

My long-term goal is to understand the cerebellar contribution to cognitive and affective processes. In pursuit of this goal, I combine neurophysiology, pharmacology and optogenetics in animals performing behavioral tasks to dissect cerebellar neural circuitry. I study the potential for cerebellar stimulation to rescue cognitive impairments and mood in humans using EEG but also in animals with pharmacologically- and genetically-induced phenotypes of disease. My training in psychology, systems neurophysiology, and clinical psychiatry allows me to target the cerebellum for novel treatments of diseases involving cognitive and affective dysfunction.

EDUCATION

August, 2003 -
May, 2009

IOWA STATE UNIVERSITY, Ames, Iowa
Department of Biomedical Sciences
Neuroscience, PhD

Doctoral Dissertation: *"The role of cerebellar nuclear GABAergic neurotransmission in eyeblink motor control"*

August, 2000 - 2003

IOWA STATE UNIVERSITY, Ames, Iowa
Psychology, BS
Minors: Biology and French

FACULTY POSITIONS

August, 2015- Present

UNIVERSITY OF IOWA, Iowa City, Iowa
Department of Neurology
Research Assistant Professor

RESEARCH EXPERIENCE

December, 2012
- July, 2015

UNIVERSITY OF IOWA, Iowa City, Iowa
Department of Neurology
Postdoctoral Fellowship (Dr. Nandakumar Narayanan)

September, 2009 -
December, 2012

UNIVERSITY OF IOWA, Iowa City, Iowa
Department of Psychiatry
Postdoctoral Clinical Fellowship (Dr. Nancy Andreasen)

August, 2002 -
September, 2009

IOWA STATE UNIVERSITY, Ames, Iowa
Behavioral Neuroscience and Electrophysiology
Graduate Student (Dr. Vlastislav Bracha)

September, 2002 -
May, 2003

IOWA STATE UNIVERSITY, Ames, Iowa
Cognitive Neuropsychology
Undergraduate Research Assistant (Dr. Cooper)

May-August, 2002

JOHNS HOPKINS UNIVERSITY, Baltimore, Maryland
Cognitive Neuropsychology
Summer Research Internship (Dr. McCloskey)

September, 2000 -
2002

IOWA STATE UNIVERSITY, Ames, Iowa
Social Psychology
Undergraduate Research Assistant (Dr. Larson)

GRANTS

- July, 2019 - 2024 NIH/NIMH R01
"Cerebellar Circuits, Timing, Cognition"
- June, 2017 - 2022 Iowa Neuroscience Institute Accelerator Award
"Cognitive Functions of the Posterior Cerebellum"
- July, 2018 - 2019 Psychiatry Departmental Pilot Grant Funding
"The influence of chronic cerebellar stimulation on cognitive function and circuitry"
- July, 2018 - 2019 Children's Miracle Network
"Cerebellar stimulation as a novel treatment in autism"
- June, 2017 - 2022 Iowa Neuroscience Institute
"Research Program of Excellence in Cerebellum in Bipolar Disorder"
- June, 2017 - 2022 Iowa Neuroscience Institute
"Research Program of Excellence in Neuromodulation"
- March, 2016 - 2017 Nellie Ball Trust Research Grant
"Cerebellar Transcranial Stimulation for Comorbid Depression in Schizophrenia"
- July, 2015 - 2020 NIH/NIMH K01 Mentored Research Scientist Development Award
"The Therapeutic Potential of the Cerebellum in Schizophrenia"- Impact Score 12
- March, 2016 - 2017 Nellie Ball Trust Research Grant
"Cerebellar Stimulation as a Cognitive Neuroprotective Mechanism in Schizophrenia"
- March, 2015 - 2016 Nellie Ball Trust Research Grant
"Cerebellar Transcranial Stimulation as a Treatment for Cognitive Impairments in Schizophrenia"
- March, 2014 - 2015 Nellie Ball Trust Research Grant
"Cerebellar Optogenetic Stimulation Rescues Cognitive Impairments in Schizophrenia"
- August, 2014 Brain & Behavior Research Partner's Program
Partnered with the Lieber Foundation for Young Investigator Funding
- January, 2014 - 2016 NARSAD 2013 Young Investigator
"Prefrontal-Cerebellar Interactions in Schizophrenia"
- August, 2011 - 2012 Ruth L. Kirschstein National Research Service Award T32
"Major Psychoses & Clinical Neurobiology"

AWARDS

- January, 2017 Travel Award for Schizophrenia International Research Society (Declined)
- December, 2017 American College of Neuropsychopharmacology Travel Fellow

April, 2017	The University of Iowa Searle Candidate (Competitive Internal Selection)
January, 2016	Travel Fellowship for Winter Conference on Brain Research, Breckenridge, CO
February, 2016	Nellie Ball Trust Research Grant
April, 2015	National Institute of Mental Health K01 Career Development Award
February, 2015	Nellie Ball Trust Research Grant
August, 2014	NARSAD Research Partner Program – Partnered with the <i>Lieber Investigators</i>
February, 2014	Nellie Ball Trust Research Grant
February, 2013	NARSAD Young Investigator Grant
August, 2011	Travel Award for Cerebellum Conference - Gordon Research Conference
September, 2011	Ruth L. Kirschstein National Research Service Award (T32)
May, 2009	Research Excellence Award, Iowa State University
April, 2008	Graduate Student Scholarship for Neural Control of Movement Meeting
April, 2007	Travel Award for Neural Control of Movement satellite meeting

ACTIVITIES

October, 2018	Pavlovian Meeting Speaker, University of Iowa
October, 2018	Women and Learning volunteer for Pavlovian Luncheon
September, 2018	Co-organizer and speaker at Cerebellum Workshop, University of Iowa
August, 2018	Writing initiative in Neuroscience speaker, University of Iowa
April, 2018	Open Doors Conference, Panelist STEM Research Faculty Track
November, 2017	Ojemann Lecture Series Speaker
November, 2017	University of Iowa Neuroscience Research Day – Invited faculty speaker
October, 2017	Invited speaker in the lab of Dagmar Timmann, Essen, Germany
October, 2017	First Forum on Timing, Strasbourg, France
August, 2017	Developed a Cerebellar Interest Group at the University of Iowa
April, 2017	Open Doors Conference, Panelist STEM Research Faculty Track
December, 2016	Panelist American College of Neuropsychopharmacology
January, 2016	Panelist Winter Conference on Brain Research
October, 2015	Panelist at Society for Neuroscience
November, 2014	Job Search Prep Series Developer and Moderator
October, 2014	Review Editor, <i>Frontiers in Systems Neuroscience</i>
September, 2014	University of Iowa Postdoctoral Association – Professional Development
August, 2014 - 2017	Coordinator, Systems Neuroscience Journal Club
June, 2014	Cold Spring Harbor Laboratory Workshop on Schizophrenia & Related Disorders
April, 2014	Editorial Assistant to Dr. George Richerson for Elsevier's <i>Modules of Bioscience</i>
August, 2006 - 2008	President of the Neuroscience Graduate Student Organization
August, 2007 - 2008	Program Coordinator for GirLinks, an online mentoring program
August, 2006 - 2008	Preparing Future Faculty (Mentor: Dr. Smiley-Oyen)
August, 2005 - 2006	Secretary of the Neuroscience Graduate Student Organization

TEACHING EXPERIENCE

January - May, 2008	IOWA STATE UNIVERSITY , Ames, Iowa Canine Neuroanatomy <i>Graduate Teaching Assistant</i> (Dr. Uemura)
January - May, 2007	IOWA STATE UNIVERSITY , Ames, Iowa Neural Basis of Human Movement <i>Graduate Teaching Assistant</i> (Dr. Smiley-Oyen)

MENTORING

Thesis Mentor

December, 2018 – Present Parker Abbott – The University of Iowa, Neuroscience Graduate Program
 September, 2018– Present Ben De Corte – The University of Iowa, Neuroscience Graduate Program
 August, 2017 - Present Kelsey Heslin – The University of Iowa, Neuroscience Graduate Program

Rotational Students

December 2018 – Feb 2018 Jessica Lewis - The University of Iowa, Neuroscience Graduate Program
 December 2016 – Feb 2017 Parker Abbott - The University of Iowa, Neuroscience Graduate Program

Undergraduate Mentor

June, 2018 – Present Sophie Nopoulos – The University of Iowa, Undergraduate Biochemistry
 June – August, 2018 Erin Chan -
 June – August, 2018 Kaitlyn Mesa -
 June – August, 2018 Juan Vasquez -
 August, 2017 - Present Abinav Jyotis – The University of Iowa, Undergraduate Biochemistry
 July, 2014 – 2015 Aaron Nessler - The University of Iowa, Undergraduate Biomedical Engineering

Post Baccalaureate Research Training

May, 2017 – Present Jonah Heskje - Post baccalaureate
 October, 2016 – 2017 Kyle Walsh – Post baccalaureate - The University of Iowa, Medical School

Mentoring as a postdoc

July, 2014 – 2015 Johnathan Kingyon - The University of Iowa, Medical School
 June - August, 2014 Frida Teran - The University of Iowa, Medical Scientist Training Program
 August, 2013 - 2015 Eric Emmons- The University of Iowa, Neuroscience Graduate Program
 December, 2013 - 2014 Stephanie Alberico- The University of Iowa, Neuroscience Program
 January, 2015 - Present Victoria Muller Ewald - The University of Iowa, Neuroscience Program
 June - August, 2011 Oscar Dimant- The University of Iowa, MSTP SUMR Program

PUBLICATIONSIn Review

Singh, A*, Trapp, N.T*, De Corte, B., Cao, S., Kingyon, J., Boes, A.D., & Parker, K.L. Cerebellar theta-frequency transcranial pulsed stimulation increases frontal theta oscillations in patients with schizophrenia.

Role: Generated hypotheses, ran all experiments, coordinated all authors work, co-analyzed the data, and co-wrote the manuscript.

Heslin K., Walsh, K.P., Heskje, J., De Corte, B., Kim, YC., Carlson E.S., & Parker, K.L. Cerebellar D1DRexpressing neurons modulate the frontal cortex during timing tasks.

Role: Generated hypotheses, ran all experiments, coordinated all authors work, co-analyzed the data, and co-wrote the manuscript.

Heslin, K., Powers, A., Andreasen, N.C., & Parker, K.L. The cerebellum in psychosis.

Role: Co-wrote the manuscript.

Published**MyBibliography:**

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1-MWsBjOh3p55/bibliography/45677500/public/?sort=date&direction=ascending>

Walsh, K., and **Parker, K.L.** (2018). The role of the cerebellum in cognitive and affective processes. *Elsevier Reference Module in Biomedical Sciences. Elsevier.*

Role: Co-wrote the manuscript.

Emmons, E.B., De Corte, B., Kim, YC., **Parker, K.L.**, Mattell, M., and Narayanan, N.S. (2017). Rodent medial frontal control of temporal processing in the dorsomedial striatum. *Journal of Neuroscience.*

Role: Conducted part of the experiments and edited the manuscript.

Parker, K.L., Kim, Y., Kelly, R.M., Nessler, A., Andreasen, N.C., and Narayanan, N.S. (2017). Delta-frequency stimulation of cerebellar projections can compensate for schizophrenia-related medial frontal dysfunction. *Molecular Psychiatry*. 2017) 22, 647–655. PMID: 28348382

Role: Generated hypotheses, ran all experiments, coordinated all authors work, co-analyzed the data, and co-wrote the manuscript.

Emmons, E.B., Ruggiero, R.N., Kelly, R.M., **Parker, K.L.**, and Narayanan, N.S. (Requested Manuscript - 2016). Corticostriatal field potentials are modulated at ~4Hz during interval-timing tasks in rodents. *Frontiers in Biology*.

Role: Conducted part of the experiments and edited the manuscript.

Parker, K.L. Kim, Y., Alberico, S.L., Emmons, E.E., and Narayanan, N.S. (Requested Manuscript - 2016). Using optogenetics to evaluate striatal function in animal models of Parkinson's disease. *Dialogues in Clinical Neuroscience*.

Role: Co-wrote the manuscript and organized the co-authors contributions.

Parker, K.L. (Requested Manuscript - 2015). Timing tasks synchronize cerebellar and frontal ramping activity and theta oscillations: Implications for cerebellar stimulation in diseases of impaired cognition. *Frontiers in Psychiatry, Research Topic "Eyeblick Classical Conditioning in Psychiatric Conditions: Novel Uses for a Classic Paradigm*. PMID: 26834650

Role: Wrote the manuscript.

Parker, K.L., Ruggiero, R., and Narayanan, N.S. (Requested Manuscript - 2015). Infusion of D1 dopamine receptor agonist into medial frontal cortex disrupts neural correlates of interval timing. *Frontiers in Behavioral Neuroscience, Research Topic "Neural circuitry of behavioral flexibility: Dopamine and related systems"*. PMID:26617499

Role: Conducted part of the experiments and co-wrote the manuscript.

Messingham, K., Aust, S., Helfenberger, J., **Parker, K.L.**, Schultz, S., McKillip, J., Narayanan, N.S. and Fairly, J.A. (2015). Autoantibodies to Collagen XVII are Present in Parkinson's disease and Localize to Tyrosine-Hydroxylase Positive Neurons. *The Journal of Investigative Dermatology*.

Role: Provided animal brain samples for investigation of TH positive neurons.

Parker, K.L., Chen, K.H., Kingyon, J.R., Cavanagh, J.F., & Narayanan, N.S. (2015). Medial frontal ~4Hz activity in humans and rodents is attenuated in PD patients and in rodents with cortical dopamine depletion. *Journal of Neurophysiology*. PMID: 26133799

Role: Ran all rodent experiments, co-analyzed the data, and co-wrote the manuscript.

Parker, K.L., Narayanan, N.S., & Andreasen, N.C. (2014). The therapeutic potential of the cerebellum in schizophrenia. *Frontiers in Systems Neuroscience, Research Topic "Distributed networks: new outlooks on cerebellar function,"* 8:163. PMID: 25309350

Role: Generated hypotheses and wrote the manuscript.

Parker, K.L., Chen, K.H., Kingyon, J.R., Cavanagh, J.F., & Narayanan, N.S. (2014). D1-dependent 4 Hz oscillations and ramping activity in rodent medial frontal cortex during interval timing. *Journal of Neuroscience*. PMID: 25505330

Role: Ran all experiments, co-analyzed the data, and co-wrote the manuscript.

Parker, K.L., Lamichhane, D., Caetano, M.S., & Narayanan, N.S. (2013). Interval timing and executive dysfunction in Parkinson's disease. *Frontiers in Integrative Neuroscience*, 7:75. PMID: 24198770

Role: Co-wrote the manuscript.

Parker, K.L., Alberico, S.L., Miller, A.D., & Narayanan, N.S. (2013). Prefrontal D1 dopamine signaling influences temporal expectation during reaction-time performance. *Neuroscience*, 255:246-54. PMID: 24120554

Role: Ran part of the experiments and co-wrote the manuscript.

Parker, K.L., & Andreasen, N.C. (2013). The CCTCC/Cognitive Dysmetria Model of Schizophrenia: The Role of the Cerebellum. Consensus Paper: The cerebellum's role in movement and cognition. *Cerebellum*, 13(1): 151-77. PMID: 239-96631

Role: Co-generated hypotheses and wrote the manuscript.

Parker, K.L., Andreasen, N.C., Liu, D., Freeman, J.H., & O'Leary, D.S. (2013). Eyeblink conditioning in unmedicated schizophrenia: a positron emission tomography study. *Psychiatry Research – Neuroimaging*, 214(3): 402-9. PMID: 24090512

Role: Generated hypotheses, co-analyzed the data, and wrote the manuscript.

Parker, K.L., Andreasen, N.C., Liu, D., Freeman, J.H., Ponto, L.L., & O'Leary, D.S. (2012). Eyeblink conditioning in healthy controls: a positron emission tomography study. *Cerebellum*, 11(4): 946-56. PMID: 22430943

Role: Generated hypotheses, analyzed the data, and wrote the manuscript.

Parker K.L., & Bracha, V. (2009). Inactivating the middle cerebellar peduncle abolishes the expression of short-latency conditioned eyeblinks. *Brain Research*, 1303: 32-38. PMID: 19747462

Role: Jointly generated hypotheses, ran all experiments, coordinated all authors work, co-analyzed the data, and co-wrote the manuscript.

Parker K.L., Zbarska, S., Carrel, A., & Bracha, V. (2009). Blocking GABA_A receptors in interposed nuclei: effects on conditioned and unconditioned eyeblinks. *Brain Research*, 1292: 25-37. PMID: 19635470

Role: Ran all experiments, coordinated all authors work, co-analyzed the data, and co-wrote the manuscript.

Bracha, V., Zbarska, S., **Parker, K.L.,** Carrel, A., Zenitsky, G., & Bloedel, J.R. (2009). The cerebellum and eyeblink conditioning: learning versus network performance hypotheses. *Neuroscience*, 163 (3): 787-796. PMID: 19162131

Role: Provided feedback and participated in the generation of the ideas discussed in this review.

Ryan, S.B., **Detweiler, K.L.,** Holland, K.H., Hord, M. A., & Bracha, V. (2006). A long range, wide field-of-view infrared eyeblink detector. *Journal of Neuroscience Methods*, 152: 74-82. PMID: 16257057

Role: Experimentally evaluated the efficacy of the newly develop infrared sensor versus traditional methods.

PRESENTATIONS (* ORAL)

***Parker, K.L.** (October 2018). Pavlovian Meeting Speaker, University of Iowa, IA.

***Parker, K.L.** (September 2018). Cerebellum in Bipolar disorder and other neuropsychiatry diseases workshop, University of Iowa, IA.

***Parker, K.L.** (August 2018). Writing initiative in Neuroscience, University of Iowa, Iowa City, IA.

***Parker, K.L.** (November 2017). Ojemann lecture, University of Iowa, Iowa City, IA.

***Parker, K.L.** (October 2017). Universitätsklinikum Essen, Essen, Germany.

***Parker, K.L.** (October 2017). First Timing Forum, Strasbourg, France.

-
- *Parker, K.L.** (October 2017). Neuroscience Research Day – Faculty Speaker, University of Iowa, IA.
- *Parker, K.L.** (2016). The therapeutic potential of the cerebellum in schizophrenia. Psychology Brown Bag, University of Iowa, Iowa City, IA.
- *Parker, K.L.** (Panel 2016). Not Just a Relay: Dissecting Structure and Function of the Deep Cerebellar Nuclei in Cognition. Winter Conference on Brain Research, Breckenridge, CO.
- *Parker, K.L.** (Mini-symposium 2015). Internally- and memory-guided behaviors: The role of frontal cortical ensembles. Society for Neuroscience, Chicago, IL.
- Parker, K.L.** (2015). Cerebellar stimulation rescues frontal cortex dysfunction. Cerebellar Gordon Research Conference. Bates College, Lewiston, ME.
- *Parker, K.L.** (2015). Cerebellar contributions to elementary cognitive processing. University of Iowa, Department of Neurology Grand Rounds, Iowa City, Iowa.
- Parker, K.L.,** Kim, Y., Kelly, R.M., Bijanki, K.R., Andreasen, N.C., & Narayanan, N.S. (2015). A neurophysiologic basis for the therapeutic potential of cerebellar stimulation on cognition in schizophrenia. Society for Neuroscience, Chicago, IL.
- Emmons, E.B., **Parker, K.L.,** Ewald, V.A., & Narayanan, N.S. (2015). Ramping activity of neuronal ensembles in the medial frontal cortex and striatum during interval timing. Society for Neuroscience, Chicago, IL.
- Ruggiero, R.N., **Parker, K.L.,** Kingyon, J.R., Kim, Y., Cavanagh, J.F., & Narayanan, N.S. (2015). Dopamine manipulation disrupts delta/theta activity in medial frontal cortex during cognitive tasks in humans and rodents. Society for Neuroscience, Chicago, IL.
- Parker, K.L.,** & Narayanan, N.S. (2014). Cingulocerebellar interactions during interval timing. Society for Neuroscience, Washington D.C.
- Emmons, E.B., **Parker, K.L.,** & Narayanan, N.S. (2014). Medial frontal control of striatal neuronal ensembles during interval timing. Society for Neuroscience, Washington D.C.
- Parker, K.L.,** & Narayanan, N.S. (2014). Prefrontal dopamine is essential for temporal control. Midwest Postdoctoral Symposium, University of Iowa, Iowa City, IA.
- Parker, K.L.,** & Narayanan, N.S. (2013). Prefrontal dopamine is essential for temporal control. Society for Neuroscience, San Diego, CA.
- Alberico, S.L., **Parker, K.L.,** Miller, A., & Narayanan, NS. (2013). Prefrontal D1 dopamine signaling influences temporal expectation during reaction-time performance. Society for Neuroscience, San Diego, CA.
- Parker, K.L.,** Freeman, J. H., Block, R.I., Kopeppel, J.A., & O’Leary, D.S. (2011). Brain imaging of eyeblink conditioning following acute marijuana use: effects in the cerebellum. Cerebellum Gordon Research Conference, New London, NH.
- Seligman, F.F., **Parker, K.L.,** Ziebell, S.L., & Andreasen, N.C. (2011). Season of birth in relation to brain abnormalities in schizophrenia. Sumr Student University of Iowa, Iowa City, Iowa.

Parker, K.L., O'Leary, D.S., & Andreasen, N.C. (2010). Eyeblink conditioning in healthy normals recruits the bilateral cerebellum: A Positron Emission Tomography Study. Society for Neuroscience, San Diego, CA.

Detweiler, K.L., & Bracha, V. (2008). Suppression of conditioned eyeblinks following inactivation of the middle cerebellar peduncle is associated with elevated tonic firing of cerebellar nuclear neurons. Society for Neuroscience, Washington D.C.

Carrel, A.J., **Detweiler, K.L.,** Zbarska, S., Bloedel, J.R., & Bracha, V. (2008). Are the effects of blocking GABA_A neurotransmission in the cerebellar interposed nuclei restricted to the timing of conditioned responses? Society for Neuroscience, Washington D.C.

Detweiler, K.L., & Bracha, V. (2008). Paradoxical effects of blocking the middle cerebellar peduncle on cerebellar nuclear activity and conditioned eyeblinks in rabbits. Neural Control of movement, Naples, FL.

Detweiler, K.L., & Bracha, V. (2007). Paradoxical effects of blocking the middle cerebellar peduncle on cerebellar nuclear activity and conditioned eyeblinks in rabbits. Society for Neuroscience, San Diego, CA.

Detweiler, K.L., & Bracha, V. (2007). Effect of middle cerebellar peduncle inactivation on the expression of conditioned eyeblinks and on cerebellar nuclear activity. Research Day 2007, Iowa State University, Ames, IA.

Detweiler, K.L., & Bracha, V. (2006). Effect of middle cerebellar peduncle inactivation on the expression of conditioned eyeblinks and on cerebellar nuclear activity. Society for Neuroscience, Atlanta, GA.

Detweiler, K.L., Holland, E.A., Irwin, K.B., & Bracha, V. (2005). Pontine cerebellar afferents and short latency conditioned eyeblinks. Society for Neuroscience, Washington D.C., MD.

Detweiler, K.L., Irwin, K.B., & Bracha, V. (2004). Blocking chloride channels in the interposed nuclei: revealing the nuclear component of conditioned responses or unmasking unconditioned responses to the conditioned stimulus? Society for Neuroscience, San Diego, CA.

Detweiler, K.L., Irwin, K.B., & Bracha, V. (2004). Activation of cerebellar nuclei: exposure of nature or impairment of nurture? Midwest Neuroscience Conference, Chicago, IL.

Ryan, S.B., **Detweiler, K.L.,** Holland K.H., Hord M. A., & Bracha V. (2003). An amplitude-modulated infrared sensor. Society for Neuroscience, New Orleans, LA.

REFERENCES

Dr. Ted Abel

Director, Iowa Neuroscience Institute

Professor, Departments of Molecular Physiology and Biophysics, Psychiatry, and Biochemistry

Carver College of Medicine at The University of Iowa

Phone: (319) 353-4534

Email: ted-abel@uiowa.edu

Dr. James Potash

Paul W. Penningroth Professor and Chair of Psychiatry

Carver College of Medicine at The University of Iowa

Phone: (319) 356-1144

Email: james-potash@uiowa.edu

Dr. Nandakumar Narayanan

Assistant Professor, Department of Neurology

Assistant Director, Clinical Neuroscience Training Program

Aging Mind and Brain Initiative

Carver College of Medicine at The University of Iowa

Phone: (319) 353-5698

Email: nandakumar-narayanan@uiowa.edu

Dr. Nancy Andreasen

Director, Psychiatry Iowa Neuroimaging Consortium

Associate Director for Translational Technologies Iowa Institute for Clinical and Translational Science

Carver College of Medicine at The University of Iowa

Phone: (319) 356-1553

Email: nancy-andreasen@uiowa.edu

Dr. William Talman

Professor Emeritus, Department of Neurology

Carver College of Medicine at The University of Iowa

Phone: (319) 356-8750

Email: william-talman@uiowa.edu

Dr. Vlastislav Bracha

Professor, Department of Biomedical Sciences

Iowa State University

Phone: (515) 294-6278

Email: vbracha@iastate.edu

Dr. James Bloedel

Professor Emeritus, Department of Biomedical Sciences

Iowa State University

Phone: (515) 450-8580

Email: jbloedel@cvm.iastate.edu