task. *Soc. Neurosci.* Abstract 2018, Abstract No. 789.11.Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

M. Aksen, S. I. Kronemer, J. S. Prince, Z. Ding, A. Agarwal, G. Wolf, B. Pearlmutter, R. Coifman, M. Pitts, H. Blumenfeld. (2018). Pupil dynamics as a convert measure of conscious perception in a visual no report paradigm. *Soc. Neurosci.* Abstract 2018, Abstract No. 789.12. Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

Z, Kratochvil, C. McCafferty, P. Herman, J, Ryu, B. Sanganahalli, B. Gruenbaum, P. Antwi, W. Islam, E. Johnson, P. Vitkovskiy, I. Freedman, A. Kundishora, A. Depaulis, F. Hyder, H. Blumenfeld. (2018). Awake fMRI in a rat model of absence epilepsy: similarity to human absence hemodynamics. *AES. Abstract 2018*, Abstract No. 3.254. Online at <http://www.aesnet.org/>

M. Boly, E. Juan, T. Bugnon, G. Findlay, R. Verhagen, A. Mensen, C. Schevon, O. Devinsky, R. Maganti, H. Blumenfeld, G. Tonani. (2018). Diverse mechanisms for ictal loss of consciousness: A comparison of intracranial recordings during complex partial and secondarily generalized seizures. *AES. Abstract 2018*, Abstract No. 3.115. Online at <http://www.aesnet.org/>

J. P. Andrews, A. Gummadavelli, P. Farooque, J. Bonito, C. A. Arencibia, H. Blumenfeld, D. Spencer. (2018). Seizure-spread and surgical failure in epilepsy: insight from a single-surgeon cohort. *AES. Abstract 2018*, Abstract No. 3.345. Online at <http://www.aesnet.org/>

J. Percy, H. P. Zaveri, J. Gerrard, L. J. Hirsch, H. Blumenfeld, D. Spencer. A. Sivaraju. (2018). Long-term seizure freedom following intracranial monitoring without resection. *AES. Abstract 2018*, Abstract No. 2.313. Online at <http://www.aesnet.org/>

B. N. Lundstrom, M. Boly, R. Duckrow, H. P. Zaveri, H. Blumenfeld. (2018). Characteristics of interictal slow wave activity from bilateral invasive EEG during sleep and postictal states. *AES. Abstract 2018*, Abstract No. 2.024. Online at <http://www.aesnet.org/>

L. –A. Sieu, S. Singla, C. McCafferty, M. Valcarce-Aspegren, A. Niknahad, Q. Perrenoud, J. Cardin, H. Blumenfeld. (2018) Electrical induction of focal limbic seizures with impaired consciousness in mice. *AES. Abstract 2018*, Abstract No. 1.176. Online at <http://www.aesnet.org/>

J. Pok, L.-A. Sieu, L. Feng, C. Ma, C. W. Zhao, C. Cardin, H. Blumenfeld. (2018). Temporal lobe seizures disrupt subcortical arousal networks to induce loss of consciousness. *AES. Abstract 2018*, Abstract No. 1.175. Online at <http://www.aesnet.org/>

P. Antwi, B. Banz, A. Arencibia, J. Ryu, E. Atac, N. Saleem, S. Tomatsu, K. Swift, H. Krestel, J. Wu, M. Crowley, F. E. Vaca, H. Blumenfeld. (2018). Realistic simulator-based evaluation of driving safety in patiencts with generalized spike-wave discharges on EEG but no clinical seizures. *AES. Abstract 2018*, Abstract No. 1.074. Online at <http://www.aesnet.org/>

B. Tolchin, G. Baslet, J. Suzuki, S. Martino, H. Blumenfeld, L. J. Hirsch, B. Dworetzky. (2018). Lessons form a randomized trial of motivational interviewing for psychogenic nonepileptic seizures. *AES. Abstract 2018*, Abstract No. 1.277. Online at <http://www.aesnet.org/>

S. Mahmud, I. H. Quraishi, D. Ersahin, M.-K. Chen, H. Blumenfeld. (2018). Regional asymmetries in quantitative FDG-PET predict poor surgical outcome in medical refractory medical temporal lobe epilepsy. *AES. Abstract 2018*, Abstract No. 1.264. Online at <http://www.aesnet.org/>

C. McCafferty, B. Gruenbaum, Z. Kratochvil, P. Herman, J. Ryu, B. Sanganahalli, P. Antwi, W. Islam, P. Vitkovskiy, I. Freedman, A. Kundishora, A. Depaulis, F. Hyder, H. Blumenfeld. (2018). Variable impairment of consciousness during absence seizures in rodents. *AES. Abstract 2018*, Abstract No. 1.062. Online at <http://www.aesnet.org/>

Sharif I. Kronemer, Mark Aksen, Jun Hwan Ryu, Hunki Kwon, Sarit Forman, Meenakshi Khosla, Erik Saberski, Kate L. Christison-Lagay, Chris Micek, Jacob S. Prince, Jackson Ding, Umit Aydin, Christophe Grova, Jia Wu, Michael Crowley, R. Todd Constable, and Hal Blumenfeld. 2019. Subcortical and Cortical Electrophysiology and fMRI in Visual Conscious Perception: Detect, Pulse, Switch and Wave Model. *ASSC Abstracts 2019.*

Csaba Kozma, Urszula Gorska, Tom Bugnon, Catherine Schevon, Orrin Devinsky, Rama Maganti, Giulio Tononi, Hal Blumenfeld, Melanie Boly, Elsa Juan. (2019). Different correlates of loss of consciousness during complex partial versus secondary generalized seizures. *Soc. Neurosci.* Abstract 2019, Online at <http://www.sfn.org/Meetings/Past-and-Future-Annual-Meetings>

Lim-Anna Sieu, Shobit Singla, Ivory Fu, Cian McCafferty, Marcus Valcarce-Aspegren, Ava Niknahad, Natnael Doilicho, Quentin Perrenoud, Hal Blumenfeld. (2019). [Neocortical Slow-Wave Activity and Behavior During Focal Limbic Seizures in Mice](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2422007). *AES*. *Abstract 2019*, Abstract No. 3.108. Online at <http://www.aesnet.org/>

Heinz E. Krestel, Felix Rosenow, Hal Blumenfeld, Andreas von Allmen. (2019). [Real-Time EEG Classification with Convolutional Networks and ResNet](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2421536). *AES*. *Abstract 2019*, Abstract No. 2.088. Online at <http://www.aesnet.org/>

Adithya Sivaraju, David Huberdeau, Robert Duckrow, Hitten P. Zaveri, Lawrence J. Hirsch, Hal Blumenfeld. (2019). [Predicting the Likelihood of Resective Surgery Following an Intracranial Study for Seizure Onset Localization](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2421725). *AES*. *Abstract 2019*, Abstract No. 2.282. Online at <http://www.aesnet.org/>

Benjamin Tolchin, Gaston Baslet, Steve Martino, Hal Blumenfeld, Lawrence J. Hirsch, Hamada H. Altalib, Barbara A. Dworetzky. (2019). [The Impact of Patient Beliefs on the Treatment of Psychogenic Nonepileptic Attacks](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2421627). *AES*. *Abstract 2019.* Abstract No.2.18. Online at <http://www.aesnet.org/>

Abhijeet Gummadavelli, Derek Goshay, Lim-Anna Sieu, Singla, Yale University School of Medicine; Jason Gerrard, Hal Blumenfeld. (2019). [Ictal and Post-Ictal Impairments in Consciousness in Awake-Behaving Seizure Model](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2421109). *AES. Abstract 2019*. Abstract No. 1.113. Online at <http://www.aesnet.org/>

Eli Cohen, Prince Antwi, Barbara Banz, Peter Vincent, Christopher A. Arencibia, Jun Hwan Ryu, Ece Atac, Nehan Saleem, Shiori Tomatsu, Kohleman Swift, Claire Hu, Rick Saha, Heinz E. Krestel, Jia Wu, Federico E. Vaca, Hal Blumenfeld. (2019). [Driving Safety in Patients with Generalized SWD but No Clinical Seizures: Evaluation with a Realistic Driving Simulator](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2421078). *AES. Abstract 2019*. Abstract No. 1.082. Online at <http://www.aesnet.org/>

Reese A. Martin, Arthur Cukiert, Hal Blumenfeld. (2019). [Cortical Physiological Arousal Measured by Scalp EEG During Thalamic Centro-Median Deep Brain Stimulation](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2421162). *AES. Abstract 2019*. Abstract No. 1.167. Online at <http://www.aesnet.org/>

Cian McCafferty, Benjamin F. Gruenbaum, Peter Vincent, Renee Tung, Zachary Kratochvil, Rashid Akbari, Jacob Prince, Kohl Swift, Peter Herman, Jun Hwan Ryu, Basavaraju G. Sanganahalli, Prince Antwi, Wasif Islam, Emily Johnson, Isaac G. Freedman, Adam J. Kundishora, Fahmeed Hyder, Hal Blumenfeld. (2019). [Mechanisms of Absence Seizures Explored by Functional MRI, EEG, Behavior and Neuronal Changes in an Awake Rodent Model](https://www.aesnet.org/meetings_events/annual_meeting_abstracts/view/2421107).

*AES. Abstract 2019*. Abstract No. 1.111. Online at <http://www.aesnet.org/>

Nicholas M. Gregg, Bryan T. Klassen, Jamie J. Van Gompel, Hal Blumenfeld, Gregory A. Worrell, Brian N. Lundstrom. (2020). Anterior and central lateral thalamic nuclei stimulation improves consciousness during seizures: case report and analysis of surgical targeting in 22 patients. *ACNS Abstracts*, 2020.

Hal Blumenfeld, Kate L. Christison-Lagay, Sharif I. Kronemer, Hunki Kwan, Aya Khalaf, Rong Li, Mariana de Mello Gusso, Kevin Wang, Desiree Wong, Lauren Kim, Matthew Peoples, Claire Hu, Christopher Micek, Noah Freedman, Julia Ding, Mark Aksen, Peter Vincent, Jun Hwan Ryu, Jason L. Gerrard, Eyiyemisi Damisah, Dennis D. Spencer. (2020). Neuroimaging and Electrophysiology in Large Data Sets Reveal Neural Sequence of Human Conscious Perception: Detect, Pulse, Switch and Wave. *ABIM Abstracts,* 2020.

Kate L. Christison-Lagay, Noah C. Freedman, Lauren Kim, Christopher Micek, Sharif I. Kronemer, Mariana de Mello Gusso, Sarit Forman, Julia Ding, Mark Aksen, Ahmad Abdel-Aty, Noah Markowitz, Erin Yeagle, Elizabeth Espinal, Jose Herrero, Stephan Bickel, James Young, Ashesh Mehta, Lawrence J. Hirsch, Jason L. Gerrard, Eyiyemisi Damisah, Dennis D. Spencer, Hal Blumenfeld. (2020). Intracranial EEG shows wave of neural activity during auditory conscious perception. *ASSC Abstracts,* 2020 – Accepted by cancelled due to COVID-19.

Kate L. Christison-Lagay, Lauren Kim, Christopher Micek , Sharif I. Kronemer, Mariana de Mello Gusso, Sarit Forman, Julia Z. Ding, Mark Aksen, Ahmad Abdel-Aty, Noah Markowitz, Erin Yeagle, Elizabeth Espinal, Jose Herrero, Stephan Bickel, James Young, Ashesh Mehta, Lawrence J. Hirsch, Jason L. Gerrard, Eyiyemisi Damisah, Dennis D. Spencer, Hal Blumenfeld. Intracranial EEG Shows Network Switch During Conscious Auditory Perception. *ASSC Abstracts,* 2020 – Accepted by cancelled due to COVID-19.

Benjamin F Gruenbaum, Cian P McCafferty, Peter Salvino, Renee Tung, Peter Vincent, Zachary B Kratochvil, Jacob Prince, Kohl Swift, Jun Hwan Ryu, Isaac G Freedman, Rashid Akbari, Peter Herman, Basavaraju Sanganahalli, Fahmeed Hyder, Antoine Depaulis, Hal Blumenfeld. (2020). Understanding changes in the conscious state during absence seizures in an awake rodent model. *IARS Abstracts,* 2020.  
  
Gusso, M M; Christison-Lagay, K L; Zuckerman, D; Chandrasekaran, G; Kronemer, S I; Rapuano, A; Schutt, A; Gerrard, J L; Nohama, P.; Blumenfeld, H. (2020). A novel tactile threshold perception study using single-unit recordings, hdEEG, and pupillometry. *Gordon Research Conference,Thalamic Circuits for Perception, Cognition and Action, Ventura Beach CA, Feb 16-21, 2020.*

Benjamin F Gruenbaum, Mark S Williams, Kohleman N Swift, Anirudh Kurup, Peter Salvino, Cian P McCafferty, Hal Blumenfeld. (2020). Auditory input processing in the primary auditory cortex during absence seizures. *SNACC Abstracts,* 2020.

Frederic Schaper, Janne Nordberg, Alex Cohen, Joey Hsu, Christopher Lin, Louis Soussand, Michael Ferguson, Marta Simo, Jordi Bruna, Sylvain Rheims, Marc Guenot, Marco Bucci, Lauri Nummenmaa, Albert Colon, Linda Ackermans, Rob Rouhl, Yasin Temel, Ona Wu, Hal Blumenfeld, Jordan Grafman, Juho Joutsa, Michael Fox. (2020). Mapping lesions causing epilepsy to a common brain circuit. *AES* *Abstracts 2020.* Abstract No.877. Online at <http://www.aesnet.org/>

Vladimir Sladky, Vaclav Kremen, Petr Nejedly, Benjamin Brinkmann, Nisali Gunawardane, Richard Luo, Bogdan Litvinov, Courtney Yotter, Barbara Jobst, Gregory Worrell, Hal Blumenfeld. (2020). Responsive therapy with multi-stage detection of seizures in human epilepsy. *AES* *Abstracts 2020.* Abstract No.689. Online at <http://www.aesnet.org/>

Lim-Anna Sieu, Shobhit Singla, Ganesh Chandrasekaran, Abdo Sharaf, Abhijeet Gummadavelli, Reese Martin, Cian McCafferty, Marcus Valcarce-Aspegren, Ava Niknahad, Ivory Fu, Natnael Doilicho, Quentin Perrenoud, Jessica Cardin, Hal Blumenfeld. (2020). A novel mouse model of focal limbic seizures with impaired behavior and cortical slow waves. *AES* *Abstracts 2020.* Abstract No.462. Online at <http://www.aesnet.org/>

Max Springer, Aya Khalaf, Peter Vincent, Jun Hwan Ryu, Yasmina Abukhadra, Jingjing Li, Sandor Beniczky, Tracy Glauser, Heinz Krestel, Hal Blumenfeld. (2020). A Machine Learning Approach for Classification of Spike-Wave Discharges in Absence Epilepsy. *AES* *Abstracts 2020.* Abstract No.283. Online at <http://www.aesnet.org/>

Avisha Kumar, Reese Martin, Hal Blumenfeld. (2020). Simulated Driving in the Epilepsy Monitoring Unit. *AES* *Abstracts 2020.* Abstract No.23. Online at <http://www.aesnet.org/>

Cian McCafferty, Benjamin Gruenbaum, Peter Salvino, Peter Vincent, Renee Tung, Mark Williams, Jingjing Li, Zachary Kratochvil, Kohleman Swift, Rashid Akbari, Jacob Prince, Peter Herman, Jun Hwan Ryu, Basavaraju Sanganahalli, Prince Antwi, Wasif Islam, Emily Johnson, Adam Kundishora, Hal Blumenfeld. (2020). Neuronal, electrophysiological, behavioral, and hemodynamic changes underlying absence seizure severity in an awake rodent model. *AES* *Abstracts 2020.* Abstract No.63. Online at <http://www.aesnet.org/>

Benjamin Gruenbaum, Mark Williams, Kohleman Swift, Anirudh Kurup, Peter Salvino, Cian McCafferty, Hal Blumenfeld. (2020). Auditory input processing in the primary auditory cortex during absence seizures in GAERS. *AES* *Abstracts 2020.* Abstract No.64. Online at <http://www.aesnet.org/>

Elaheh Salardini, Aparna Vaddiparti, Avisha Kumar, Reese Martin, Rahiwa Gebre, Christopher Andrew Arencibia, Monica Dhakar, Eric Grover, Imran Quraishi, Eliezer Sternberg, Ilena George, Adithya Sivaraju, Jennifer Bonito, Hitten Zaveri, Leah Gober, Shamma Ahammad, Shivani Ghoshal, Lawrence Hirsch, Eyiyemisi Damisah, Jason Gerrard, James Young, Jennifer Shum, Hal Blumenfeld. (2020). Mechanism of Impaired Consciousness in Frontal Lobe Seizures Investigated with Intracranial EEG. *AES* *Abstracts 2020.* Abstract No.42. Online at <http://www.aesnet.org/>

V. Sladky, V. Kremen, F. Mivalt, B. H. Brinkmann, R. H. Luo, C. Yotter, N. Gunawardane, B. Patedakis Litvinov, B. C. Jobst, H. Blumenfeld, G. A. Worrell. (2021). [Adaptive Neurostimulation with Multi-Stage Control Loop: Application to Drug Resistant Epilepsy](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/20971). *Soc. Neurosci.* Abstract 2021, Abstract No. P547.03. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/20971>

L. Wheeler, V. Kremen, JR, K. Mcquown, V. Sladky, B. Brinkmann, Z. Ahmad, C. Yotter, C. Benjamin, J. Giacino, B. C. Jobst, G. A. Worrell, H. Blumenfeld. (2021). [A Wearable and Mobile Health Platform for Automatic Responsiveness Testing in Epilepsy (ARTiE): An EMU Pilot Study](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/18402).

*Soc. Neurosci.* Abstract 2021, Abstract No. P548.06. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/18402>

U. Gorska, C. Kozma, C. Papantonatos, M. Grobbelaar, E. Juan, A. Struck, H. Blumenfeld, G. Tononi, M. Boly. (2021). [Signatures of loss of consciousness during focal impaired awareness (FIA) and focal aware (FA) seizures.](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/14875) *Soc. Neurosci.* Abstract 2021, Abstract No. P155.04. <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/14875>

D. S. Jin, M. S. Khurana, S. L. Aerts, E. Siff, I. Fu, S. I. Kronemer, K. L. Christison-Lagay, J. Li, A. Kumar, N. C. Freedman, G. P. Chandrasekaran, S. Tinaz, H. Blumenfeld. (2021). [A novel experimental paradigm to investigate awareness of action](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13603). *Soc. Neurosci.* Abstract 2021, Abstract No. P496.05. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13603>

S. Kronemer, T. Xin, J. Ding, M. Aksen, J. Ryu, J. Prince, H. Kwon, A. Khalaf, S. Forman, M. Khosla, D. Jin, K. Wang, K. Chen, C. Hu, A. Agarwal, E. Saberski, S. A. Wafa, O. Morgan, W. Herman, J. Wu, T. Constable, M. Pitts, M. Crowley, H. Blumenfeld. (2021). [A novel visual perception no-report paradigm reveals early and broad responses from whole brain fMRI and high-density scalp EEG](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13601). [A novel experimental paradigm to investigate awareness of action](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13603).

*Soc. Neurosci.* Abstract 2021, Abstract No. P496.06. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13601>

S. Majumder, N. C. Freedman, J. Z. Ding, M. M. Gusso, K. L. Christison-Lagay, S. I. Kronemer, D. S. Jin, M. Khurana, I. Freedman, T. Bui, K. Wu, I. H. Quraishi, A. Sivaraju, E. Damisah, H. Blumenfeld. (2021). [Investigating tactile conscious perception with a threshold task and intracranial EEG](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13602). *Soc. Neurosci.* Abstract 2021, Abstract No. P496.07. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13602>

A. Khalaf, S. I. Kronemer, K. L. Christison-Lagay, H. Kwon, J. Li, H. Blumenfeld. (2021). Early neural activity changes associated with visual conscious perception. *Soc. Neurosci.* Abstract 2021, Abstract No. P496.08. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13600>

K. L. Christison-Lagay, N. C. Freedman, C. Micek, A. Khalaf, S. I. Kronemer, M. M. Gusso, L. Kim, J. Z. Ding, S. Forman, M. Aksen, A. Abdel-Aty, H. Kwon, N. Markowitz, E. M. Yeagle, S. Bickel, E. Espinal, J. L. Herrero, J. J. Young, A. D. Mehta, K. Wu, J. L. Gerrard, D. D. Spencer, E. C. Damisah, H. Blumenfeld. (2021). [Neural activity measured with intracranial EEG during an auditory conscious perception task](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13605). *Soc. Neurosci.* Abstract 2021, Abstract No. P496.09. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13605>

Q. Xin, S. I. Kronemer, J. Ding, M. Aksen, J. Ryu, H. Kwon, J. Ding, J. S. Prince, A. Khalaf, S. Forman, M. Khosla, K. Wang, K. Chen, C. Hu, A. Agarwal, E. Saberski, W. Herman, A. Urban, M. Richardson, J. Wu, M. Crowley, T. R. Constable, H. Blumenfeld. (2021). [The thalamic awareness potential: subcortical neural mechanisms of visual conscious perception from fMRI and intracranial EEG](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13604). *Soc. Neurosci.* Abstract 2021, Abstract No. P496.10. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/13604>

B. P. Litvinov, A. Kumar, Z. Ahmad, N. Gunawardane, C. Yotter, I. Quraishi, H. Blumenfeld. (2021) [Mechanisms of Impaired Consciousness in Medial Temporal Lobe Seizures Investigated with Intracranial EEG](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/24969). *Soc. Neurosci.* Abstract 2021, Abstract No. P968.10. Online at <https://www.abstractsonline.com/pp8/#!/10485/presentation/24969>

M. Valcarce-Aspegren, Q. Wu, L.-A. Sieu, P. Paszkowski, A. Sharafeldin, H. Blumenfeld. (2021). [Locus coeruleus neuronal activity in an awake mouse model of temporal lobe seizures investigated by juxtacellular recordings](https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/17925). *Soc. Neurosci.* Abstract 2021, Abstract No. P147.07. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/17925>

L.-A. Sieu, S. Singla, A. Sharafeldin, G. Chandrasekaran, M. Valcarce-Aspegren, A. Niknahad, I. Fu, N. Doilicho, A. Gummadavelli, C. McCafferty, R. B. Crouse, Q. Perrenoud, M. R. Picciotto, J. Cardin, H. Blumenfeld. (2021). Cortical slow waves and reduced cholinergic arousal in novel mouse model of focal limbic seizures with impaired behavior. *Soc. Neurosci.* Abstract 2021, Abstract No. P147.09. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/17923>

S. H. McGill, C. W. Zhao, L.-A. Sieu, T. Nguyen, Q. Perrenoud, J. A. Cardin, H. Blumenfeld. (2021). Identifying conscious perceptual state in mice using a lick-left/lick-right auditory discrimination task. *Soc. Neurosci.* Abstract 2021, Abstract No. P445.05. Online at <https://www.abstractsonline.com/pp8/index.html#!/10485/presentation/19640>

Lydia Wheeler, Vaclav Kremen, Kevin McQuown, Vladimir, Ben Brinkmann, Courtney Yotter, Christopher Benjamin, Joseph Giacino, Barbara Jobst, Gregory Worrell, Hal Blumenfeld. (2021).

A Wearable and Mobile Health Platform for Automatic Responsiveness Testing in Epilepsy (ARTiE): An EMU Pilot Study. *AES* *Abstracts 2021.* Abstract No.3.13. Online at <https://cms.aesnet.org/abstractslisting/a-wearable-and-mobile-health-platform-for-automatic-responsiveness-testing-in-epilepsy-(artie)--an-emu-pilot-study>

Frederic Schaper, Janne Nordberg, Alexander Cohen, Joey Hsu, Christopher Lin, Michael Ferguson, Shan Siddiqi, Louis Soussand, Anderson Winkler, Marta Simo, Jordi Bruna, Sylvain Rheims, Marc Guenot, Marco Bucci, Lauri Nummenmaa, Albert Colon, Linda Ackermans, Ellen Bubrick, Jurriaan Peters, Ona Wu, Natalia Rost, Jordan Grafman, Rob Rouhl, Yasin Temel, Hal Blumenfeld, Juho Joutsa, Michael Fox. (2021). An epilepsy network derived from human brain lesions and deep brain stimulation. *AES* *Abstracts 2021.* Abstract No.2.411. Online at <https://cms.aesnet.org/abstractslisting/an-epilepsy-network-derived-from-human-brain-lesions-and-deep-brain-stimulation>

Shobhit Singla, Lim-Anna Sieu, Abdelrahman Sharafeldin, Ganesh Chandrasekaran, Marcus Valcarce-Aspegren, Ava Niknahad, Ivory Fu, Natnael Doilicho, Abhijeet Gummadavelli, Cian McCafferty, Richard Crouse, Quentin Perrenoud, Marina Picciotto, Jessica Cardin, Hal Blumenfeld. (2021). Mouse Model of Focal Limbic Seizures with Impaired Behavior Associated with Cortical Slow Waves and Reduced Cholinergic Arousal. *AES* *Abstracts 2021.* Abstract No.3.122. Online at <https://cms.aesnet.org/abstractslisting/mouse-model-of-focal-limbic-seizures-with-impaired-behavior-associated-with-cortical-slow-waves-and-reduced-cholinergic-arousal>

Marcus Valcarce-Aspegren, Qian Wu, Lim-Anna Sieu, Patrick Paszkowski, Abdelrahman Sharafeldin, Alvaro Duque, Hal Blumenfeld. (2021). Juxtacellular Recording of Noradrenergic Activity in the Locus Coeruleus in an Awake Mouse Temporal Lobe Seizure Model. *AES* *Abstracts 2021.* Abstract No.1.037. Online at <https://cms.aesnet.org/abstractslisting/juxtacellular-recording-of-noradrenergic-activity-in-the-locus-coeruleus-in-an-awake-mouse-temporal-lobe-seizure-model>

Charlie Zhao, Rahiwa Gebre, Yigit Baykara, William Chen, Petr Vitkovskiy, Ningcheng Li, Michelle Johnson, Eric Chen, Dan Kluger, Hal Blumenfeld. (2021). Concordance of Patient Subjective Report of Cognition, Awareness, and Consciousness During Seizures with Objective Behavioral Ratings. *AES* *Abstracts 2021.* Abstract No.V.040. Online at <https://cms.aesnet.org/abstractslisting/concordance-of-patient-subjective-report-of-cognition--awareness--and-consciousness-during-seizures-with-objective-behavioral-ratings>

Imran Quraishi, Bogdan Patedakis Litvinov, Courtney Yotter, Zan Ahmad, Nisali Gunawardane, Avisha Kumar, Hal Blumenfeld. (2021). Increased Intracranial EEG Power and Duration in Medial Temporal Lobe Seizures with Impaired Consciousness. *AES* *Abstracts 2021.* Abstract No.3.193. Online at <https://cms.aesnet.org/abstractslisting/increased-intracranial-eeg-power-and-duration-in-medial-temporal-lobe-seizures-with-impaired-consciousness>

Yasmina Abukhadra, Jingjing Li, Max Springer, Aya Khalaf, Sandra Roethlisberger, Heinz Krestel, Hal Blumenfeld. (2021). EEG and Machine Learning in Prediction of Impaired Responses to Visual Stimuli During Interictal Epileptiform Discharges. *AES* *Abstracts 2021.* Abstract No.3.178. Online at <https://cms.aesnet.org/abstractslisting/eeg-and-machine-learning-in-prediction-of-impaired-responses-to-visual-stimuli-during-interictal-epileptiform-discharges>

Abhijeet Gummadavelli, Reese Martin, Derek Goshay, Lim-Anna Sieu, Jason Gerrard, Hal Blumenfeld. (2021). Frontal Cortex Low-Frequency Power Is Associated with Behavioral Impairment in Animal Model of Focal Limbic Seizures. *AES* *Abstracts 2021.* Abstract No.1.07. Online at <https://cms.aesnet.org/abstractslisting/frontal-cortex-low-frequency-power-is-associated-with-behavioral-impairment-in-animal-model-of-focal-limbic-seizures>

Violeta Contreras Ramirez, Bogdan Patedakis Litvinov, Aparna Vaddiparti, Nisali Anuradha Gunawardane, Courtney Yotter, Imran Quraishi, Hal Blumenfeld. (2021). Testing Ictal Conscious Awareness: Responsiveness Versus Recall of Experiences During Seizures. *AES* *Abstracts 2021.* Abstract No. 3.19. Online at <https://cms.aesnet.org/abstractslisting/testing-ictal-conscious-awareness--responsiveness-versus-recall-of-experiences-during-seizures>

Shaun James, Simon Sanggaard, Adil Akif, Hal Blumenfeld, Justus Verhagen, Fahmeed Hyder, Peter Herman. (2022). Mild hypercapnia transiently suppresses neural activity during vasodilation: Implications for gas-based calibrated fMRI. *Brain and PET 2022.*

Peter Herman, Simon Sanggaard, Adil Atif, Shaun James, Basavaraju G. Sanganahalli,

Hal Blumenfeld, Justus V. Verhagen, Fahmeed Hyder. (2022). Simultaneous in vivo optical imaging of glucose metabolism and neuronal activity during somatosensory stimulation. *Brain 2022.*

Heinz Krestel, Andreas von Allmen, Justina Rackauskaite, Maria Khoueiry, Goncalo Pereira Marcal Alexandre Quiroz, Noah Erceg, Leonidas Panos, Michal Pelczar, Georgios Schoretsanitis, Mustafa Cicek, Milan Zedka, Caroline Jagella, Rune Markhus, Hal Blumenfeld. (2022). The interictal Automated Responsiveness Test (iART) analyzes transient cognitive impairment in an international manner. *European Epilepsy Congress, 2022.*

S. H. McGill, C. W. Zhao, L.-A. Sieu, T. Nguyen, Q. Perrenoud, H. Blumenfeld. (2022). Characterization of local field potential responses in mouse cortex during conscious perception of auditory stimuli using a Go/No-Go task. *Soc. Neurosci. Abstracts 2022,* Abstract No.051.15. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/64401>

W. Khan, M. Valcarce-Aspegren, L.-A. Sieu, X. Zheng, S. Liu, S. McGill, S. Chopra, C. P. McCafferty, H. Blumenfeld. (2022). Juxtacellular recordings of single neurons in a mouse model of Spike Wave Discharges. *Soc. Neurosci. Abstracts 2022,* Abstract No. 364.12. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/84947>

X. Zheng, C. McCafferty, R. Tung, B. F. Gruenbaum, H. Blumenfeld. (2022). Sensory stimulation can interrupt seizures in a rodent model of absence epilepsy. *Soc. Neurosci. Abstracts 2022,* Abstract No. 364.13. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/84948>

P. Paszkowski, M. Valcarce-Aspegren, S. Liu, Q. Wu, L.-A. Sieu, S. McGill, H. Blumenfeld. (2022). Decreased locus coeruleus neuronal activity is associated with behavioral arrest in an awake mouse model of focal limbic seizures. *Soc. Neurosci. Abstracts 2022,* Abstract No. 364.14. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/84949>

S. Liu, M. Valcarce-Aspegren, L.-A. Sieu, W. Khan, A. Duque, S. McGill, J. Liu, H. Blumenfeld. (2022). Decreased activity in the nucleus basalis during focal limbic seizures: multi-unit and juxtacellular recordings of cholinergic activity in an awake mouse temporal lobe seizure model. *Soc. Neurosci. Abstracts 2022,* Abstract No. 364.15. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/84950>

L.-A. Sieu, S. Singla, J. Liu, X. Zheng, A. Sharafeldin, G. Chandrasekaran, M. Valcarce-Aspegren, A. Niknahad, I. Fu, N. Doilicho, A. Gummadavelli, C. P. McCafferty, R. B. Crouse, Q. Perrenoud, M. R. Picciotto, J. A. Cardin, H. Blumenfeld. (2022). Focal limbic seizures with impaired behavioral responses are associated with cortical slow waves and reduced cholinergic arousal in a novel mouse model. *Soc. Neurosci. Abstracts 2022,* Abstract No. 364.16 Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/84951>

A. Khalaf, H. Blumenfeld. (2022). Modality-independent role of subcortical arousal systems during transient changes in attention. *Soc. Neurosci. Abstracts 2022*, Abstract No. 487.26. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/82094>

S.L. Aerts, A. Mangla, S.I. Kronemer, Q. Xin, T. Yadav, S. Majumder, L. Kim, K.L. Christison-Lagay, H. Blumenfeld. (2022). Covert detection and investigation of brain networks in auditory perception. *Soc. Neurosci. Abstracts 2022.* Abstract No. 487.27. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/82095>

Q. Xin, S.I. Kronemer, S. Majumder, S. Aerts, D.S. Jin, A. Khalaf, T. Yadav, C.J. Chu, I.H. Quraishi, M.J. Crowley, H. Blumenfeld. (2022). Subcortical mechanisms of visual perception: preliminary results from intracranial EEG and thalamic stimulation. *Soc. Neurosci. Abstracts 2022,* Abstract No. 487.28. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/82096>

T. Yadav, S. Majumder, T. Bui, K.L. Christison-Lagay, D. Jin, J.Z. Ding, N. Freedman, M. Gusso, S.I. Kronemer, S. Aerts, I. Freedman, K. Wu, I.H. Quraishi, A. Sivaraju, E. Damisah, H. Blumenfeld. (2022). Investigating the brain networks of tactile conscious perception with intracranial EEG. *Soc. Neurosci. Abstracts 2022,* Abstract No. 487.29. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/82097>

D. S. Jin, O. Agdali, S. Majumder, M. C. McCusker, M. Khurana, I. Fu, S. I. Kronemer, A. Khalaf, K. L. Christison-Lagay, S. L. Aerts, E. J. Siff, T. Xin, J.-J. Li, M. J. Crowley, H. Blumenfeld. (2022). Neural mechanisms of awareness of action. *Soc. Neurosci. Abstracts 2022,* Abstract No. 487.30. Online at <https://www.abstractsonline.com/pp8/#!/10619/presentation/82098>

Shixin Liu, Marcus Valcarce-Aspegren, Lim-Anna Sieu, Waleed Khan, Alvaro Duque, Sarah McGill, Jiayang Liu, Hal Blumenfeld. (2022). Multi-unit and Juxtacellular Recording of Cholinergic Activity in the Nucleus Basalis of Meynert in an Awake Mouse Temporal Lobe Seizure Model. *AES* *Abstracts 2022.* Abstract No.1.186. Online at <https://cms.aesnet.org/abstractslisting/multi-unit-and-juxtacellular-recording-of-cholinergic-activity-in-the-nucleus-basalis-of-meynert-in-an-awake-mouse-temporal-lobe-seizure-model>

Marcus Valcarce-Aspegren, Patrick Paszkowski, Shixin Liu, Lim-Anna Sieu, Qian Wu, Sarah McGill, Hal Blumenfeld. (2022). Multiunit Recording of the Locus Coeruleus During Focal Limbic Seizures in an Awake Mouse Model. *AES* *Abstracts 2022.* Abstract No.1.187. Online at <https://cms.aesnet.org/abstractslisting/multiunit-recording-of-the-locus-coeruleus-during-focal-limbic-seizures-in-an-awake-mouse-model>

Waleed Khan, Marcus Valcarce-Aspegren, Lim-Anna Sieu, Xinyuan Zheng, Shixin Liu, Sarah McGill, Cian McCafferty, Hal Blumenfeld. (2022). Neuronal Firing During Spike Wave Discharges in Mouse Model for Absence Seizure. *AES* *Abstracts 2022.* Abstract No.1.188. Online at <https://cms.aesnet.org/abstractslisting/neuronal-firing-during-spike-wave-discharges-in-mouse-model-for-absence-seizure>

Jiayang Liu, Lim-Anna Sieu, Shobhit Singla, Zheng Xinyuan, Abdelrahman Sharafeldin, Ganesh Chandrasekaran, Marcus Valcarce-Aspegren, Ava Niknahad, Ivory Fu, Natnael Doilicho, Abhijeet Gummadavelli, Cian McCafferty, Richard Crouse, Quentin Perrenoud, Marina Picciotto, Jessica Cardin, Hal Blumenfeld. (2022). Cortical Slow Waves and Reduced Cholinergic Arousal in Mouse Model of Focal Limbic Seizures with Impaired Behavior. *AES* *Abstracts 2022.* Abstract No. 1.189. Online at <https://cms.aesnet.org/abstractslisting/cortical-slow-waves-and-reduced-cholinergic-arousal-in-mouse-model-of-focal-limbic-seizures-with-impaired-behavior>

Vaclav Kremen, Vladimir Sladky, Filip Mivalt, Benjamin Brinkmann, Inyong Kim, Beverly Sturges, Chelsea Crowe, Nicholas Gregg, MD, Brian Lundstrom, Irena Balzekas, Victoria Marks, BSc. Kevin McQuown, Jamie Van Gompel, Kai Miller, Timothy Denison, Hal Blumenfeld, Gregory Worrell. (2022). Long-term Behavioral Tracking and Adaptive Electrical Brain Stimulation. *AES Abstracts 2022.* Abstract No. 1.096. Online on <https://cms.aesnet.org/abstractslisting/long-term-behavioral-tracking-and-adaptive-electrical-brain-stimulation>

Xinyuan Zheng, Cian McCafferty, Renee Tung, Benjamin Gruenbaum, Hal Blumenfeld. (2022).

Auditory Stimuli Can Interrupt Spike-wave Discharges in a Genetic Absence Epilepsy Rodent Model. *AES Abstracts 2022.* Abstract No. 2.05. Online at <https://cms.aesnet.org/abstractslisting/auditory-stimuli-can-interrupt-spike-wave-discharges-in-a-genetic-absence-epilepsy-rodent-model>

Yilun Chen, Alexandria Soto, Tejaswi Sudhakar, Adeel Zubair, Lucas Loman, Adithya Sivaraju, Emily Gilmore, Nils Petersen, Lawrence Hirsch, Hal Blumenfeld, Sahar Zafar, Aaron Struck, Nishant Mishra, Kevin Sheth, Michael Westover, Jennifer Kim. (2022). Additive Benefit of Neuroimaging and Electroencephalography in Predicting Post-ischemic-stroke Epilepsy. *AES* *Abstracts 2022.* Abstract No. 2.066. Online on <https://cms.aesnet.org/abstractslisting/additive-benefit-of-neuroimaging-and-electroencephalography-in-predicting-post-ischemic-stroke-epilepsy>

Taruna Yadav, Vaclav Kremen, Catherine Doucet, Kristine DaCosta, Maxime Oriol, Christopher Benjamin, Kate Christison-Lagay, Eyiyemisi Damisah, Allyson Derry, Abhijeet Gummadavelli, Tyler Hamilton, Lawrence Hirsch, Patrice Lauture, Bogdan Patedakis Litvinov, Dennis Spencer, Kimberly Bailey, Karla Crockett, Starr Guzman, Vladimir Sladky, Delana Weis, Krzystof Bujarski, Charlotte Jeffreys, Anastasia Kanishcheva, Grant Moncrief, Robert Roth, George Thomas, Jonathan Baker, Eun Young Choi, Jaimie Henderson, Matthew Hook, Irina Korytov, Kyle O’Sullivan, Brian Rutt, Joseph Giacino, Benjamin Brinkmann, George Culler, Nicholas Gregg, Brian Lundstrom, Imran Quraishi, Joshua Aronson, Jason Gerrard, Jamie Van Gompel, Christopher Butson, Nicholas Schiff, Barbara Jobst, Gregory Worrell, Hal Blumenfeld. (2022). Stimulation of the Thalamus for Arousal Restoral in Temporal Lobe Epilepsy (START) Clinical Trial. *AES Abstracts 2022.* Abstract No. 2.436. Online on <https://cms.aesnet.org/abstractslisting/stimulation-of-the-thalamus-for-arousal-restoral-in-temporal-lobe-epilepsy-(start)-clinical-trial>

Patrick Paszkowski, Marcus Valcarce-Aspegren, Shixin Liu, Qian Wu, Lim-Anna Sieu, Sarah McGill, Hal Blumenfeld. (2022). Multiunit Recording of the Locus Coeruleus and Behavioral Arrest During Focal Limbic Seizures in an Awake Mouse Model. *AES Abstracts 2022.* Abstract No. 2.049. Online on <https://cms.aesnet.org/abstractslisting/multiunit-recording-of-the-locus-coeruleus-and-behavioral-arrest-during-focal-limbic-seizures-in-an-awake-mouse-model>

Frederic Schaper, Janne Nordberg, Alexander Cohen, Christopher Lin, Joey Hsu, Andreas Horn, Michael Ferguson, Shan Siddiqi, William Drew, Louis Soussand, Anderson Winkler, Marta Simo, Jordi Bruna, Sylvain Rheims, Marc Guenot, Marco Bucci, Lauri Nummenmaa, Julie Staals, Albert Colon, Linda Ackermans, Ellen Bubrick, Jurriaan Peters, Ona Wu, Natalia Rost, Jordan Grafman, Hal Blumenfeld, Yasin Temel, Rob Rouhl, Juho Joutsa, Michael Fox. (2023). Lesion-related epilepsy maps to a common brain network. *AAN Abstracts, 2023.*

Hal Blumenfeld, Shanae Aerts, Tuan Bui, Kate Christison-Lagay, Mariana M. Gusso, David Jin, Aya Khalaf, Sharif I. Kronemer, Erick Lopez, Angali Mangla, Nancy Wu, Thomas Xin, Taruna Yadav. (2023). Shared subcortical arousal networks across perceptual modalities. *ABIM Abstract, 2023.* <https://www.unige.ch/ABIM/program/2023/>

**6. NON-SCIENTIFIC PUBLICATIONS:**

*Let's Go: Greece, Israel & Egypt*. St. Martin's Press, New York, 1982.

*Let's Go: Europe*. St. Martin's Press, New York, 1982. (Greece & Israel chapters).

**RESEARCH SUPPORT**

**1. Active Support:**

## Project Title/P.I. Agency Amount Period of Support Effort

Thalamic stimulation to prevent impaired consciousness in epilepsy

Hal Blumenfeld NIH UG3/UH3 NS112826 $500K – 1.5M/yr 9/1/2019-8/31/2024 20% The goals of this project are to develop methods and perform an early feasibility clinical

trial of thalamic deep brain stimulation to improve consciousness in temporal lobe

seizures.

Neuroimaging, neuronal firing and behavior in spike-wave seizures   
Hal Blumenfeld NIH R37 NS100901 $ 250,000/yr 8/15/17 - 6/30/24 25%

NINDS Javits Neuroscience Award

This project will investigate the neural mechanisms of impaired behavior as well as EEG and fMRI changes in a rodent model of absence seizures.

Remote effects of focal hippocampal seizures on neocortical function

Hal Blumenfeld NIH R01 NS066974 $ 296,667/yr 2/1/11 - 11/30/26 25%

This project will investigate mechanisms of impaired function and methods to restore

normal function in the neocortex during focal limbic seizures in rodent models.

Accelerating research on Consciousness: An adversarial collaboration to test contradictory predictions of Global Neuronal Workspace and Integrated Information Theory  
Lucia Melloni Templeton World Charity Foundation

$1.2M/yr 9/1/2019-8/31/2024 5%

My role as co-investigator and site PI on this project is to acquire and analyze fMRI data

using a novel behavioral testing paradigm to investigate mechanisms of consciousness.

The Mark Loughridge and Michele Williams Professorship of Neurology

Hal Blumenfeld Loughridge Williams Foundation $3M endowment 2/1/15-

This endowed professorship was established to support my research and teaching

activities in the Yale Department of Neurology devoted to the field of epilepsy

Novel Neuroimaging Methods in Epilepsy

Hal Blumenfeld Blattmachr Fund $25,000/yr 2/1/05-1/31/21 No salary

This project uses novel imaging approaches to investigate physiological changes that

occur during and after epileptic seizures.

Yale Alzheimer’s Disease Research Center Research Education Core (Role: Core Co-Lead)

Stephen Strittmatter NIH/NIA 1P30AG066508-02 6/15/20 – 4/30/25 5%

$1,987,768 ($175,000 for Education Core)

The overall objective of the Yale ADRC Research Education Core (REC) is to serve as an

institutional hub for all educational, didactic and career development activities aimed at

promoting future leaders that will bridge clinical and basic sciences to improve clinical

outcomes and quality of life of individuals with dementing disorders.

Clinical and Translational Science Award

Robert Sherwin NIH CTSA UL1 TR001863 12/1/23-11/30/24 No salary

My role as an investigator on this project is to conduct human neuroimaging research on patients with epilepsy.

**2. Pending Support:**

**3. Completed Research:**

High Frequency Burst Firing in Visual Cortex

Hal Blumenfeld NIH K08 NS02060 $105,570/yr 7/1/98 - 6/30/01 75%

The goals of this project were to perform *in vitro* recordings of brain slices and dissociated cells to study ionic and pharmacologic mechanisms of burst firing in cortical and thalamic neurons.

High Frequency Burst Firing in Visual Cortex

Hal Blumenfeld NIH K08 NS02060 $122,350/yr 7/1/01 - 6/30/03 75%

Competitive renewal of K08 NS02060 above.

Shared Cellular Mechanisms of Visual Information Processing and Epileptic Seizures

Hal Blumenfeld Pfizer $65,000/yr 7/1/98 - 6/30/01 20%

This project investigated the role of thalamocortical circuits in normal visual information processing and in seizures through corticothalamic stimulation of LGN thalamic slices.

Cellular Mechanisms of Thalamic Neuronal Burst Firing During Spike-wave Seizures

Hal Blumenfeld EFA $40,000/yr 7/1/01 - 6/30/02 15%

This project used an *in vivo* rat model of generalized epilepsy to investigate the role of

corticothalamic interactions in epilepsy and normal sleep rhythms.

Role of Corticothalamic Network Interactions in Sleep and Epilepsy

Hal Blumenfeld Patterson Trust $60,000/yr 2/1/02-1/31/03 5%

This project investigated the cellular and network mechanisms of normal sleep rhythms

and epileptic seizures.

Mechanisms of Seizure Spread and Generalization Studied by SPECT Difference Imaging

of ECT-induced Seizures

Hal Blumenfeld Dana Foundation $33,000/yr 1/1/00-12/31/02 5%

This project investigated cerebral blood flow changes using SPECT imaging during unilateral or bilateral ECT-induced seizures in human subjects undergoing ECT treatment for depression.

Mechanisms of Selective Thalamocortical Network Activation in Spike-Wave Seizure

Hal Blumenfeld Patterson Trust $40,000/yr 2/1/03-1/31/04 5%

This project investigates the cellular and network mechanisms of normal sleep rhythms

and epileptic seizures.

Spatiotemporal Responses to Odors in Rat Olfactory Bulb by fMRI

Fahmeed Hyder NIH RO1 DC03710 $ 204,750/yr 4/1/02-3/31/07 No salary

My role as consultant on this project is to develop electrophysiological recordings from

the rat olfactory bulb to be done in parallel with fMRI measurements.

Energetics of Neuronal Populations by fMRI, MH67528

Fahmeed Hyder NIH R01 MH67528 $ 225,000/yr 08/16/02-07/31/07 10%

My role as co-investigator on this project is to conduct electrophysiological recordings to

determine the physiological basis of BOLD fMRI measurements.

Clinical and Basic Neurobiology of Nervous System Diseases

George Heninger NIH R25 MH079336 $74,806/yr 9/01/06-8/31/08 5%

My role as collaborator on this project is to assist in developing application-oriented neuroscience educational materials for graduate students.

Neuronal firing and neuroimaging in spike-wave seizures

Hal Blumenfeld NIH R01 NS049307 $ 231,250/yr 7/1/04-3/31/09 15%

This project investigated relationships between *in vivo* recordings of neuronal activity and fMRI signals in rodent spike-wave seizures.

Epileptogenic Tissue Localization using EEG-fMRI

Robert T. Constable NIH R01 NS047605 $250,000/yr 7/01/05-6/30/09 5%

My role as co-investigator on this project is to assist in interpreting the relationships

between regions involved in EEG-fMRI, SPECT and intracranial EEG studies.

Axonal Growth Cone Signal Transduction

Stephen Strittmatter NIH R01 NS033020 $250,000/yr 7/01/05-6/30/10 No salary

My role as consultant on this project is to provide phenotypic analysis of epileptogenesis

in knock-out and knock-in mice with altered LGI1 genes.

Childhood absence epilepsy Rx PK-PD-pharmacogenetics

Tracy Glauser NIH U01NS045911 $2,000,000/yr 9/30/2003-10/31/2010 1%

The major goals of this project are: this 32 center, 446 patient multicenter study examines

the optimum therapy for Childhood Absence Epilepsy and the PK, genetic and clinical

factors underlying the inter-individual response to therapy. As site PI I was responsible for

the overall direction and successful completion of the clinical trial and the correlative

studies at my site.

Preventing spike-wave epileptogenesis: critical period & neuroimaging biomarkers (R01 ARRA)

Hal Blumenfeld NIH R01 NS049307 $ 250,000/yr 9/1/09 - 8/31/11 30%

This project will investigate fMRI resting functional connectivity and diffusion tensor imaging as biomarkers of spike-wave epileptogenesis in rodent models.

Glutamate Metabolism in Epileptic Human Hippocampus

Anne Williamson NIH R01 NS052462 $ 264,672 /yr 12/1/06-11/30/11 No salary

My role as consultant on this project is to develop *in vivo* methods for EEG monitoring of

seizures in rat epilepsy models used for *in vitro* physiology studies.

Neurobehavioral Correlates of Mental Stress Ischemia

Robert Soufer NIH R01HL059619 $458,807 2/1/07-1/31/12 5%

My role as consultant is to develop methods for analyzing and interpreting

human PET data using statistical parametric mapping.

Impaired Consciousness in Epilepsy: Mechanisms and Consequences

Hal Blumenfeld Donaghue Inv Award $109,428/yr 1/01/07 – 12/31/12 10%

This project will investigate mechanisms of impaired driving performance in epilepsy

using a combination of behavioral testing, neuroimaging, and intracranial EEG.

Electrical and optogenetic deep brain stimulation to reverse ictal cortical dysfunction

Hal Blumenfeld Swebilius Foundation $20,000/yr 11/1/12-10/31/13 No salary

This project will test deep brain stimulation in animal models as a method for preventing

loss of consciousness in focal limbic seizures

Preventing Cognitive Impairment in Epilepsy

Hal Blumenfeld Loughridge Williams Foundn. $20,000/yr 2/1/07-1/31/14 No salary

This project investigates methods for identifying and preventing impaired consciousness during and following seizures in patients with epilepsy.

Impact of Initial Therapy and Response on Long Term Outcome in Children with CAE

Tracy Glauser NIH U01NS045911 $2,000,000/yr 7/1/2010-6/30/2014 1%

The major goals for this project are: Determine if ethosuximide maintains its superior effectiveness (freedom from failure) over the long term along with better seizure freedom, seizure remission, cognitive and safety outcomes than lamotrigine or valproic acid in the 32 center, 446 patient cohort from the Childhood Absence Epilepsy clinical trial. My role as site PI for this study is to follow long-term outcome of patients with childhood

absence epilepsy randomized to different modes of therapy.

Mechanisms of Impaired Breathing and Arousal in Seizures

Hal Blumenfeld Swebilius Foundation $15,000/yr 2/1/14-1/31/15 No salary

This project will use multi-modal recordings in an animal model to determine the

mechanisms of breathing impairment and decreased arousal in limbic seizures

Energetics of Neuronal Populations by fMRI

Fahmeed Hyder NIH R01 MH067528 $ 250,000/yr 12/1/09 - 11/30/15 10%

My role as co-investigator on this project is to conduct electrophysiological recordings to

determine the physiological basis of BOLD fMRI measurements.

Deep brain stimulation to prevent impaired consciousness in epilepsy

Hal Blumenfeld NIH R21 NS083783 $150,000/yr 3/01/14 – 2/28/17 5%

This project will investigate therapeutic benefits of thalamic stimulation to improve cortical function and consciousness during focal seizures in rodent models.

Functional Neuroimaging in Childhood Absence Epilepsy

Hal Blumenfeld NIH R01 NS055829 $218,750/yr 08/01/06 - 01/31/18 25%

The goal of this project is to identify anatomical and physiological mechanisms of

impaired attention in childhood absence epilepsy using functional neuroimaging, EEG

and behavioral testing.

Cortical tuber in epilepsy

Angelique Bordey NIH R21 NS093510 $ 150,000/yr 9/1/15 - 8/31/17 2%

My role as co-investigator on this project is to conduct electrophysiological recordings and

MRI DTI measurements in tuberous sclerosis and epilepsy.

Neurophysiologic measurements of neuronal ensembles

Hal Blumenfeld NIH P30 NS052519 $ 399,573/yr 7/01/05-12/31/17 No salary

(Center PI, DSF Hyder)

Core Center for Quantitative Neuroscience with Magnetic Resonance (QNMR)

Neurophysiologic measurements of neuronal ensembles

As Core Director for neurophysiology, my role is to supervise electrophysiological

recordings of large neuronal ensembles, and multimodal EEG-fMRI studies

Quantitative Analyses of Nuclear Cardiac and Neurologic Images via Cloud Computing

Yi-Hwa Liu CT Bioscience Innovation Fund

$198,768/yr 2/1/2017-1/31/2020 1%

The goal of this project is to develop a universal web-based system for brain and cardiac

image quantitative analyses via cloud computing technology.

Pilot study for a novel paradigm to study consciousness  
Liad Mudrik Templeton World Charity Foundation

$191,022/yr 1/28/19 – 1/23/20 3%

My role as co-investigator and site PI on this project is to acquire and analyze fMRI data

using a novel behavioral testing paradigm to investigate mechanisms of consciousness.

Network mechanisms of seizure-induced cardiorespiratory impairment

Hal Blumenfeld NIH R01 NS096088 $250,000/yr 9/1/16 - 8/31/22 25%

The goal of this project is to investigate mechanisms of impaired breathing and cardiac

function during and following seizures in rodent models.

Energetics of Neuronal Populations by fMRI

Fahmeed Hyder NIH R01 MH067528 $ 250,000/yr 3/1/17 - 2/28/22 5%

My role as co-investigator on this project is to help develop simultaneous calibrated fMRI

and Ca2+ imaging to study R-fMRI on the basis of neurovascular and neurometabolic

coupling in mice with genetically encoded Ca2+ reporters like Snap25-GCaMP6.

**4. Mentored grants (for PhD or MD students, Postdocs, or Faculty):**

Listing only grants as primary mentor with support of one year or longer.

Cortical-Subcortical Network Interactions in Temporal Lobe Epilepsy

A. LeBron Paige EFA $40,000/yr 7/1/02 – 6/30/03

This project used SPECT imaging to investigate long range network interactions in

human epilepsy.

Mechanisms of selective network activation in rodent spike-wave seizures

Hrachya Nersesyan EFA $40,000/yr 7/1/03 – 6/30/04

This project used an *in vivo* rat model of absence seizures to investigate selective

regions involved through fMRI and electrophysiology recordings.

Control of excitability in rodent spike-wave seizures by voltage-gated sodium channels

Angelika Lampert EFA $40,000/yr 7/1/05 – 6/30/06

This project investigates the role of enhanced sodium currents in spike-wave seizures using *in vitro* patch clamp recordings.

Neuronal firing and neuroimaging in spike-wave seizures

Marisa Spann

Supplement to NIH R01 NS049307 $21,480/yr 5/1/06 – 3/31/08

This project uses fMRI and related methods to investigate spike-wave seizures.

Functional neuroimaging, neuro-energetics and electrophysiology in spike-wave seizures in the WAG/Rij rat, a model of human absence epilepsy.

Damien Ellens HHMI $30,500/yr 7/1/07 – 6/30/08

This project uses a rat model of absence seizures to investigate relationships between

fMRI signals and underlying neuronal activity

Neuroimaging, energetics, and neuronal activity in spike-wave seizures

Dario Englot NIH NRSA F30NS059074 $40,972/yr 12/17/07 – 12/16/10

This project investigates the neuroenergetic and physiological basis of neuroimaging

signals using fMRI and electrophysiological studies of rodent seizure models

Functional neuroimaging of the effects of ethosuximide on epileptogenesis in a rodent model of spike-wave epilepsy

Matthew Vestal HHMI $30,500/yr 7/1/08 – 6/30/09

This project investigates neuroimaging changes during epileptogenesis and its prevention in the WAG/Rij rat model

Neuroimaging biomarkers and prevention of spike-wave epilepstogenesis

Asht M. Mishra EFA $45,000/yr 1/1/09 – 12/31/09

This project investigates diffusion tensor imaging and resting fMRI connectivity as biomarkers of epileptogenesis in rodent models.

Impaired consciousness in epilepsy: consequences for driving performance

Pimen Kurashvili Civilian Research & Development Foundation

$11,500 3/10/08 – 6/10/09

This project investigates driving performance in patients with epilepsy using a virtual

reality driving simulator to determine which types of seizures impair driving

Developing a responsiveness in epilepsy scale (RES) for evaluation of inpatients with epilepsy

Li Yang Chinese Scholarship Council Fellowship

$24,000/yr 10/1/08 – 9/31/10

This project investigates impaired consciousness during epileptic seizures using a new behavioral testing battery derived from the JFK coma recovery scale

Neuroimaging biomarkers of network dysfunction in childhood absence epilepsy

Xiaoxiao Bai EFA $45,000/yr 1/1/10 – 12/31/10

This project investigates diffusion tensor imaging and resting fMRI connectivity as biomarkers of epileptogenesis in human patients with childhood absence epilepsy.

Subcortical control of neocortical slowing during focal hippocampal seizures

Joshua Motelow NIH NRSA F30NS071628 $40,972/yr 9/1/10 – 8/31/13

This project investigates the mechanisms of neocortical slow activity in a rodent model of

limbic seizures using neuroimaging and direct physiological measurements.

Impaired consciousness in epilepsy

Andrew Bauerschmidt Doris Duke $33,000/yr 7/1/11 – 6/30/12

This project investigates impaired consciousness using a combination of bedside

evaluations and computerized testing in epilepsy inpatients.

*In vivo* multiphoton microscopy to investigate network dynamics in epileptogenesis

Markus Wolfel Kavli Neuroscience Institute $60,000/yr 11/1/11 – 10/31/12

This project investigates the roles of inhibitory and excitatory cell populations in seizures

using *in vivo* multiphoton microscopy in mouse epilepsy models.

Neural correlates of impaired consciousness in childhood absence epilepsy

Jennifer Guo NIH NRSA F31NS077540 $46,800/yr 12/1/11 – 11/30/14

This project investigates impaired attentional vigilance in childhood absence epilepsy

using simultaneous behavioral testing, EEG and fMRI.

Mechanisms of impaired consciousness in limbic seizures  
Wei Li Chinese Scholarship Council Fellowship

$24,000/yr 10/1/12 – 9/31/14

This project investigates impaired consciousness in limbic seizures using high field fMRI and biosensor probes in rodent epilepsy models.

Neuroimaging biomarkers of epilepsy prevention in a rodent model of spike-wave epilepsy  
Qiong Zhan Chinese Scholarship Council Fellowship

$24,000/yr 10/1/12 – 9/31/14

This project investigates resting fMRI and diffusion tensor imaging as biomarkers of epileptogenesis in a rat spike-wave seizure model.

Restoring consciousness during seizures using optogenetic stimulation

Moran Furman EFA $45,000/yr 1/1/13 – 12/31/13

This project investigates potential therapeutic benefits of electrical and optogenetic stimulation of subcortical structures in limbic seizures coupled with fMRI.

Neurostimulation to prevent impaired consciousness in epilepsy

Abhijeet Gummadavelli HHMI-CURE $40,000/yr 7/1/13 – 6/30/14

This project investigates the benefits of thalamic and brainstem stimulation on rat cortical

function and behavior during limbic seizures .

Impaired consciousness and driving ability in epileptic seizures  
Yang Si Chinese Scholarship Council Fellowship

$24,000/yr 10/1/13 – 9/31/15

This project investigates impaired consciousness during epileptic seizures using prospective behavioral testing and a computerized driving simulator.

Identifying mechanisms of impaired breathing and arousal during and after seizures

Adam Kundishora HHMI-CURE $40,000/yr 7/1/14 – 6/30/15

This project investigates the subcortical networks causing impaired arousal and

altered cardiorespiratory function in seizures.

Seizure networks and epileptogenesis

Jason Gerrard NIH KL2 TR000140 Junior Faculty Scholars Award, YCCI

$120,000/yr 09/01/2014 – 09/01/2016

The goal of this study was to utilize a combination of high-definition neurophysiology and

metabolomics to study epileptogenesis and seizure networks in parallel within an animal

model and human patients.

Using Noninvasive Electroencephalography and Cerebral Oximetry Monitoring to Understand Brain Physiology in Critically Ill Patients with Sepsis

Emily Gilmore NIH KL2 TR000140 Junior Faculty Scholars Award, YCCI

$120,000/yr 09/01/2014 – 09/01/2016

The goal of this study was to utilize noninvasive physiological monitoring to investigate

brain physiology and prognosis with sepsis in the intensive care unit.

fMRI and neural activity underlying impaired behavior in absence seizures

Cian McCafferty EFA $45,000/yr 7/1/15 – 6/30/16

This project relates impaired behavior during spike-wave seizures to changes in neural activity using fMRI and electrophysiology measurements in rodent models.

Understanding Potentially Harmful EEG Patterns in Patients with Acute Brain Injury and Critical Illness

Emily Gilmore American Brain Foundation, Clinical Research Training Fellowship

$65,000/yr 07/01/2015 – 06/30/2017

The goal of this study was to investigate the prognostic importance of EEG patterns in

acute brain injury in patients with critical illness.

Transient and sustained switching in cortical and subcortical attention networks   
Rong Li Chinese Scholarship Council Fellowship

$28,800/yr 10/1/15 – 9/30/16  
This project investigates mechanisms of cortical and subcortical network switching in attention tasks through quantitative analysis of human fMRI data.

Mechanisms of impaired arousal and breathing in seizures  
Jingwen Xu Chinese Scholarship Council Fellowship

$28,800/yr 1/15/16 – 1/14/18

This project investigates the subcortical networks causing impaired arousal and

altered breathing function in seizures in rodent models.

Multimodal measures of seizure severity: fMRI, neuronal and behavioral impact of absence seizures

John Andrews HHMI-CURE $40,000/yr 7/1/16 – 6/30/17

This project relates impaired behavior during spike-wave seizures to changes in neural activity using fMRI and electrophysiology measurements in rodent models.

Modulation of cortical and subcortical arousal in focal limbic seizures  
Zongwei Yue Chinese Scholarship Council Fellowship

$28,800/yr 9/1/16 – 8/31/18

This project investigates the cortical and subcortical networks causing impaired arousal in seizures in rodent models using whole-cell *in vivo* recordings.

Mechanisms of cortical network switching in attention   
Jiajia Li Chinese Scholarship Council Fellowship

$28,800/yr 10/1/16 – 9/30/17

This project investigates mechanisms of network switching in attention tasks through quantitative analysis of human intracranial EEG data.

Mapping Cortical Language Boundaries in Neurosurgical Planning: Validation of a novel fMRI protocol

Christopher Benjamin NIH KL2 Junior Faculty Scholars Award, YCCI

$120,000/yr 07/01/2016 – 06/01/2018

The goal of this study was to validate a novel, non-invasive form of functional MRI (fMRI)

for mapping the brain’s language areas prior to surgery, in comparison to the current gold

standard for language mapping in epilepsy patients, direct brain stimulation.

Behavioral impairment in rodent seizure models

Benjamin Gruenbaum NIH T32 Investigative Medicine Award

$45,000/yr 1/1/17 – 12/31/19  
 The goal of this project is to develop novel behavioral paradigms to evaluate attention in

rodent epilepsy models under normal conditions and during seizures.  
  
Electronic motivational interviewing for veterans with psychogenic nonepileptic seizures  
Benjamin Tolchin VA VISN1 CDA $160,680/yr 10/01/18 – 9/30/20

The goal of this project is to investigate the therapeutic benefits of electronic motivational

interviews in psychogenic nonepileptic seizure in the veteran population.  
  
Mechanisms of auditory conscious perception

Kate Christison-Lagay NIH T32 Anesthesia $47,000/yr 1/1/18 – 12/31/19

This project investigates mechanisms of human auditory conscious perception using

intracranial EEG recordings and behavioral analysis.  
  
Multi-modal study of visual and auditory conscious perception using EEG, fMRI, and pupillometry  
Mariana de Mello Gusso CAPES Foundation Scholarship

$24,000/yr 9/1/18 – 8/31/20

This project investigates cortical and subcortical mechanisms of conscious perception in

human subjects using EEG, fMRI, pupillometry and behavioral measurements.

Neurobiology of cortical systems

Sharif Kronemer NIH T32 NS007224 $30,000/yr 9/1/18 – 8/31/19

The goal of this project is to investigate mechanisms of normal human conscious

visual perception using fMRI, EEG, pupillometry and machine learning.

Neuronal Mechanisms of Unconsciousness in an Absence Seizure Model

Benjamin Gruenbaum FAER Mentored Research Training Grant

$125,000/yr 7/1/19 – 6/30/21

The goal of this project is to investigate mechanisms of impaired consciousness in an

animal model of absence seizures using electrophysiology and behavioral testing.  
  
Digital Reaction Test in Epilepsy

Heinz Krestel Horizon 2020 Research Framework of the European Commission

Global Fellowship, Marie Sklodowska Curie Actions Fellowship

$95,000/yr 04/1/19 – 3/31/22

The goal of this project is to develop an automated digital system for real time detection of  
interictal epileptiform activity and performing synchronized behavioral testing.

Thalamic Contributions to Functional Network Abnormalities in Alzheimer's Disease

Carolyn Fredericks NIH K23 AG059919 $194,292/yr 8/1/19-5/31/24

The proposed work seeks to enable earlier detection and identify new targets for therapy,

by using advanced neuroimaging technologies to study structural and functional changes

in thalamic nuclei during healthy aging versus Alzheimer’s disease.

EEG and MRI Biomarkers to Predict Post-Traumatic Epilepsy

Jennifer Kim NIH K23NS112596 $151,000/yr 07/01/20 – 06/30/25

This project investigates computational analysis of EEG and MRI in patients with

traumatic brain injury to determine biomarkers predictive of epileptogenesis.

Network mapping of focal epilepsy using lesions and deep brain stimulation

Frederic Schaper AES Postdoc Fellowship $50/000/yr 07/01/21 – 06/30/22

This project uses computational analysis of neuroimaging and neurostimulation data to

Map cortical and subcortical networks in focal epilepsy.

Mechanisms of subcortical arousal in focal limbic seizures   
Sheila Shixin Liu Chinese Scholarship Council Fellowship

$30,000/yr 12/1/21 – 11/30/23

This project investigates mechanisms of impaired cholinergic subcortical arousal in a mouse model of focal limbic seizures.

Neurobiology of cortical systems

Shanae Aerts NIH T32 NS007224 $35,000/yr 9/1/22 – 8/31/23

The goal of this project is to investigate mechanisms of normal human conscious

auditory perception using fMRI, EEG, pupillometry and machine learning.