

Audrey M. Hager, PhD

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CURRENT POSITION

Visiting Assistant Professor, Psychology Department 2019 - Present
St. Bonaventure University, St. Bonaventure, NY

EDUCATION AND TRAINING

Postdoctoral Fellow 2017 - 2018
University of Texas Health Science Center at San Antonio, San Antonio, TX
NRSA F32 Ruth L. Kirschstein Individual Postdoctoral Fellowship
Mentor: Lynette Daws, PhD

Postdoctoral Fellow 2015 - 2017
University of Texas Health Science Center at San Antonio, San Antonio, TX
NRSA T32 trainee, Training in Drug Abuse Research: Behavior and Neurobiology
Mentor: Michael J. Beckstead, PhD

Ph.D., Psychology 2015
Queen's University, Kingston, ON, Canada
Concentration: Behavioral Neuroscience
Dissertation: Potential for change: Characterizing synaptic plasticity following visual discrimination learning in adult rats.
Mentor: Hans C. Dringenberg, PhD

M.Sc., Psychology 2008
Queen's University, Kingston, ON, Canada
Concentration: Behavioral Neuroscience
Thesis: Training-induced plasticity in the visual cortex of adult rats following visual discrimination learning.
Mentor: Hans C. Dringenberg, PhD

State University of New York at Oswego, Oswego, NY
B.A. Cognitive Science, Information Science (double major) Psychology Minor 2006
Honors Thesis: Cognitive connections: Exploring cognitive similarities between persons with autism and animals.
Mentor: David Vampola

PUBLICATIONS

1. **Hager AM**, Gagolewicz PJ, Rodier S, Kuo M-C, Dumont EC and Dringenberg HC. 2015. Metaplastic up-regulation of LTP in the rat visual cortex by monocular visual training: Requirement of task mastery, hemispheric specificity, and NMDA-GluN2B involvement. *Neuroscience*, 293, 171-186. doi 10.1016/j.neuroscience.2015.02.027.

2. **Hager AM** and Dringenberg HC. 2012. Design of a noninvasive face-mask for ocular occlusion in rats and assessment in a visual discrimination paradigm. *Behavior Research Methods*, 44, 919-923. doi 10.3758/s13428-012-0219-8.
3. **Hager AM** and Dringenberg HC. 2010. Training-induced plasticity in the visual cortex of adult rats following visual discrimination learning. *Learning and Memory*, 17, 394-401. doi 10.1101/lm.1787110.
4. **Hager AM** and Dringenberg HC. 2010. Assessment of different induction protocols to elicit long-term depression (LTD) in the rat visual cortex in vivo. *Brain Research*, 1318, 33-41. doi 10.1016/j.brainres.2009.12.063.

GRANTS AWARDED

NYS Parks & Trail Partnership Grant **Hager** (Primary Writer) 01/05/2024 – 02/01/2025
 Round 9 Stewardship and Public Access Capacity Grant, *Homestead Trail DEI Expansion*. \$239,564
 awarded to Boutwell Hill Ski Club, Inc.

Keenan Grant **Hager** (PI) 6/01/2023 – 5/01/2024
 St. Bonaventure University Internal Keenan Grant, *School collaboration to train faculty in providing focus mindfulness activities in-class to promote student well-being and facilitate mental health*. \$3750

NYS Parks & Trail Partnership Grant **Hager** (Primary Writer) 08/15/2023 – 08/15/2024
 Round 8 Capacity and Organizational Effectiveness Grant, *Strategic Plan: Building the Future for CCETS, Inc.* \$68,000 awarded to CCETS, Inc., Chautauqua County Equestrian Trail System, Inc.

Mental Wellness Grant **Hager** (Program Director) 10/15/2021 – 09/01/2022
 Cattaraugus Regional Community Foundation regional award, *Mindful Wellness Program Series*. \$1075
 awarded to the Olean Meditation Center

NYS Park & Trail Partnership Grant **Hager** (Primary Writer) 05/01/2021 – 06/30/2022
 Round 6 Stewardship and Public Access Capacity Grant, *Reconnect The Boulevard Project: Critical Trail Rehabilitation*. \$64,805 awarded to CCETS Inc.

Martine Grant **Hager** (PI) 06/01/2021 – 05/30/2022
 St. Bonaventure University Internal Martine Grant, *Gen-ed science training involving cross department collaboration to focus on current issues which include diversity, ethics & technology*. \$3050

1F32DA042569-01A1 **Hager** (PI) 11/01/2017 - 08/03/2018
 Awarded the Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32), National Institute on Drug Abuse, National Institutes of Health, *Projection-specific dopaminergic neuron plasticity in the midbrain and the effects of cocaine*. \$45,682

AWARDS AND HONORS

ASPET Mentoring Network Travel Award (American Society for Pharmacology and Experimental Therapeutics) to Experimental Biology Conference	2018
National Research Service Award, Individual Postdoctoral Fellowship, F32DA042569	2017 - 2018
National Research Service Award, Institutional Research Training Grant, T32DA031115	2015 - 2017
ASPET Young Scientist Travel Award to Experimental Biology Conference	2016
Physiology Postdoctoral Travel Award, Dept. of Physiology, UT Health San Antonio	2016

Canadian Association for Neuroscience (CAN) Travel Award, CAN Conference, Quebec	2011
Hebb Student Award Runner Up for Spoken Presentation at Canadian Society for Brain, Behaviour and Cognitive Science Conference	2008
Distinguished Cognitive Science Senior Award, Oswego State University	2006
Who's Who Among Students in American Universities and Colleges	2006
Goodwin Memorial Scholarship, Oswego State University	2005
Edward Austin Sheldon Scholars Award, Oswego State University	2004, 2005

TEACHING EXPERIENCE

<p>Visiting Assistant Professor, St. Bonaventure University, St. Bonaventure NY</p> <p>Neuropsychology: Therapeutic Psychedelic Drugs, Special Topics, Psyc 420M</p> <p>Behavioral Neuroscience Senior Seminar, BNS 401</p> <p>Independent Study in Physiological Psychology, Psyc 486</p> <p>Consciousness & the Brain, Special Topics, Psyc 420X</p> <p>Physiological Psychology, Psyc 343</p> <p>Animal Behavior, Psyc 315</p> <p>Learning & Memory, Psyc 222</p> <p>Psyc Research: Methods & Statistics I, Psyc 201 Lecture & Lab</p> <p>Psyc Research: Methods & Statistics II, Psyc 202 Lab</p> <p>Intro to Biopsychology, Psyc 102</p> <p>Intro to Psychology, Psyc 101</p> <p>Intro to Biotechnology, Bio 135 w/Lab</p> <p>Fundamentals of Biology, Bio 101 Lecture & Lab</p> <p>Specializing in Biopsychology and Physiological Psychology as well as teaching Biology to non-science majors. Prepare and teach both introductory and advanced undergraduate lectures and labs incorporating in-person, online and hybrid formats. Class size ranges from 11-37 students/class, totaling 12 contact hours/week each semester. Mentor undergraduate students in applying to summer research programs, graduate school and pilot research projects related to Biopsychology and Physiology.</p>	2019 - Present
<p>Visiting Assistant Professor, St. Mary's University, San Antonio, TX</p> <p>Neurophysiology with Lab, BL 3436</p> <p>General Physiology with Lab, BL 3430</p> <p>General Biology for Majors I Lab, BL 1401</p> <p>As a full-time faculty member of the Biology Department, prepared and taught both introductory and advanced undergraduate lectures and labs. Class size ranged from 14-33 students/class, totaling 15 contact hours per week each semester. Mentored undergraduate research projects as PI of the Neurofeedback Research Lab.</p>	2018 - 2019
<p>Visiting Assistant Professor, Oswego State University of New York</p> <p>Cognition with Lab, Psy 405</p> <p>Biopsychology with Lab, Psy 403</p> <p>Biopsychology, Psy 303</p> <p>Research Methods and Experimental Design with Lab, Psy 290</p> <p>Research Seminar, Psy 490</p> <p>Practicum in Teaching, Psy 497</p> <p>Experience-Based Education Internship, Faculty Sponsor, GST 498</p> <p>As a faculty member of the Psychology Department, prepared and taught undergraduate classes</p>	2012 - 2014

and labs in smaller class settings (10-25 students/class), totaling 12-15 contact hours per week each semester. Aided in undergraduate advisement and served on departmental committees.

Teaching Fellow, Queen's University 2012
Principles of Psychology, Psyc 100

Presented material in a blended model where on-line interactive learning was supplemented with small group asynchronous discussion using Moodle to ~150 students. Facilitated online discussion groups and managed TAs. Maintained and updated online course content. Linked textbook material and course content with other teaching resources (videos, animations, at-home experiments etc.).

Teaching Fellow, Queen's University 2011
Special topics in Psychology: Neuroplasticity, Psyc 399

Prepared and presented two lectures per week to ~100 students, 1.5 hours in length each. Created three short answer quizzes, and a multiple choice/short answer final exam. Maintained and updated online course content through Moodle. Supported and advised students regarding course material.

Teaching Assistant, Queen's University 2006 - 2012
Research Problems in Behavioural Neuroscience, Psyc 371 2008, 2009, 2012
Brain and Behaviour I Spring/Summer Correspondence Course, Psyc 271 2008, 2009, 2010
Brain and Behaviour I, Psyc 271 2008
Special topics in Psychology: Neuroplasticity, Psyc 399 2007
Psychology of Crime, Psyc 348 2006

Taught lab sessions four times/week providing hands-on experience of advanced laboratory methods to students. Marked lab reports, presentations and quizzes. Answered student questions during office hours and through email. Maintained WebCT, Moodle and class html websites.

MENTORING EXPERIENCE

Mentor, PI, Summer Research Program for High School students, St. Bonaventure U. 2021 - Present
Mentor, Alumni Sharing Knowledge, SUNY Oswego 2008 - Present
Mentor, Neuroplasticity Neurofeedback Lab, St. Mary's University 2018 - 2019
ASPET Mentoring Network: Coaching for career development program 2018 - 2019
Advised and mentored TA's, SUNY Oswego 2012 - 2014
Advised and mentored TA's, Queen's University 2011 - 2012

PROFESSIONAL MEMBERSHIPS

American Society for Pharmacology and Experimental Therapeutics 2015 - 2023
Society for Neuroscience member 2007 - 2023
Omicron Delta Kappa - National Leadership Honor Society 2005 - Present
Phi Kappa Phi - National Honor Society Member 2005 - Present
Canadian Association for Neuroscience student member 2011 - 2012
Canadian Society for Brain, Behaviour and Cognitive Science student member 2008 - 2012
Let's Talk Science Volunteer and Coordinator, Queen's University 2006 - 2012

INVITED PRESENTATIONS

Hager AM. 2017. Methamphetamine self-administration in mice results in pharmacological adaptations in dendrodendritic dopamine neurotransmission. Department of Pharmacology Seminar Series, UT Health San Antonio, San Antonio, TX.

Hager AM. 2015. Potential for change: Characterizing synaptic plasticity following visual discrimination learning in adult rats. UT Health San Antonio, San Antonio, TX.

CHAired SYMPOSIA

Hager AM. 2012. Chair of Symposium: Learning, Memory & Plasticity, A Systems Level Approach. Canadian Society for Brain, Behaviour and Cognitive Science Conference, Kingston, ON.

ORAL PRESENTATIONS

National/International Meetings

Hager AM, Dominguez-Lopez S, Sharma R, Wickman K, Beckstead MJ. 2017. Cocaine effects on dopamine neurons in mice are reduced by deletion of GIRK2 channels specifically in dopamine neurons and with cocaine self-administration experience. Brain, Behavior and Chemistry: Translational Research in Addiction Conference, San Antonio, TX.

Hager AM and Dringenberg HC. 2012. NR2B-subunit dependent plasticity enhancement in the trained hemisphere of adult rats following monocular visual discrimination learning. Canadian Society for Brain, Behaviour and Cognitive Science Conference, Kingston, ON.

Hager AM and Dringenberg, HC. 2010. The elasticity of plasticity in V1 following visual discrimination training, Part I. Canadian Spring Conference for Behaviour and Brain, Fernie, BC.

Hager AM and Dringenberg, HC. 2008. Training-induced plasticity in the visual cortex of adult rats following visual discrimination learning. Canadian Society for Brain, Behaviour and Cognitive Science Conference, London, ON.

Local/Regional Meetings

Hager AM. 2006. Cognitive connections: Exploring cognitive similarities between persons with autism and animals. Honors thesis presented at the Quest Lecture Symposium, State University of New York at Oswego.

POSTER PRESENTATIONS

National/International Meetings

Hager AM, Daws LC, Ananthan S, Beckstead MJ. 2018. Dopamine transporter allosteric modulator SRI-32743 alters the effects of cocaine on dopamine neurotransmission in adult mice. Experimental Biology, San Diego, CA.

Hager AM, Daws LC, Ananthan S, Beckstead MJ. 2018. Dopamine transporter allosteric modulator SRI-32743 alters the effects of cocaine on dopamine neurotransmission in adult mice. Brain, Behavior and Chemistry: Translational Research in Addiction Conference, San Antonio, TX.

Hager AM, Dominguez-Lopez S, Branch SY, Beckstead MJ. 2017. Interactions between methamphetamine and cocaine on dopamine neuron synaptic current following self-administration experience. Society for Neuroscience Conference, Washington D.C.

Hager AM, Dominguez-Lopez S, Wickman K, Beckstead MJ. 2016. Cocaine effects on dopamine neurons in mice are reduced by deletion of GIRK2 channels specifically in dopamine neurons and with cocaine self-administration experience. Society for Neuroscience Conference, San Diego, CA.

Hager AM, Branch SY, Dominguez-Lopez S, Sharpe AL and Beckstead MJ. 2016. Methamphetamine self-administration in mice results in both pre and postsynaptic changes in dendritic dopamine neurotransmission in midbrain dopaminergic neurons. Experimental Biology, San Diego, CA.

Hager AM, Branch SY, Dominguez-Lopez S, Sharpe AL and Beckstead MJ. 2016. Methamphetamine self-administration in mice results in both pre and postsynaptic changes in dendritic dopamine neurotransmission in midbrain dopaminergic neurons. Brain, Behavior and Chemistry: Translational Research in Addiction Conference, San Antonio, TX.

Hager AM and Dringenberg HC. 2012. Role of thalamic vs. cortical NMDA receptors in LTP in the primary visual cortex: Shift to a cortical mechanism by visual discrimination training of adult rats. Society for Neuroscience, New Orleans, LA.

Hager AM and Dringenberg, HC. 2011. Selective plasticity enhancement in the trained hemisphere following monocular visual discrimination learning in rats. The Canadian Association for Neuroscience Meeting, Quebec City, QC.

Hager AM and Dringenberg, HC. 2008. Facilitation of evoked potentials and LTP in V1 following visual discrimination training. Society for Neuroscience Conference, Washington, D.C.

Local/Regional Meetings

Hager AM, Dominguez-Lopez S, Branch SY, Beckstead MJ. 2017. Interactions between methamphetamine and cocaine on dopamine neuron synaptic current following self-administration experience. San Antonio Postdoctoral Research Forum, San Antonio, TX.

Hager AM, Newman AH and Beckstead MJ. 2016. Atypical dopamine transporter inhibitors decrease dopamine neuron activity and attenuate the cellular effects of cocaine. UT Health San Antonio Physiology Graduate Student Symposium, San Antonio, TX.

Beaudette S and **Hager AM**. 2012. Pre-service teacher attitudes towards science. Community Outreach Centre Research Day, Kingston, ON.

REVIEWER FOR THE JOURNAL

Ad hoc reviewer, Genes, Brain and Behavior

2017

CERTIFICATION AND CONTINUED TRAINING

Center for Attention, Learning & Memory Workshops, St. Bonaventure University

2019 - Present

Summer Faculty Institute on Learning Technologies, St. Mary's University

2019

Successful Starts Workshop: Evidence-based tools for teaching and research at undergraduate STEM programs, Trinity University

2018

University Teaching Excellence Course, UT Health San Antonio	2017
Enter Mentoring Workshop participant, UT Health San Antonio	2017
Teaching and Learning: Foundations Certificate, Program in University Teaching and Learning, Queen's University Centre for Teaching and Learning	2010
Conflict Resolution Training, Interpersonal Mediation, provided by St. Stephen's Community House, Toronto, ON	2008, 2009
TA Day Participation, Queen's University Queen's University Centre for Teaching and Learning	2006 - 2008, 2011

LEADERSHIP & PROFESSIONAL SERVICE

Featured Presenter in documentary "Tradition, Trauma, & Tenderness" selected for 3 international film festivals. Provide neuroscience perspective on trauma and neuroplasticity	2023 - Present
DEIA committee member, Olean Meditation Center, Olean, NY	2023 - Present
Program Director, "Mindful Wellness Program", Olean Meditation Center, Olean NY	2021 - Present
Organizing Committee, "Women in Science Panel Discussion", Brain, Behavior and Chemistry: Translational Research in Addiction Conference, San Antonio, TX	2018
Chair of Professional Development, UT Health San Antonio Postdoc Association	2017 - 2018
Organizing Committee, San Antonio Postdoctoral Research Forum	2016 - 2018
Member, Women in Science: Development, Outreach and Mentoring, UT Health	2017 - 2018
President, Association of Graduate Students in Psychology, Queen's University	2008 - 2010
Vice President, Association of Graduate Students in Psychology, Queen's University	2007 - 2008
Student Representative, Cognitive Science Board of Directors, SUNY Oswego	2005 - 2006
Treasurer, Women in Computing, SUNY Oswego	2005 - 2006
Secretary, American Society for Information Science & Technology, SUNY Oswego	2004 - 2005

VOLUNTEER EXPERIENCE

Facilitator, Mindfulness Meditation, St. Bonaventure University	2020 - present
Grant writer for non-profit Chautauqua County Multi-Use Trail System	2020 - present
Workshop presenter, "Adolescent Alcohol Use", Voelcker Biosciences Teacher Academy Spring Conference for K-12 teachers	2018
Workshop presenter, "The Teenage Brain", Voelcker Biosciences Teacher Academy Spring Conference for K-12 teachers	2017
Workshop facilitator, Voelcker Biosciences Teacher Academy Spring Conference	2016
Booth exhibitor, Science Fiesta at the Witte Museum, San Antonio, TX	2017
Volunteer, ASPET Day of Service, San Diego, CA	2016, 2018
Facilitator, Zazen Meditation Sitzings, SUNY Oswego	2013 - 2014
Science Fair Judge, Genius Olympiad International Science Fair, Oswego, NY	2013 - 2014
Coordinator, Let's Talk Science Outreach Program, Queen's University	2010 - 2012
Science Fair Judge, Frontenac, Lennox and Addington Science Fair, Kingston, ON	2008 - 2012

OTHER INTERESTS

Mindfulness and zazen meditation for relaxation, stress reduction and positive mental health.
Horseback riding and equine training with emphasis on the relationship between horse and rider.
Running and endurance related sports: marathon, trail running and endurance horseback riding.