Ranjit S. Bindra, M.D., Ph.D.
Yale University School of Medicine
CURRICULUM VITAE

Date of Revision: March 11, 2020

Name: Ranjit S. Bindra, M.D., Ph.D.

Primary Appointment: Associate Professor, Department of Therapeutic Radiology
Traditional Track

Secondary Appointment: Associate Professor, Department of Pathology

Proposed for promotion to: Professor, Department of Therapeutic Radiology
Traditional Track

Term: Beginning July 1, 2020

School: Yale University School of Medicine

Education:

B.S.	Yale University (Molecular Biophysics & Biochemistry) May, 1998
Ph.D.	Yale University School of Medicine (Experimental Pathology) December 2005, with Distinction
M.D.	Yale University School of Medicine (Medicine) May, 2007

Career/Academic Appointments:

1999	Pre-IRTA Fellow, National Institutes of Health, Bethesda, MD (Klausner Laboratory)
2000-2007	MD/PhD Program, Yale University, New Haven, CT (Advisor: Peter M. Glazer)
2007-2008	Transitional Year Intern, Department of Medicine, Memorial Sloan-Kettering Cancer Center, New York, NY
2008-2012	Resident, Department of Radiation Oncology, Memorial Sloan-Kettering Cancer Center, New York, NY

Administrative Positions:

2017-present	Associate Professor, Departments of Therapeutic Radiology and Experimental Pathology, Yale University School of Medicine, New Haven, CT
2012-2017	Assistant Professor, Departments of Therapeutic Radiology and Experimental Pathology, Yale University School of Medicine, New Haven, CT
2019-present	Co-director, Brain Tumor Center, Yale Cancer Center, New Haven, CT

Board Certification:
American Board of Radiology, June 11, 2013

Other Certification:

Gamma Knife Perfexion	2012
Gamma Knife Icon	2017

Professional Honors & Recognition

International/National/Regional:

2004: First Place Abstract Award, Tumor Progression and Therapeutic Resistance Conference
2004: Marie Curie Award, Radiation Research Society
2005: Distinguished PhD Thesis Award, Yale University
2007: Cum Laude, Yale University School of Medicine
2008: B. Leonard Holman Research Pathway, American Board of Radiology
2010: Annual Meeting Scientific Abstract Award, American Society for Radiation Oncology
2010: Brain Tumor Center Grant winner, Memorial Sloan-Kettering Cancer Center
2010: Research Resident Grant Award, Radiological Society of North America
2011: Annual Roentgen Resident/Fellow Research Award, Radiological Society of North America
2011: Annual Meeting Scientific Abstract Award, American Society for Radiation Oncology
2012: Young Investigator Award, Alex's Lemonade Stand Foundation
2015: CureSearch Young Investigator Pathway to Independence Award
2018: CureSearch Inaugural Catapult Award Recipient
2019: Treynor Lecture in Pediatric Brain Tumor Research, UCSF

University:

2013: Association of Residents in Radiation Oncology Educator of the Year – Yale
2016: Inspiring Yale 2016 – Selected Speaker to Represent Yale Medical School
2018 Translational Research Award (Paper of the Year), Yale Cancer Center Annual Conclave

Patents:

1. "Identification of PPM1D mutations as a novel biomarker for NAMPTi sensitivity." U.S. Provisional Patent Application No. 62/748,911 filed October 22, 2018.
2. "Compositions and Methods For Targeting Cancers". U.S. Provisional Patent Application No. 62/697,872 filed July 13, 2018
3. "Compositions and methods for targeting and treating homologous recombination-deficient tumors. U.S. Provisional Patent Application No. 62/344,678, filed Jun. 2, 2016

Grant/Clinical Trials History

Active

Agency: National Institute of Health
I.D.# **5 R01 CA215453-02**
Title: *Exploiting Mutant IDH1/2-Induced Homologous Recombination Defects in Cancer*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 15.2%
Direct costs per year: $230,766
Total Costs for project period: $1,959,240
Project period: 06/01/17-05/31/22

Agency: National Brain Tumor Society
I.D.# **DEFEAT Brain Tumors Program**
Title: Project TDG: Targeting the DDR in Glioblastoma
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $800,000
Total Costs for project period: $800,000
Project period: Pending (April 2020)

Agency: CureSearch for Children's Cancer
I.D.# **Catapult Impact Fund**
Title: *Exploiting Mutant IDH1/2-induced DNA Repair Defects in Pediatric Glioma*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 5%
Direct costs per year: $317,776
Total Costs for project period: $979,758
Project period: 06/01/18-05/31/21

Agency: Rising Tide Foundation
I.D.# **Rising Tide Foundation Clinical Cancer Research**
Title: *Phase 2 Study of the PARP Inhibitor Olaparib in IDH1/2-mutant solid tumors*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $148,282
Total Costs for project period: $450,000
Project period: 05/01/19-05/31/21

Agency: Gray Foundation
I.D.# **Gray Foundation**
Title: *Targeting the BRCA-dependent DNA repair axis for cancer therapy*
P.I.: Ranjit S. Bindra, MD, PhD (co-PI)
Percent Effort: 1%
Direct costs per year: $453,108
Total Costs for project period: $1,005,885
Project period: 12/01/18-11/30/21

Agency: Yale Cancer Center
I.D.# **Yale Discovery Fund**
Title: *Beyond the BBB: Exploiting NAD metabolic defects in glioma using CNS-directed nanoparticles*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $150,000
Total Costs for project period: $450,000
Project period: 02/01/20-1/31/23

Agency: Leukemia and lymphoma Society
I.D.# **Translational Research Program**
Title: *Exploiting mutant IDH1/2-induced BRCAness with PARP inhibitors as a novel AML/MDS therapy.*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 5%
Direct costs per year: $180,018
Total Costs for project period: $600,000
Project period: 10/01/17-09/30/20

Agency: Oligo Nation Cure Uniting for A Cure
I.D.# **Oligo Nation Cure Uniting for A Cure**
Title: *Targeting IDH1/2-mutant gliomas with the potent, CNS-permeable PARP inhibitor, BGB-290*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 5%
Direct costs per year: $60,680
Total Costs for project period: $125,000
Project period: 04/01/18-03/31/20 (NCE)

Agency: National Institute of Health
I.D.# **2 R01 AR062111-06**
Title: *Mechanisms of Revertant Mosaicism in Ichthyosis with Confetti*
P.I.: Keith Choate, MD, PhD
Role: Co-Investigator
Percent Effort: 1%
Direct costs per year: $284,079
Total Costs for project period: $946,917
Project period: 02/01/19-01/31/24 (2 years only)

Agency: Yale Cancer Center
I.D.# **2019 Co-Pilot**
Title: Development of Nanoparticle-Encapsulated NAMPT inhibitors to target PPM1D-mutant DIPG
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 0%
Direct costs per year: $100,000
Total Costs for project period: $100,000
Project period: 05/01/19-04/30/20

Agency: The Hope Foundation/SWOG
I.D.# **Impact Award**
Title: *Identification and characterization of oncometabolite-induced DNA repair defects in sporadic papillary kidney cancer*
P.I.: Ranjit S. Bindra, MD, PhD (co-PI)
Percent Effort: 3%
Direct costs per year: $200,000
Total Costs for project period: Pending
Project period: 01/01/20-12/31/20

Agency: Yale Cancer Center
I.D.# **T-TARE**
Title: *Molecular Correlates of PARP Inhibitor Response and Target Engagement in a Bench-to-Bedside IDH1/2-mutant Glioma Phase I/II Clinical Trial*
P.I.: Antonio Omuro MD, and Murat Gunel MD
Role: Co-PI (Basic Science Leader)
Percent Effort: 0%
Direct costs per year: $150,000
Total Costs for project period: 150,000

Project period: 02/01/20-01/31/21

Agency: Yale Cancer Center
I.D.# **2019 Co-Pilot Award**
Title: *Development of Nanoparticle-Encapsulated NAMPT inhibitors to target PPM1D-mutant DIPG*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 0%
Direct costs per year: $100,000
Total Costs for project period: $100,000
Project period: 08/01/19-07/31/20

Agency: Cybrexa Therapeutics
I.D.# **Sponsored Research Agreement**
Title: *In vivo validation of peptide-drug conjugates*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $27,922
Total Costs for project period: $34,903
Project period: 03/02/18-09/02/19 (NCE)

Agency: Cybrexa, Inc.
I.D.# **1 R44 CA236107-01**
Title: *Development of tumor-targeted PARP inhibitors for the treatment of solid cancers*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 2%
Direct costs per year: $29,851
Total Costs for project period: $29,851
Project period: 07/01/19-06/30/20

Pending:

Agency: National Institute of Health
I.D.# **R43/R44 SBIR**
Title: *Therapeutic Inhibition of BCL6 in Glioblastoma*
P.I.: Ray Kioski, PhD
Role: Subaward PI
Percent Effort: 1%
Direct costs per year: $69,213
Total Costs for project period: $300,000
Project period: 07/01/20-06/30/21

Agency: National Institute of Health
I.D.# **R43/R44 SBIR**
Title: *Developing a novel drug delivery system for ATRN inhibitors to treat brain tumor*
P.I.: Oren Gilad, PhD
Role: Subaward PI
Percent Effort: 2.5%
Direct costs per year: $143,283

Total Costs for project period: $300,000
Project period: 07/01/20-06/30/21

Completed:

Agency: American Cancer Society
I.D.# **Research Scholar Grant**
Title: *Pre-clinical Development of Mibefradil as a Novel Glioma Radiosensitizer*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 11.5%
Direct costs per year: $165,000
Total Costs for project period: $792,000
Project period: 01/01/16-12/31/19

Agency: National Institute of Health
I.D.# **5 R21 HD090503-02**
Title: *Drug delivery system for enhancing radiation therapy in pediatric glioma*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 10%
Direct costs per year: $125,000
Total Costs for project period: $460,625
Project period: 08/01/17-07/31/19

Agency: National Institute of Health
I.D.# **5 R03 CA194967-02**
Title: *Development of a Novel Assay to Measure DSB Repair at Endogenous Loci in Cells*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 4%
Direct costs per year: $50,000
Total Costs for project period: $166,500
Project period: 04/01/16-03/31/18

Agency: Alex's Lemonade Stand Foundation
I.D.# **Innovation Award**
Title: *Development of nanoparticle-encapsulated chemo/radio-sensitizers for intrathecal delivery*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 3.75%
Direct costs per year: $125,000
Total Costs for project period: $250,000
Project period: 10/01/17-09/30/19

Agency: CureSearch for Children's Cancer
I.D.# **Young Investigator Pathway to Independence Awards**
Title: *Identification of Novel Targeted Agents for Alveolar Rhabdomyosarcoma*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 4%
Direct costs per year: $75,000
Total Costs for project period: $225,000
Project period: 01/01/15-12/31/17

Agency: Alex Lemonade Stand Foundation
I.D.# **Young Investigator Award**
Title: *Small Molecule Screening for Novel Pediatric Glioma Radiosensitizers*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $50,000
Total Costs for project period: $100,000
Project period: 7/1/12 - 6/30/14

Agency: Lion Heart Fund
I.D.# **Lion Heart Fund for Cancer Research**
Title: *Exploiting HR defects in Breast Cancer with DNA-PK Inhibitor-Based Therapies*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $50,000
Total Costs for project period: $50,000
Project period: 01/01/18-12/31/19

Agency: Yale Cancer Center
I.D.# **2017 Collaborative Pilot Award**
Title: *Exploitation of 2-HG conferred vulnerabilities in IDH1/2 mutant MDS/AML in pre-clinical PDX models*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: No Salary Support
Direct costs per year: $100,000
Total Costs for project period: $100,000
Project period: 08/01/17-01/31/19

Agency: Cavion Agreement LLC VBHRC Biomarker
I.D.# **Cavion Agreement LLC VBHRC Biomarker**
Title: *Development of Biomarker Assay & Protocol for Commercialization of Mibefradil Dihydrrochloride as GBM*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $69,894
Total Costs for project period: $90,862
Project period: 02/15/16-04/30/18

Agency: Yale Cancer Center
I.D.# **Translational-Targeted Area of Research Excellence (T-TARE) Award**
Title: *Exploiting Homologous Recombination Defects induced by 2-Hydroxyglutarate in Solid Tumors.*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: No Salary Support
Direct costs per year: $38,000
Total Costs for project period: $38,000
Project period: 10/15/16-10/14/17

Agency: Yale Center for Clinical Investigation

I.D.# **2015 Pilot – Established Core**
Title: *Ex vivo assessment of functional DNA repair capacity in primary tumor cells using the CyTOF2*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: No Salary Support
Direct costs per year: $15,000
Total Costs for project period: $15,000
Project period: 01/10/17-05/31/17

Agency: Musella Foundation
I.D.# **Musella Foundation**
Title: *Convection-Enhanced Delivery of Drug-Loaded Nanoparticles for the Treatment of Glioblastoma Multiforme*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $50,000
Total Costs for project period: $50,000
Project period: 09/01/16-08/31/17

Agency: The Pablove Foundation
I.D.# **The Pablove Foundation**
Title: *Small Molecule Screening for Novel Rhabdoid Tumor Inhibitors*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $50,000
Total Costs for project period: $50,000
Project period: 07/01/16-07/31/17

Agency: Yale Cancer Center 2016 Collaborative Pilot (Co-Pilot) Award
I.D.# **Yale Cancer Center 2016 Collaborative Pilot (Co-Pilot) Award**
Title: *Nanoparticle-Encapsulated Radiosensitizers for the Treatment of Glioblastoma Multiforme*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: No Salary Support
Direct costs per year: $100,000
Total Costs for project period: $100,000
Project period: 04/01/16-08/31/17

Agency: Cavion Agreement LLC
I.D.# **Cavion Agreement LLC**
Title: *High-Content & High-Throughput Screening to Analyze a Library of Small Molecules*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $26,800
Total Costs for project period: $26,800
Project period: 03/14/16-03/13/17

Agency: Yale Center for Clinical Investigation Just-in-Time Core Technologies
I.D.# **Yale Center for Clinical Investigation Just-in-Time Core Technologies**

Title: *Development of Novel Methods to Assess DNA Repair Status in Primary Cell Cultures using Next Generation Sequencing*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 5%
Direct costs per year: $7,000
Total Costs for project period: $7,000
Project period: 11/1/12-10/31/13

Agency: Yale Cancer Center Pilot Research
I.D.# **Yale Cancer Center Pilot Research**
Title: *High-throughput Screening for k-ras Mutant Cell Tumor Radiosensitizers*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: No Salary Support
Direct costs per year: $25,000
Total Costs for project period: $25,000
Project period: 4/1/13-3/31/14

Agency: Yale Cancer Center
I.D.# **Translational- Targeted Area of Research Excellence (T-TARE) Award**
Title: *DNA Damage response: The Achilles Heel of HPV-associated HNSCC*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: No Salary Support
Direct costs per year: $12,000
Total Costs for project period: $12,000
Project period: 7/1/13-6/30/14

Agency: Joanna McAfee Childhood
I.D.# **Cancer Foundation Pilot Grant**
Title: *Creation of Inducible PAX3/7-FOXO1 Cell Lines for Synthetic Lethal Screening Studies*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 5%
Direct costs per year: $25,000
Total Costs for project period: $25,000
Project period: 1/1/13-6/30/14

Agency: Matthew Larson Foundation
I.D.# **Matthew Larson Foundation**
Title: *Creation of Isogenic Pediatric Glioma Cell Lines for High-throughput Drug Screening Campaigns*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $75,000
Total Costs for project period: $75,000
Project period: 05/01/14-04/30/15

Agency: The Cures Starts Now Foundation The DIPG Collaborative
I.D.# **The Cures Starts Now Foundation The DIPG Collaborative**
Title: *Pre-clinical Development of Novel DIPG* Radiosensitizers
P.I.: Ranjit S. Bindra, MD, PhD

Percent Effort: 5%
Direct costs per year: $100,000
Total Costs for project period: $100,000
Project period: 12/20/13-2/28/15

Agency: Yale Cancer Center
I.D.# **Translational-Targeted Area of Research Excellence (T-TARE) Award**
Title: *DNA Damage response: The Achilles Heel of HPV-associated HNSCC*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: No Salary Support
Direct costs per year: $12,000
Total Costs for project period: $12,000
Project period: 07/01/13-06/30/15

Agency: Yale SPORE in Lung Cancer
I.D.# **Development Research Program Award**
Title: *High-throughput screening for K-Ras mutant tumor cell radiosensitizers*
P.I.: Ranjit S. Bindra, MD, PhD
Percent Effort: 1%
Direct costs per year: $50,000
Total Costs for project period: $50,000
Project period: 10/01/15-09/30/16

Clinical Trials:

Current/Pending

Agency: Early Therapeutics Clinical Trials Network (ETCTN)
I.D.: ETCTN #10129 (NCT03212274)
Title: Olaparib in treating patients with advanced glioma, cholangiocarcinoma, or solid tumors with IDH1 or IDH2 mutations
Role: Co-Principal Investigator
Status: Open for Accrual

Agency: Pacific Pediatric Neuro-Oncology Consortium (PNOC)
I.D.: PNOC 017 (NCT03749187)
Title: A Phase 0/1 Study of BGB-290 in Combination with Temozolomide in Adolescent and Young Adult IDH1/2 Newly Diagnosed and Recurrent Mutant Gliomas
Role: Co-Principal Investigator
Status: Open for Accrual

Agency: American Brain Tumor Consortium (ABTC)
I.D.: ABCT1801 (NCT03914742)
Title: Phase I/II Study of BGB-290 with Temozolomide in Recurrent Gliomas with IDH1/2 Mutations
Role: Principal Investigator
Status: Open for Accrual

Agency: Early Drug Development Program, Yale University
I.D.: NCT02576444

Title: OLAParib COmbinations (OLAPCO)
Role: Co-Investigator
Status: Open for Accrual

Agency: Early Therapeutics Clinical Trials Network (ETCTN)
I.D.: ETCTN #10264
Title: The PRIME Trial: PARP Inhibition in IDH Mutant Effectiveness Trial. A Phase II Study of Olaparib in Isocitrate Dehydrogenase (IDH) Mutant Relapsed/Refractory Acute Myeloid Leukemia and Myelodysplastic Syndrome
Role: Co-Investigator
Status: Pending

Completed

Agency: Yale Department of Therapeutic Radiology
I.D.: HIC #1406014067 (Investigator-initiated trial; NCT02202993)
Title: Phase I Trial of Mibefradil Dihydrochloride with Hypofractionated Re-Irradiation Therapy in Treating Patients with Recurrent Glioblastoma Multiforme (GBM)
Role: Principal Investigator

Professional Service

Peer Review Groups/Grant Study Sections:

2015	Member, Department of Defense (DoD) Congressionally Directed Medical Research Programs (CDMRP) Breast Cancer Research Program (BCRP) Clinical and Experimental Therapeutics (CET) - Study Section.
2015	Member, Peer Review Cancer Research Program (PRCRP) for the Department of Defense Congressionally Directed Medical Research Programs (CDMRP) – Online Study Section Panel.
2017	Ad Hoc Member, Radiation Therapeutics and Biology Study Section (RTB), NIH (2/18)
2017	Ad Hoc Member, Radiation Therapeutics and Biology Study Section (RTB), NIH (10/18)
2017	Member, Department of Defense (DoD) Congressionally Directed Medical Research Programs (CDMRP) Breast Cancer Research Program (BCRP) Clinical and Experimental Therapeutics (CET) - Study Section.
2019	Member, NCI Special Emphasis Panel for R21s/R03s (SEP), NIH (5/19)
2020	Ad Hoc Member, Radiation Therapeutics and Biology Study Section (RTB), NIH (2/20)

Active (invited) grant reviewer for multiple cancer foundations, including: CureSearch, Rising Tide Foundation, Breast Cancer Alliance, and the IronMatt Foundation

Journal Service:

Reviewer
2012-present, Ad Hoc Reviewer for: *Science Translational Medicine, Molecular Cell, Molecular Cancer Research, Oncogene, Clinical Cancer Research, Cancer Research, Nucleic Acids Research, PLOS One, Cancer Biology & Therapy, Pediatric Blood & Cancer, Int J Radiat Oncol Biol Phys, Oncotarget, Practical Radiation Oncology, International Journal of Hyperthermia, Frontiers in Oncology, Journal of Child Neurology, British Journal of Radiology, and Cancer Biology and Therapy.*

Professional Service for Professional Organizations:

2019-present	Member, Research Grants Evaluation Subcommittee
2019-present	Member, Scientific Program Subcommittee, RSNA
2019-present	Board Member, IronMatt Foundation for Pediatric Brain Tumors
2017-present	Board Member, CT Cancer Foundation
2018	Expert Reviewer, NCCN Guidelines for CNS Cancers, NCCN
2013-2018	Member, Science Council, ASTRO
2012-2019	Member, Scientific Abstract Review Committee, ASTRO
2016- 2019	Radiobiology Practice Exam and Study Guide Task Force, ASTRO
2012-2014	Member, Radiobiology Practice Exam and Study Guide Subcommittee, ASTRO

Meeting Planning/Participation:

2019	Co-chair, Education Day, Society of Neuro-Oncology 2019 (SNO) Meeting (future)
2019	Moderator – "eTalk" Session, SNO 2019 Annual Meeting (future)
2019	Moderator, Presidential Symposium Expanded Session, ASTRO 2019 Annual Meeting
2018	Discussant – Adult CNS Session, Gliomas, ASTRO 2018 Annual Meeting
2018	Discussant – Pediatric Cancer Highlights, ASTRO 2018 Annual Meeting
2016	Discussant – Brain Metastases Scientific Session, ASCO 2016 Annual Meeting
2014	Abstract Reviewer – Biology Track, ASTRO 2014 Annual Meeting
2014	Moderator – Radiation Sensitizers, ASTRO 2014 Annual Meeting
2013	Discussant – Targeted Radiosensitizers, ASTRO 2013 Annual Meeting
2012	Abstract Reviewer – Biology Track, ASTRO 2012 Annual Meeting

Yale University Service:

Medical School Committees

2013-present	Member, Yale MSTP Admissions Committee, Yale University
2018	Chair, K08 Committee, Dr. Zachary Corbin

Departmental Committees

2019-present	Chair, Therapeutic Radiology, Physician-Scientist Search Committee
2018-2019	Member, Therapeutic Radiology, Physician-Scientist Search Committee
2017-2018	Member, Yale Cancer Center, Neuro-oncology Chief Search Committee
2017-2018	Member, Therapeutic Radiology, Clinician/Attending Search Committee
2013-2016	Member, Therapeutic Radiology, EMR Committee
2013-2015	Member, Therapeutic Radiology, Policies and Procedures Committee

Hospital Boards & Committees

2015-2019	Member, Data and Safety Monitoring Meeting (DSMC)

Public Service

2019: Life Sci (STEM) NYC Internship Program Boot Camp – Invited Speaker: *Same job, different job: Two roads Diverging in Radiation Oncology*. Brooklyn, NY. May 29, 2019.

2019: Yale Brain Tumor Center Community Outreach Series – Invited Speaker: *Radiation Therapy 101*. New Haven, CT. May 21, 2019
2019: U.S. Representative Rosa DeLauro; Forum on the Economic Impact of the NIH investment in the New Haven Area – Participant. Yale West Campus, Orange, CT. February 21, 2019.
2018: Biden Cancer Community Summit – Panelist. Yale Cancer Center; New Haven, CT. September 21, 2018.
2018: Invited Guest, Yale Cancer Center Answers. *New Options for Cancer Treatment Using PARP Inhibitors*. National Public Radio (WNPR). September 2, 2018.
2018: Life Sci (STEM) NYC Internship Program Boot Camp – Invited Speaker: *Same job, different job: Two roads Diverging in Radiation Oncology*. Brooklyn, NY. May 30, 2018.
2018: Invited BioCT Panel Member: *Academia/entrepreneur perspectives.* Bioscience Policy Day at the State Capitol; Hartford, CT. March 15, 2018.
2016: Invited Guest, Yale Cancer Center Answers. *Management of Pediatric Cancers*. National Public Radio (WNPR). March 6, 2016.
2014: Yale Continuing Medical Education Series – Radiosurgery. *Mibefradil and Hypofractionated SRS for Recurrent GBM.* October 22, 2014
2013: Invited Guest, Yale Cancer Center Answers. *Management of Brain Tumors.* National Public Radio (WNPR). December 8, 2013.

Bibliography

Peer-Reviewed Original Research (56 peer-reviewed publications):

1. Sulkowski PL, Oeck, S, Dow, J, Economos NG, Mirfakhraie L, Liu Y, Noronha K, Bao X, Li J, Shuch BM, King MC, **Bindra RS*** and Glazer PM*. Oncometabolites suppress DNA repair by disrupting local chromatin signaling. *Nature.* 2020, *accepted/in press*. (*Co-corresponding, co-senior authors).

2. Jackson CB, Noorbakhsh SI, Sundaram RK, Kalathil AN, Ganesa S, Jia L, Breslin H, Burgenske DM, Gilad O, Sarkaria JN, **Bindra RS**. Temozolomide Sensitizes MGMT-Deficient Tumor Cells to ATR Inhibitors. *Cancer Res.* 2019 Sep 1;79(17):4331-4338. PMID: 31273061.

3. Fons, NR, Sundaram, RK, Breuer, GA, Peng, S, Kalathil, AK, McLean, RL, Kalathil, AN, Schmidt, MS, Carvalho, DM, Mackay, A, Jones, C, Carcaboso, AM, Nazarian, J, Berens, ME, Brenner, C and **Bindra RS**. *PPM1D* Mutations Silence *NAPRT* Gene Expression and Confer Exquisite NAMPT Inhibitor Sensitivity in Glioma. *Nature Communications.* 2019 Aug 22;10(1):3790. PMID: 31439867.

4. Bao X, Wu J, Shuch B, LoRusso P, **Bindra RS**, Li J. Quantitative Profiling of Oncometabolites in Frozen and Formalin-Fixed Paraffin-Embedded Tissue Specimens by Liquid Chromatography Coupled with Tandem Mass Spectrometry. *Sci Rep.* 2019 Aug 2;9(1):11238. PMID: 31375752.

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Chapters, Books, and Reviews:

Reviews

1. Beckta JM, **Bindra RS**, Chalmers AC. Targeting DNA Repair in Gliomas. *Curr Opin Neurology*. 2019 2019 Oct 4. PMID: 31592790 (review article)

2. Gallitto M, Lazarev S, Wasserman I, Stafford JM, Wolden SL, Terezakis SA, **Bindra RS**, Bakst RL. Role of Radiation Therapy in the Management of Diffuse Intrinsic Pontine Glioma: A Systematic Review. *Adv Radiat Oncol.* 2019 Jul-Sep;4(3):520-531. PMID: 31360809 (review article).

3. **Bindra RS**, Galanis E, Mehta MP. State of the art: the evolving role of RT in combined modality therapy for GBM. *J Neurooncol.* 2017 Sep;134(3):477-478. PMID: 28913783. (Guest Editor)

4. **Bindra RS**, Chalmers AJ, Evans S, Dewhirst M. GBM radiosensitizers: dead in the water…or just the beginning? *Journal of Neuro-Oncology.* 2017 Sep;134(3):513-521. PMID 28762004 (review article).

5. Braunstein S, Raleigh D, **Bindra RS**, Mueller S, Haas-Kogan D. Pediatric high-grade glioma: current molecular landscape and therapeutic approaches. *Journal of Neuro-Oncology.* 2017 Sep;134(3):541-549. PMID 28357536 (review article).

6. Corso CD, **Bindra RS**, Mehta MP. The role of radiation in treating glioblastoma: here to stay. *Journal of Neuro-Oncology.* 2017 Sep;134(3):479-485. PMID 28271281 (review article; published as special issue guest editor).

7. Corso CD and **Bindra RS.** Success and failures of combined modalities in GBM: Old Problems and New Directions. *Seminars in Radiation Oncology*. 2016 Oct;26(4):281-98. PMID 27619250 (review article).

8. **Bindra RS** and Wolden SL. Advances in Radiation Therapy in Pediatric Neuro-oncology. *J Child Neurol.* 2016 Mar;31(4):506-16. PMID: 26271789 (review article).

9. **Bindra RS**, and Yahalom J. The important role of radiation therapy in early-stage diffuse large B-cell lymphoma: time to review the evidence once again. *Expert Rev Anticancer Ther.* 2011 11(9):1367-78, PMID: 21929311 (review article).

10. Powell SN and **Bindra RS**. Targeting the DNA damage response for cancer therapy. *DNA Repair (Amst)*. 2009 8(9):1153-65. PMID: 19501553 (review article).

11. Glazer PM and **Bindra RS**. Introduction: The evolving picture of the hypoxic tumor microenvironment. *Curr Mol Med*. 2009 9(4):399-400. PMID:19519396 (review article; published as special issue guest editor).

12. **Bindra RS**, Crosby ME, & Glazer PM. Regulation of DNA repair in hypoxic cancer cells. *Cancer Metastasis Rev.* 2007 26(2):249-60; Review Article. PMID: 17415527 (review article).

13. Huang LE, **Bindra RS**, Glazer PM & Harris A.L. Hypoxia-induced genetic instability-A calculated mechanism underlying tumor progression. *Journ Mol Med.* 2007 85(2):139-48. PMID: 17180667 (review article).

14. **Bindra RS** and Glazer PM. Genetic instability and the tumor microenvironment: towards the concept of microenvironment-induced mutagenesis. *Mutat Res.* 2005 569: 75-85. PMID: 15603753 (review article).

Chapters

1. **Bindra, RS** and MacDonald, SM. Chapter 67: Central Nervous System Tumors in Children. Gunderson and Tepper: *Clinical Radiation Oncology*, 5th Edition.

2. Setton J, **Bindra RS**, and Powell SN. Chapter 9: DNA Double-Strand Repair by Non-homologous End Joining and its Clinical Relevance. *DNA Repair in Cancer Therapy: Molecular Targets and Clinical Applications*. 2nd Edition, 2016.

Teaching Activities

- Graduate school course director, Path 682b: Cancer Clinical Translation (2018-present)
- Therapeutic Radiology clinical lectures, Pediatric Cancer Block
- Therapeutic Radiology clinical lectures, Adult CNS Tumors Block
- Radiobiology Lecturer (Therapeutic Radiology), various topics
- Ad hoc lectures for residents/fellows in the Departments of Pediatric Oncology, Medical Oncology, and Neurosurgery, at the Yale School of Medicine

Invited Speaking Engagements, Presentations, Symposia & Workshops Not Affiliated With Yale

International/National:

2020: *Drug and radiation therapy combinations*. Radiation Research Society Annual Meeting (RRS). Big Island, Hawaii. October 18, 2020 (scheduled)

2020: *Keynote Lecture – Symposium on exploiting abnormal DDR to treat glioma*. 2020 European Association of Neuro-Oncology Annual Meeting. Glasgow, Scotland. September, 2020 (scheduled).

2020: *Gray areas in the Gray Matter: Low Grade Glioma*. American Society of Clinical Oncology (ASCO) Annual Meeting. Chicago, IL. May 29, 2020 (scheduled).

2020: *Updates in Targeting Oncometabolite-Induced BRCAness.* Conference on the preclinical opportunities to target DNA damage response in ovarian cancer; Multicenter Italian Trials in Ovarian cancer and gynecologic malignancies (MITO) group. Venice, Italy. May 15, 2020 (scheduled).

2020: *PARPi Sensitivity in non-BRCA mutant cancers.* The PARP and DNA Damage Response Summit. Boston, MA. January 29, 2020.

2019: *Targeting DDR pathways in GBM.* First Annual Glioblastoma Drug Development Summit. Boston, MA. December 11, 2019.

2019: *An Evening with the National Brain Tumor Society (NBTS)*. NBTS Event (panelist and speaker). Boston, MA. December 4, 2019.

2019: *Radiation Oncology Keynote Speaker: CNS Malignancies*. RSNA Annual Meeting. Chicago, IL. December 2, 2019.

2019: Mismatch repair, DDR in glioma treatment resistance. SNO 2019 Annual Meeting (Education Day). Phoenix, AZ. November 21, 2019.

2019: *Exploiting unexpected metabolic vulnerabilities in adult and pediatric glioma using novel radiosensitization approaches: Bench-to-bedside at the speed of Yale Science.* International

conference on DNA damage response and beyond: from molecular responses to innovative concepts in radiation oncology. Essen, Germany. October 25, 2019.

2019: *Baseline Requirements for Novel Agents Being Considered for Brain Cancer Efficacy Trials: How does one weave these recommendations into clinical trials?* ABTC CNS Drug Penetration Workshop. Baltimore, MD. September 16, 2019.

2019: *Exploiting Oncometabolite-Induced BRCAness – On the Path from the Bench to the Bedside.* 3rd Exploring DNA Repair Pathways as Targets for Cancer Therapy Conference. Nassau, Bahamas. February 23, 2019.

2019: *Exploiting Oncometabolite-Induced DNA Repair Defects in Cancer: Bench-to-Bedside and Back.* 2nd Annual DNA Damage Response Therapeutics Summit. Boston, MA. January 29, 2019.

2019: *PPM1D Mutations Silence NAPRT Gene Expression and Confer Exquisite NAMPT Inhibitor Synthetic Lethality in Glioma.* 9th Biennial Workshop on the Clinical Translation of Epigenetics in Cancer Therapy. Litchfield Park, AZ. January 18, 2019.

2018: *Radiation Therapy: Where Do We Go From Here?* Miami Brain Tumor Symposium. Miami, FL. December 7, 2018.

2018: *Radiation Therapy of GBM in the Era of Personalized Medicine Sunrise Session: Emerging opportunities to chemo/radio-sensitize IDH1/2-mutant glioma – Stories from the bench-to-the-bedside.* Society of Neuro-oncology (SNO) Annual Meeting. New Orleans, LA. November 17, 2018.

2018: *Oncometabolites and HR Defects in Kidney Cancer.* 17th International Kidney Cancer Symposium. Miami, FL. November 2, 2018.

2018: *Lightning Strikes Twice? Defining a new era of biomarker-driven glioma chemo/radio-sensitization trials via bench-to-beside trials.* New York Roentgen Society Annual Meeting. New York, NY. October 18, 2018.

2018: *Exploiting Oncometabolite-Induced BRCAness in Glioma.* Accelerate Brain Cancer Cure (ABC2) Brain Cancer Strategy Workshop. Washington, DC. October 9, 2018.

2018: *Exploiting Oncometabolite-Induced BRCAness: Synthetic lethal monotherapies, chemo- and radio-sensitization.* Radiation Research Society Annual Meeting. Chicago, IL. September 26, 2018.

2018: *Development of mibefradil as a novel glioma radiosensitizer*: *Bench-to-bedside and back (at the speed of Yale Science.* Radiation Research Society Annual Meeting, Scholar-In-Training (SIT) day. Chicago, IL. September 22, 2018.

2018: *New Developments in RT for Glioma.* You Did What?! Controversies in Brain Tumor Management. 7th Annual Northwell Health Meeting on Stereotactic Radiosurgery. Long Island, NY. September 14, 2018.

2018: *Meet the Professor Session: Biology and Therapeutic Promise of Exploiting IDH Mutations in Gliomas.* American Society of Clinical Oncology (ASCO) Annual Meeting. Chicago, IL. June 3, 2018.

2018: *Keynote Panel Speaker: How do we translate the best science into pediatric cancer trials?* CureSearch Catapult Summit. Boston, MA. May 6, 2018.

2017: *Career Development Workshop: Development of Mibefradil as a Novel Glioma Radiosensitizer Bench-to-Bedside at the Speed of Yale Science.* American Society of Radiation Oncology (ASTRO) Annual Meeting. Boston, MA. September 26, 2017.

2017: *Pediatric CNS Educational Session: Key Molecular Features and Considerations for the Radiation Oncologist.* American Society of Radiation Oncology (ASTRO) Annual Meeting. Boston, MA. September 26, 2017.

2017: *AACR Official Press Program: Is it time to rethink the oncometabolite hypothesis?* American Association for Cancer Research (AACR) Annual Meeting. Washington, D.C., April 4, 2017.

2017: *Oncometabolites induce a BRCAness state that can be exploited with PARP inhibitors.* 2nd Exploring DNA Repair Pathways as Targets for Cancer Therapy Conference. Cancun, Mexico. March 1, 2017.

2017: *Catapult Closed–Door Prioritization Session: Academic Success Stories (Bindra Laboratory).* CureSearch Catapult Summit. Menlo Park, CA. February 26, 2017.

2017: *Translational Science Brain Cancer Subcommittee and Low Grade Glioma Working Group: BRCAness in the Brain? Exploiting an unexpected, IDH1/2-induced HR Defect in Glioma.* NRG Oncology Bi-Annual Meeting. Houston, Texas. February 10, 2017.

2016: *Pediatric CNS Educational Session: Molecular Aspects of Pediatric Brain Tumors.* American Society of Radiation Oncology (ASTRO) Annual Meeting. Boston, MA. September 27, 2016.

2015: *Pediatric CNS Educational Session: Management of Pediatric Brain Tumors.* American Society of Radiation Oncology (ASTRO) Annual Meeting. San Antonio, TX. October 18, 2015.

2015: *Molecular Signatures to Predict Radiation Response in Lymphoma: The Boom-Boom Collaborative.* International Lymphoma Radiation Oncology Group Annual Meeting. New York, NY. May 9, 2015.

2015: *Pre-Clinical Development of Novel DIPG Radiosensitizers*. DIPG Collaborative and Symposium. Chicago, IL. April 24, 2015.

2014: *Pediatric CNS Educational Session: Management of Pediatric Brain Tumors.* American Society of Radiation Oncology (ASTRO) Annual Meeting. San Francisco, CA. September 15, 2014.

2014: *Novel Tools for Cell-Based Screening with Mixed Populations of Isogenic Wild-Type and Mutant Cell Populations*. CHI World Pharma Congress meeting; User Group Scientific Symposium. Boston, MA. May 20, 2014.

2013: *Glioblastoma: The poster-child for poor local control*. Alex's Lemonade Stand Young Investigator Summit. Houston, TZ. October 22, 2013.

2013: *Scientific Session – Targeted Radiosensitizers: Summary and Highlights*. American Society of Radiation Oncology (ASTRO) Annual Meeting. Atlanta, GA. September 25, 2013.

2013: *Role of Radiation Therapy in the Treatment of Neuroblastoma.* American Society of Radiation Oncology (ASTRO) Annual Meeting. Atlanta, GA. September 21, 2013.

2013: *Molecular Signatures to Predict Radiation Response in Lymphoma: Where we've gone, where we are going, where we need to go*. International Lymphoma Radiation Oncology Group Annual Meeting. Houston, TX. April 25, 2013.

Regional:

2020: *Exploiting Unexpected NAD Metabolic Vulnerabilities in DIPG*. Neurobiology and Brain Tumor Program Seminar Series; invited visiting professor. St. Jude Children's Research Hospital. February 6, 2020.

2019: *Exploiting Metabolic Vulnerabilities in Adult and Pediatric CNS tumors.* Invited visiting professor/Grand Rounds speaker. UT Southwestern Cancer Center. Dallas, TX. June 12, 2019.

2019: *Exploiting Unexpected Metabolic Vulnerabilities in PPM1D-mutant Diffuse Intrinsic Pontine Glioma (DIPG)*. UCSF Traynor Annual Pediatric Brain Tumor Foundation Lectureship. San Francisco, CA. April 11, 2019.

2019: *Exploiting Oncometabolite-induced DNA Repair Defects in Glioma.* Invited Grand Rounds speaker. Karmanos Cancer Institute. Detroit, MI. February 7, 2019.

2018: *Exploiting Oncometabolite-Induced BRCAness: Bench-to-Bedside and Back.* Invited visiting professor/Grand Rounds speaker. University of Arkansas Medical Sciences. Little Rock, AR. October 15, 2018.

2018: *Exploiting Oncometabolite-Induced BRCAness in IDH1/2-Mutant Cancers: Bench-to-Bedside at the Speed of Yale Science*. Neurobiology and Brain Tumor Program Seminar Series; invited visiting professor. St. Jude Children's Research Hospital. May 22, 2018.

2018: *Exploiting Oncometabolite-Induced DNA Repair Defects in Glioma.* University of Alabama (UAB) Neuro-oncology Program Seminar Series; invited visiting professor. Birmingham, AL. May 10, 2018.

2018: *Novel Agents and Radiation Sensitizers.* Visiting lecturer/professor. Johns Hopkins School of Medicine. Baltimore, MD. April 9, 2018.

2017: *Exploiting Oncometabolite-Induced BRCAness: Bench-to-Bedside and Back.* MPET Visiting Professor and Seminar Series. Mayo Clinic. Rochester, MN. December 8, 2017.

2017: *Exploiting Oncometabolite-Induced HR defects.* University of California San Francisco (UCSF) Cancer Center Friday Seminar Series. UCSF, San Francisco, CA. October 13, 2017.

2017: *Exploiting Oncometabolite-Induced BRCAness: Bench-to-Bedside and Back.* Radiation Oncology Grand Rounds; invited visiting professor. Memorial Sloan-Kettering Cancer Center

(MSKCC), New York, NY. October 4, 2017.

2017: *Exploiting Oncometabolite-Induced BRCAness: Bench-to-Bedside and Back.* Special Seminar Series; invited visiting professor. New York University (NYU) Cancer Center. September 7, 2017.

2017: *Exploiting IDH-mutant induced HR defects in pediatric glioma with PARP inhibitors How Can We Translate This Directly into Patients?* Pediatric Neuro-Onc Working Group Seminar Series. Memorial Sloan-Kettering Cancer Center (MSKCC), New York, NY. June 9, 2017.

2017: *IDH1/2 mutations induce a BRCAness state that can be exploited with PARP inhibitors. Challenging the oncometabolite hypothesis…and a billion dollar drug pipeline.* Brain Tumor Biotech Summit 2017. Lenox Hill Hospital, New York, NY. June 2, 2017.

2017: *Neomorphic IDH mutations suppress homologous recombination and induce PARP inhibitor sensitivity via 2-hydroxyglutarate.* Radiation Oncology Grand Rounds. Dana-Farber Cancer Institute. Boston, MA. February 24, 2017

2016: *Bench-to-bedside and back: Development of Mibefradil as Novel Glioma Radiosensitizer.* Molecular Pharmacology & Experimental Therapeutics Seminar Series. Visiting Faculty Members. Mayo Clinic. Rochester, MN. September 30, 2016.

2016: *High-throughput screening for novel DNA repair inhibitors.* Radiation Oncology Grand Rounds and Visiting Professor. University of Pennsylvania; invited visiting professor. Philadelphia, PA. May 12, 2016.

2016: *High-throughput screening for novel DNA repair inhibitors; rapid translation from the bench to the bedside.* Elkin Lecture - Winship Cancer Institute; invited visiting professor. Emory University. Atlanta, GA. January 8, 2016.

2015: *Development of Mibefradil as a Novel GBM Radiosensitizer: Bench-to-Bedside at the Speed of Yale Science.* New England Neuro-Oncology Symposium. New Haven, CT. October 2, 2015.

2015: *High-throughput screening for novel DSB repair inhibitors*. DNA Repair and Mutagenesis Interest Group Meeting (Invited Speaker). MIT, Boston, MA. March 17, 2015.

2015: *Development of a Calcium Channel Blocker as a Novel GBM Radiosensitizer: Bench-to-Bedside at the Speed of Yale Science.* 2015 4-R Symposium: Radiation Oncology, Biology, Physics, Research. Rutgers-CINJ, New Brunswick, NJ. February 26, 2015.

2014: *Novel Tools for Cell-Based Screening with Mixed Populations of Isogenic Wild-Type and Mutant Cell Populations*. CHI World Pharma Congress meeting; User Group Scientific Symposium. Boston, MA. May 20, 2014.

2014: *High-throughput screening for novel DNA repair inhibitors: Identification and translation of a novel glioma radiosensitizer*. Rockefeller University Drug Screening Seminar Series. Rockefeller University, New York, NY. January 7, 2014.

Peer-Reviewed Presentations & Symposia Given at Meetings Not Affiliated With Yale

International/National:
(First or Senior Author Oral Presentations Only)

2019: *PPM1D mutations silence NAPRT gene expression and confer exquisite NAMPT inhibitor sensitivity in glioma*. SNO-EANO Basic and Translational Brain Tumor Research Dinner Meeting. Phoenix, Arizona. November 20, 2019,

2017: *Biological characterization of PPM1D mutations in the context of DIPG.* 4th Pediatric Neuro-Oncology Basic and Translational Research Conference. New York, NY. June 15, 2017.

2017: *Late-breaking Abstract Series: Oncometabolites induce a BRCAness state that can be exploited with PARP inhibitors.* American Association for Cancer Research (AACR) Annual Meeting. Washington, D.C., April 4, 2017.

2015: *Demonstration of differential clinical radiosensitivity based upon mutation profile in metastatic melanoma.* Annual Leksell Gamma Knife Society Meeting. Amsterdam, Netherlands. May 2016.

2014: *High-throughput RNAi screening platform identifies novel regulators of DNA double-strand break repair pathways.* American Society of Radiation Oncology (ASTRO). San Francisco, CA. September 2014.