

Jessica A. Gorski

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Education

Doctor of Philosophy, Department of Molecular, Cellular and Developmental Biology

University of Colorado, Boulder, Colorado 1994-2001

Doctoral thesis: Characterization of Forebrain-Specific Brain Derived Neurotrophic Factor Mice

Bachelor of Science, Departments of Biochemistry and Molecular Biology

University of Wisconsin, Madison, Wisconsin 1989-1994

Awards and Fellowships

2008-2010	Butcher Seed Grant (co-authored with KR Jones and AE Palmer)
2003-2006	American Heart Association Postdoctoral Fellowship
1995-1997	Colorado Institute for Research and Biotechnology Predoctoral Fellowship
1992-1993	Mary Shine Peterson Award for Undergraduate Research in Biochemistry

Teaching Experience

Instructor of Record

Principles of Genetics MCDB2150 Three-credit introductory molecular biology course geared for MCDB majors.	CU Boulder	01/16-05/16 (10 students)
Introduction to Cell and Molecular Biology MCDB1150 Three-credit introductory molecular biology course geared for MCDB majors.	CU Boulder	08/15-09/16 (18-19 students)
Introductory Biology EBIO1210/1220 Fifteen sections of a three-credit introductory biology course.	CU Boulder	08/13-09/16 (15X ~17 students)
Global Health Senior Seminar IAFS4500 Senior three-credit capstone course in diverse topics in global health.	CU Boulder	01/14-05/14 (12 students)
Behavioral Neuroscience PSYC4054 Three-credit critical thinking course studying a wide range of neuroscience topics.	UC Denver	08/13-12/13 (15 students)
Hormones and Behavior PSYC3263 Three-credit course with focus on the role of hormones in human behavior.	UC Denver	01/13-04/13 (32 students)
Introduction to Neuroscience Laboratory NS261 One credit neuroscience laboratory emphasizing experiential learning.	Regis College	01/13-04/13 (24 students)
Biological Basis of Behavior PSYC2220 Three-credit course with focus on understanding human behavior through emphasis on structure and function of the nervous system. (~100 students)	UC Denver	01/13-04/13 08/12-12/12 08/11-12/11
Introduction to Neuroscience NS260 Three-credit course with focus on understanding human behavior through emphasis on structure and function of the nervous system.	Regis College	01/13-04/13 08/12-12/12 (12-25 students)
Developmental Biology BZ311 Four-credit course using genetics, molecular, and cell biology to understand mammalian development and human health.	CSU Ft. Collins	06/10-08/10 06/09-08/09 (35-45 students)
General Biology for Majors BIO1080 Three-credit course for pre-nursing and nutrition students.	MSC Denver	01/10-05/10 (24 students)

Other Teaching Positions

HHMI Biological Sciences Initiative Program Member Led over 50 classroom hours of inquiry-based K-12 classroom presentations.	CU Boulder	09/00-05/01
Student Academic Services Center tutor Tutored small groups in genetics and cellular, developmental, and molecular biology.	CU Boulder	09/97-06/98
Teaching Assistant Developmental Biology MCDB 4660 Coordinated course laboratory and lecture and developed an independent class project.	CU Boulder	01/97-06/97

Consultations on Teaching

Served as lead coordinator for the Graduate Teacher Program. Helped five Graduate Students develop discipline-specific pedagogy workshops. Participated in development of pedagogy course for interdisciplinary science. Conducted 15 one-on-one video consultations of classroom teaching. Led workshops on the Scholarship of Teaching and Learning. Led workshops on reading scientific journals and giving presentations.	CU Boulder	09/09-05/10
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Teacher Training

Participated in National Academies Mountain West Summer Institute on Undergraduate Education in Biology Weekend intensive workshop reviewing implementation of new teaching practices	Evergreen State College	01/0/16
Participated in Conference on Case Study Teaching in Science 2 day workshop to develop case studies and POGIL activities for biochemistry, genetics and ecology content	SUNY Buffalo	09/15-09/15
Participated in National Academies Mountain West Summer Institute on Undergraduate Education in Biology Weeklong intensive workshop on developing scientific teaching practices	CU Boulder	06/15-06/15
Participated in FTEP, ASSETT and RAP workshops Topics included: Flipping the classroom and Teaching using the Socratic method, use of clickers in small classes and devising writing assignments	CU Boulder	04/15-09/16
Participated in over 20 Graduate Teacher Program Workshops Topics included: effective assessments, student engagement strategies, classroom management, teaching to diversity, group learning, etc.	CU Boulder	09/09-05/10
Participated in Discipline-Based Educational Research Seminars Discussion topics included: student attitudes about learning, use of pre- and post-tests, technology in the classroom, developing formative assessments, etc.	CU Boulder	09/09-05/10
Audited Teaching Through Technology Online Course Developed Just in Time Teaching, Wikis, and blogs to support student learning.	UW, Madison	01/10-05/10
Audited Teaching and Learning MCDB 5650 Developed strategies for active learning and effective assessments.	CU Boulder	08/07-12/07
Participated in Curzan and Damour Teacher Workshop Analyzed presentation style and increased interactive learning in large groups.	UC Denver	09/05
Undergraduate Student Research Mentor Mentored four honors research students, six independent study students, and four summer internship students.	CU Boulder	08/98-06/09

Research Experience

- Research Associate with Professor Mark Dell'Acqua** CU Denver **05/10-05/14**
Performed biochemical and behavioral characterization of mice carrying targeted mutations of AKAP5, which encodes a synaptic scaffolding protein.
- Research Associate with Associate Professor Kevin Jones** CU Boulder **11/06-05/09**
Performed biochemical characterization of forebrain-restricted Brain Derived Neurotrophic Factor mice.
- Postdoctoral Fellow with Associate Professor Mark Dell'Acqua** CU Denver **07/01-11/06**
Studied the targeting of signaling scaffolding proteins in neurons and epithelial cells.
- Graduate Student with Assistant Professor Kevin Jones** CU Denver **09/94-06/01**
Studied the cellular, anatomical and behavioral role of Brain Derived Neurotrophic Factor in the mouse central nervous system.
- Summer Intern with Dr. Guy Vigers** **06/97-08/97**
Amgen, Boulder, CO
Performed protein crystallization for X-ray crystallography.
- Independent Student with Professor Anthony Durston** **09/93-06/94**
Dutch Institute for Developmental Biology, Utrecht, The Netherlands
Studied homeobox gene expression in axis patterning of *Xenopus Laevis*.

Publications

- Sanderson JL, **Gorski JA**, Dell'Acqua ML (2016) NMDA Receptor-Dependent LTD Requires Transient Synaptic Incorporation of Ca²⁺-Permeable AMPARs Mediated by AKAP150-Anchored PKA and Calcineurin. *Neuron* 89:1000-1015
- Murphy JG, Sanderson JL, **Gorski JA**, Scott JD, Catterall WA, Sather WA, Dell'Acqua ML. (2014) AKAP-anchored PKA maintains neuronal L-type calcium channel activity and NFAT transcriptional signaling. *Cell Rep.* 7:1577-88
- Sanderson JL, **Gorski JA**, Gibson ES, Lam P, Freund RK, Chick WS, Dell'Acqua ML (2012) AKAP150-Anchored Calcineurin Regulates Synaptic Plasticity by Limiting Synaptic Incorporation of Ca²⁺-Permeable AMPA Receptors *J Neurosci* 32:15036-52
- Vigers AJ, Amin DS, Talley-Farnham T, **Gorski JA**, Xu B, Jones KR. (2012) Sustained expression of brain-derived neurotrophic factor is required for maintenance of dendritic spines and normal behavior. *Neuroscience* 212:1-18.
- Dittmer PJ, Miranda JG, **Gorski JA**, Palmer AE. (2009) Genetically encoded sensors to elucidate spatial distribution of cellular zinc *J Biol Chem* 284:16289-16297.
- Berger J, Berger S, Tuoc TC, D'Amelio M, Cecconi F, **Gorski JA**, Jones KR, Gruss P, Stoykova A. (2007) Conditional activation of Pax6 in the developing cortex of transgenic mice causes progenitor apoptosis. *Development* 134:1311-22.
- Willaime-Morawek S, Seaberg RM, Batista C, Labbé E, Attisano L, **Gorski JA**, Jones KR, Kam A, Morshead CM, van der Kooy D. (2006) Embryonic cortical neural stem cells migrate ventrally and persist as postnatal striatal stem cells. *J Cell Biol* 175:159-68.
- Dell'Acqua ML, Smith KE, **Gorski JA**, Horne EA, Gibson ES, Gomez LL. (2006) Regulation of Neuronal PKA Signaling through AKAP Targeting Dynamics. *Eur J Cell Biol* 85:627-33
- Smith, KE, **Gorski, JA**, Dell'Acqua, ML (2005) Regulation of AMPA receptor activity by associated proteins. *Cellscience Reviews* 2:156-168.

Jessica A. Gorski

- Gorski JA**, Gomez LL, Scott JD, Dell'Acqua ML. (2005) Association of an AKAP Signaling Scaffold with Cadherin Adhesion Molecules in Neurons and Epithelial Cells. *Mol Biol Cell* 16:3574-3590
- Depaepe V, Suarez-Gonzalez N, Dufour A, Passante L, **Gorski JA**, Jones KR, Ledent C, Vanderhaeghen P. (2005) Ephrin/Eph Signaling Controls Brain Size by Regulating Apoptosis of Neural Progenitors. *Nature* 435:1244-1250.
- Liu G, Beggs H, Jurgensen C, Park HT, Tang H, **Gorski J**, Jones KR, Reichardt LF, Wu J, Rao Y. (2004) Netrin requires focal adhesion kinase and Src family kinases for axon outgrowth and attraction. *Nat Neurosci* 7:1222-1232.
- Baquet ZC, **Gorski JA**, Jones KR. (2004) Early striatal dendrite deficits followed by neuron loss with advanced age in the absence of anterograde cortical brain-derived neurotrophic factor. *J Neurosci* 24: 4250-4258.
- Li HS, Wang D, Shen Q, Schonemann MD, **Gorski JA**, Jones KR, Temple S, Jan LY, Jan YN. (2003) Inactivation of Numb and Numbl like in embryonic dorsal forebrain impairs neurogenesis and disrupts cortical morphogenesis. *Neuron* 40:1105-1118.
- Beggs HE, Schahin-Reed D, Zang K, Goebbels S, Nave KA, **Gorski JA**, Jones KR, Sretavan D, Reichardt LF. (2003) FAK deficiency in cells contributing to the basal lamina results in cortical abnormalities resembling congenital muscular dystrophies. *Neuron* 40:501-514.
- Gorski JA***, Balogh SA*, Whener JM, Jones KR. (2003) Learning deficits in forebrain-restricted brain-derived neurotrophic factor mutant mice. *Neuroscience* 121:341-354.
- Gorski JA**, Zeiler SR, Tamowski S, Jones KR. (2003) BDNF is required for the maintenance of cortical dendrites. *J Neurosci* 23:6856-6865.
- Gorski JA**, Talley T, Qui M, Puelles L, Rubenstein JL, Jones KR. (2002) Cortical excitatory neurons and glia, but not GABAergic neurons, are produced in the Emx1-expressing lineage. *J Neurosci* 22:6309-6314.
- Gorski JA**, Jones KR. (1999) Efficient bicistronic expression of *cre* in mammalian cells. *Nucleic Acids Research* 27:2059-2061.
- Ciesiolka J, **Gorski J**, Yarus M. (1995) Selection of an RNA domain that binds Zn²⁺. *RNA* 1:538-550.
- Maslanka K, Piatek T, **Gorski J**, Yassai M, Gorski J (1995) Molecular analysis of T cell repertoires. Spectratypes generated by multiplex polymerase chain reaction and evaluated by radioactivity or fluorescence. *Hum Immunol* 44:28-34.

Scientific Engagement

- Co-President of Postdoctoral Association of Colorado in Denver and Boulder
- Judge for graduate student posters at Front Range Neuroscience Meeting and undergraduate posters at McNair Scholars Research Symposium and Regis College Research Methods Symposium.
- Led training seminars for Bioscience Undergraduate Research Skills and Training (BURST) and Undergraduate Research Opportunities Program (UROP) through Biological Sciences Initiative.
- Led a full-day workshop for High School Teachers through Biological Sciences Initiative. Boulder, CO

Scientific Memberships

- Front Range Neuroscience Group
American Society for Cell Biology
Society for Neuroscience