CURRICULUM VITAE

28-SEP-2016

NAME:

Dejan P. Zecevic, B.S., PhD

ACADEMIC APPOINTMENT:

Senior Research Scientist
Department of Cellular and Molecular Physiology
Yale University School of Medicine
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DATE AND PLACE OF BIRTH:

22-AUG-1948, Belgrade, Yugoslavia

EDUCATION:

Univ. Belgrade	B.S.	1971.	Physiology
Univ. Belgrade	PhD	1981.	Neurobiology

PROFESSIONAL EXPERIENCE:

1971-75 Research Assistant, Dept. Cryobiology and Bioenergetics, Inst. Biol. Res. Belgrade, Yugoslavia.

1971-75 Teaching Assistant, International Brain Research Laboratory, Summer School, Kotor, Yugoslavia.

1971-75 Research Fellow, NSF of the Republic of Serbia

1976-77 Research Fellow, Laboratory for Neurophysiology, University of Maryland, College Park, (Fulbright Fellow with Dr Herbert Levitan).

1977-81 Lecturer, Department of Physiology, School of Biology, University of Belgrade, Yugoslavia.

1983-85 Associate Research Scientist, Department of Physiology, Yale University School of Medicine, New Haven (with Dr Lawrence Cohen).

1981-93 Research Scientist (joint appointment), Department of Cryobiology and Bioenergetics, University of Belgrade.

1982-88	Assistant Professor, Department of Physiology, School of Biology, University of Belgrade.
1989-93	Associate Professor, Department of Physiology, School of Biology, University of Belgrade.
1993-98	Associate Research Scientist, Dept. Cellular and Molecular Physiology, Yale University School of Medicine, New Haven, CT.
1999-2010	Research Scientist, Dept. Cellular and Molecular Physiology, Yale University School of Medicine, New Haven, CT.
2011-2015	Senior Research Scientist, Dept. Cellular and Molecular Physiology, Yale University School of Medicine, New Haven, CT.

PUBLICATIONS:

Research Papers:

Zecevic D. and M. Pasic (1972). Identification of the two neurons in the visceral ganglion of Adriatic sea hare. Arch. Biol. Nauka. 24:5P-6P.

Pasic M., D. Zecevic, D. Ristanovic and G. Popilijevic (1975). Effects of intermittently applied light on Helix pomatia neurons. Comp. Biochem. Physiol. 51A:71-74.

Zecevic D. and M. Pasic (1976). The biphasic synaptic potential of Helix pomatia Br neuron. Yugoslav. Physiol. Pharmacol. Acta. 12: 301-310.

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Zecevic D. and M. Pasic (1984). Temperature compensation of the threshold potential for excitation of the snail bursting neuron. Comp. Biochem. Physiol. 76A: 173-176.

Zecevic D. H. Levitan and M. Pasic (1985). Temperature acclimation: influence on transient outward and inward current in an identified neuron of Helix pomatia. J. Exp. Biol. 117: 369-388.

Shrager P., J. M. Ritchie, D. Zecevic and L. B. Cohen (1987). Optical recording of action potential propagation in demyelinated frog nerve. Biophys. J. 51: 351-355.

London J. A., D. Zecevic and L. B. Cohen (1987). Simultaneous optical recording of activity from many neurons during feeding in Navanax. J. Neurosci. 7: 649-661.

Zecevic D., C. Xiao and M. Pasic (1988). Optical recording from molluscan nervous system stained with different voltage-sensitive dyes. Yugoslav. Physiol. Pharmacol. Acta. 24: 503-504.

Zecevic D., J. W. Wu, L. B. Cohen, J. A. London, H. P. Hopp and C. Xiao-Falk (1989). Hundreds of neurons in Aplysia abdominal ganglion are active during the gill-withdrawal reflex. J. Neurosci., 9: 3681-3689.

Zecevic D. (1991). Optical recording of membrane potential changes from single neurons using intracellular voltage-sensitive dyes. Biol. Bull. 181:332-333.

Antic S. and D. Zecevic (1992). Voltage-sensitive dyes for intracellular application. Biol.Bull. 182: 273-274.

Kogan, A., W. N. Ross, D. Zecevic, and N. Lasser-Ross (1995). Optical recording from cerebellar Purkinje Cells using intracellularly injected voltage-sensitive dyes. Brain Res. 700: 235-239.

Antic S. and D. Zecevic. (1995). Optical signals from neurones with internally applied voltage-sensitive dyes. J. Neurosci., 15: 1392-1405.

Zecevic, D. (1996). Multiple spike-initiation zones in single neurons revealed by voltage-sensitive dyes. Nature. 381: 322-325.

Antic S., G. Major, W. Chen, J. Wuskel, L. Loew and D. Zecevic (1997). Fast voltage-sensitive dye recording of membrane potential changes at multiple sites on an individual nerve cell in the rat cortical slice. Biol. Bull., 193: 261.

Zecevic D. and S. Antic (1998) Fast optical measurement of membrane potential changes at multiple sites on an individual neuron. Histochemical Journal, 30: 197-216.

Antic S., G. Major, and D. Zecevic (1999). Fast optical recording of membrane potential changes from dendrites of pyramidal neurons. J. Neurophysiol. 82: 1615-1621.

Antic S. J. Wuskel, L. Loew, and D. Zecevic (2000). Functional profile of the giant metacerebral neuron of *Helix aspersa*: temporal and spatial dynamics of electrical activity *in situ*. J. Physiol. (L), 527.1:55-69.

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Djurisic, M. and Zecevic D (2005). Imaging of spiking and subthreshold activity of mitral cells with voltage-sensitive dyes. Ann. NY Acad. Sci., 1048:92-103.

Canepari M., Djurisic M. and Zecevic D (2007) Dendritic signals from rat hippocampal CA1 pyramidal neurons during coincident pre- and post-synaptic activity: a combined voltage- and calcium-imaging study. J. Physiol., 580:463-8.

Djurisic M, Popovic M, Carnevale N, Zecevic D. (2008). Functional structure of the mitral cell dendritic tuft in the rat olfactory bulb. J Neurosci. 28:4057-68.

Canepari M, Vogt K, Zecevic D. (2008) Combining Voltage and Calcium Imaging from Neuronal Dendrites. Cell Mol. Neurobiol. 28(8):1079-93.

Holthoff K, Zecevic D, Konnerth A (2010) Rapid time-course of action potentials in spines and remote dendrites of mouse visual cortical neurons. J Physiol., 558:1085-1096.

Canepari, M., Willadt, S., Zecevic D and Kaspar EV (2010) Imaging Inhibitory Synaptic Potentials Using Voltage Sensitive Dyes. Biophysical J. 98: 2032-2040.

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Popovic MA, Foust AJ, McCormick DA, Zecevic D (2011). The spatio-temporal characteristics of action potential initiation in layer 5 pyramidal neurons: a voltage imaging study. J Physiol. 589:4167-87. PMCID:PMC3180577.

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Foust, AJ, Casale AE, Zecevic, D and McCormick DA (2012). High Signal-to-Noise Ratio Voltage Imaging: A Powerful Tool for Determining Electrophysiological Properties of CNS Axons. Biomedical Optics, April 28, 2012.

Popovic M, Gao X, Zecevic D (2012). Voltage-sensitive dye recording from axons, dendrites and dendritic spines of individual neurons in brain slices. JoVE (69), e4261. PMCID:PMC2322255.

Popovic M, Gao X, Carnevale N, Zecevic D. (2014). Cortical dendritic spine heads are not electrically isolated by the spine neck from membrane potential signals in parent dendrites. Cerebral Cortex, 24: 385-395.

Ross, WN, Miyazaki K, Popovic, MA, Zecevic D. (2015) Imaging with organic indicators and high-speed charge-coupled device cameras in neurons: some applications where these classic techniques have advantages, Neurophotonics, 2(2), 0210051-7 (2015). doi:10.1117/1.NPh.2.2.021005. PMID: 26157996 (PMCID: PMC4478887)

Salzberg B, Zecevic D (2015). Pioneers in Neurophotonics: Special Section Honoring Professor Lawrence B Cohen. 2(2):021001. doi: 10.1117/1.NPh.2.2.021001 (PMID: 26157992)(PMCID: PMC4487646).

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Dover K, Marra C, Solinas S, Popovic M, Subramaniyam S, Zecevic D, D'Angelo E, Goldfarb M. (2016). FHF-independent conduction of action potentials along the leak-resistant cerebellar granule cell axon. Nat Commun.7:12895 PMID: 27666389

Other papers from my laboratory

Antic S (2003) Action potentials in basal and oblique dendrites of rat neocortical pyramidal neurons. J Physiol. 550:35-50.

Review articles:

Pasic M., D. Zecevic and D. Ristanovic (1976). Prolonged effects of electrical stimulation of the peripheral nerves on a bursting neuron in snail ganglia. In: Neurobiology of Invertebrates. Ed.: J.Salanki. Akademia Kiado, Budapest. pp. 547-560.

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London J. A., D. Zecevic and L. B. Cohen (1986). Simultaneous optical monitoring of action potentials from many neurons in invertebrate ganglia. In: Optical Methods in Cell Physiology. Ed.: P. DeWeere and B.M.Salzberg. John Wiley and Sons Inc. New York. 115-131.

London J. A., D. Zecevic, L. M. Loew, H. Orbach, A. Grinvald and L. B. Cohen (1986). Optical measurements of membrane potential in simple and complex nervous systems. In: Application of Fluorescence in the Biomedical Science. Ed.: D. L.Taylor, A. S.Wagooner, F. Lanni, R. F. Murphy and R. Birge. A. R. Liss Inc., New York. 423-447.

Cohen L. B., J. A. London, D. Zecevic, M. Cattarelli and D. Schiminovich (1986). Multi-site optical measurement of membrane potential with high time resolution. In: Imaging Function in the Nervous System: Optical Methods in Cellular Neurobiology. Ed.: B. Salzberg. Soc. Neurosci. USA. 42-61.

Ross W. N., L. B. Cohen and D. Zecevic (1987). Optical recording of neuronal activity. In: Encyclopedia of Neuroscience. Springer-Verlag. Ed.: G. Adelman. 2: 892-894.

London J. A., D. Zecevic and L. B. Cohen (1988). Simultaneous monitoring of many individual neurons in molluscan ganglia using multi-element detector system. In: Spectroscopic Membrane Probes. Ed.: L. M .Loew, CRC Press, Boca Raton, 102-114.

Zecevic D., J. Y. Wu, L. B. Cohen, J. A. London, H. P. Hopp and C. Xiao (1988). Optical recording from many neurons from the abdominal ganglion of Aplysia during the gill-withdrawal reflex. In: Optical methods in neurobiology. Ed.: H. R. Lusher & M. Rioult, European Neuroscience Association. 79-93.

Cohen L. B., A. I. Cohen, H. P. Hopp, J. A. London, D. Schiminovich, J. Y. Wu, C. Xiao and D. Zecevic (1988). Multisite optical measurement of membrane potential: methodological consideration. In: Optical Methods in Neurobiology. Ed.: H. R. Lusher and M. Rioult. Euro. Neurosci. Assoc. 1-21.

Wu J. Y., J. A. London, D. Zecevic and L. B. Cohen (1988). Optical monitoring of activity of many neurons in invertebrate ganglia during behaviour. Experientia. 44: 369-376.

Hopp, H. P., J. Y. Wu, C. Xiao, M. G. Rioult, J. A. London, D. Zecevic, and L. B. Cohen. (1989). Optical monitoring of neuron activity. In Neuromethods, Vol 9, A. A. Boulton, G. B. Baker, and C. H. Vanderwolf eds., Humana Press, Clifton, NJ.

Wu J. Y., J. A. London, D. Zecevic, L. M. Loew, H. S. Orbach, M. Cattarelli and L. B. Cohen (1989). Optical measurement of membrane potential in invertebrate ganglia and mammalian cortex. In: Cell Structure and Function by Microspectrofluorometry. Ed.: E. Kohen. Academic Press. p.329-346.

Cohen L. B., H. P. Hopp, J. Y. Wu, C. Xiao, J. A. London and D. Zecevic (1989). Optical measurement of action potential activity in invertebrate ganglia. Ann. Rev. Physiol. 51: 527-541.

Cohen L. B., J. A. London, J. Y. Wu, D. Zecevic and D. Schiminovich (1990). Optical monitoring of neuronal activity. In: Neuromethods, Vol 14, Ed.: A. A. Boulton, G. B. Baker and C. H. Wanderwolf, Humana Press, Clifton, N.J. 193-225.

Wu Y. J., C. Xiao-Falk, L. B. Cohen, Y. Tsao and D. Zecevic (1993). Optical measurement of action potential activity in invertebrate ganglia. Japanese J. Physiology, 43: 21S-29S.

Tsau Y., C. Xiao-Falk, L. B. Cohen J. Y. Wu and D. Zecevic (1993). Multi neuronal measurement of spike activity in invertebrate ganglia: complexity in a simple system. Concepts in Neuroscience, 4: 89-104.

Antic S. and D. Zecevic (1999). Imaging membrane potential changes in individual neurons. In.: Fluorescent and Luminescent Probes for Biological Activity. Ed.: W. T. Mason, Academic Press. Pp. 238-248.

Antic S. and D. Zecevic (1999). Imaging membrane potential changes with intracellular voltage-sensitive dyes. In: Imaging Neurons: A Laboratory Manual. Ed.: R. Yuste, F. Lani and A. Konnerth. Cold Spring Harbor Laboratory Press. pp 51.1-51.11.

Antic, S., Chun X. Falk, L. B. Cohen, Y.W. Lam, M. Wachowiak, D. Zecevic, and M. Zochowski, (1999), Fast Multisite Optical Measurement of Membrane Potential. Three Examples. FASEB Journal, 13: S271-S276.

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Ross, W, L. B. Cohen and D. Zecevic (1999). Optical recording of neuronal activity. In: Encyclopedia of Neuroscience, Ed.: G. Adelman and B. H. Smith. Elsevier Science B. V. pp 1542-1544.

Zecevic D., C. X. Falk, M. Djurisic, L. B. Cohen, M. R. Zachowski, S. Antic, and M. Wachowiak (2003). Imaging nervous system activity with voltage-sensitive dyes. In: Current Protocols in Neuroscience. Ed: J. Crawley, C. Gefen, R. McKay, M. Rogowski, D. Sibley, and P. Skolnick. John Wiley and Sons, New York. 6.17.1 – 6.17.29.

Djurisic, M. R., Zochowski, M., Wachowiak, M., Falk, C.X., Cohen, L.B., and Zecevic, D. (2003) Optical Monitoring of Neural Activity Using Voltage-Sensitive Dyes, In Methods In Enzymology, ed. by G. Marriott and I. Parker, 361: 423-451.

Djurisic M., Antic S., and Zecevic D. (2004) Dendritic voltage imaging. In: Imaging in Neuroscience and Development; Laboratory Manual. Ed.: R. Yuste and A. Konnerth. Cold Spring Harbor Laboratory Press. pp 457-463.

Baker BJ. Kosmidis EK. Vucinic D. Falk CX. Cohen LB. Djurisic M. Zecevic D. (2005) Imaging brain activity with voltage- and calcium-sensitive dyes. Cellular & Molecular

Neurobiology. 25(2):245-282.

Dejan Vucinic, Efstratios Kosmidis, Chun X. Falk, Lawrence B. Cohen, Leslie M. Loew, Maja Djurisic, and Dejan Zecevic (2008). Imaging Membrane Potential with Voltage-Sensitive Dyes. In Biomedical Optical Imaging, ed. by James G. Fujimoto and Daniel Farkas, Oxford University Press.

Dejan Zecevic, William Ross and Larry Cohen (2008) Optical recording of neuronal activity with voltage-sensitive dyes. Scholarpedia (www.scholarpedia.com).

Homma R, Baker BJ, Jin L, Garaschuk O, Konnerth A, Cohen LB, Bleau CX, Canepari M, Djurisic M, Zecevic D. (2009) Wide-field and two-photon imaging of brain activity with voltage- and calcium-sensitive dyes. In: Fahmeed Hyder (ed.), Dynamic Brain Imaging: Multi-Modal Methods and In Vivo Applications, Springer, vol. 489, 43-79.

Homma R, Baker BJ, Jin L, Garaschuk O, Konnerth A, Cohen LB and Zecevic D (2009). Wide-field and two-photon imaging of brain activity with voltage- and calcium-sensitive dyes. In: Phil. Trans. R. Soc. B. 364, 2453–2467

Homma R, Baker BJ, Jin L, Garaschuk O, Konnerth A, Cohen LB, Bleau CX, Canepari M, Djurisic M, Zecevic D. (2009). Wide-field and two-photon imaging of brain activity with voltage- and calcium-sensitive dyes. Methods Mol Biol. 489:43-79.

Canepari M, Popovic M, Vogt K, Holthoff k, Konnerth A, Salzberg B, Grinvald A, Antic S and Zecevic D (2010). Imaging Submillisecond Membrane Potential Changes from Individual Regions of Single Axons, Dendrites and Spines. In *Membrane Potential Imaging in the Nervous System*. Canepari M and Zecevic D (editors). Springer Neuroscience, New York.

Canepari M, Saggau P and Zecevic D (2010) Combined Voltage and Calcium Imaging and Signal Calibration. In *Membrane Potential Imaging in the Nervous System*. Canepari M and Zecevic D (editors). Springer Neuroscience, New York.

Holthoff K, Canepari M, Vogt K, Konnerth A and Zecevic D (2011) Dendritic Voltage Imaging. In: Optical Imaging in Neuroscience: A Laboratory Manual. Ed.: R. Yuste, A. Konnerth and F. Helmchen. Cold Spring Harbor Laboratory Press. pp 457-463.

Canepari M, Vogt KE, De Waard M, Zecevic D. (2013). Combining Ca2+ and membrane potential imaging in single neurons. Cold Spring Harb Protoc. 12: 1161-1164 doi:pii: pdb.prot073114. 10.1101/pdb.prot073114. PMID: 24298027

Canepari M, Zecevic D, Vogt KE, Ogden D, De Waard M. (2013). Combining calcium imaging with other optical techniques. Cold Spring Harb Protoc.12: 1125-1131 doi:pii: pdb.top066167. 10.1101/pdb.top066167. PMID: 24298025

Jaafari N, Vogt KE, Saggau P, Leslie LM, **Zecevic D**, Canepari M. (2015). Combining

Membrane Potential Imaging with Other Optical Techniques. Adv Exp Med Biol. 2015;859:103-25. doi: 10.1007/978-3-319-17641-3_4. PMID: 26238050

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SELECTED LECTURES BY INVITATION

University of Belgrade, School of Biology, Yugoslavia
University of Belgrade, Graduate School for Multidisciplinary Studies, Yugoslavia
University of Ljubljana, Ljubljana, Slovenia
Serbian Academy of Sciences, Belgrade, Yugoslavia
Institute for Marine Biology, Kotor, Yugoslavia
Institute for Biophysics, Puschino, Russia
Gordon Conference; Synaptic Transmission, New Jersey, USA
University of Connecticut, Department of Pharmacology, Farmington, USA
University of Conncticut, Department of Physiology, Farmington, USA
Columbia University, Department of Biology, New York, USA
Marine Biological Laboratory, Woods Hole, Monday night seminar series, USA
Marine Biological Laboratory, Woods Hole, Neurobiology course lecture, USA
University of Calgary, Department of Physiology, Canada
RIKEN, Brain Science Institute, Japan
Ludwig Maximilian University, Institute of Physiology, Munich, Germany
Technical Universitz of Munich, Munich, Germanz
Biozentrum, Universitzy of Basel, Switzerland
Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland.
Neuroimaging Seminar; MBL, Woods Hole

WORKSHOPS / MEETINGS ORGANIZED

Satellite workshop at the 2008 FENS Conference in Geneva, Switzerland on optical imaging with voltage-sensitive dyes (http://fens2008.neurosciences.asso.fr/pages/program.html#E