

## Colleen L. Schneider

Concepts Actions and Objects Lab  
Dept. of Brain and Cognitive Sciences  
University of Rochester  
Carnegie Mellon University

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### EDUCATION

**University of Rochester**, Rochester, NY, Aug 2013 – Present  
Medical Scientist Training Program – MD PhD anticipated 2022  
**Colgate University**, Hamilton, NY, May 2011.  
Bachelor of Arts, Summa Cum Laude; GPA: 3.91/4.00; Rank 7/698.  
High Honors in Cellular Neuroscience; minor in French.  
**Wells College**, Study abroad in Dakar, Senegal, Spring 2010.

### RESEARCH EXPERIENCE

*PhD Candidate*, **Univ. of Rochester**, B.Z. Mahon Lab, Dept. of Brain and Cog. Sci., Rochester, NY  
Aug 2015 – Present.

Researching cortical plasticity after primary visual cortex deafferentation or damage in patients.

*Research Technician*, **Mass. Inst. of Tech.**, Y. Lin Lab, McGovern Inst. for Brain Res., Cambridge, MA  
June 2011 – June 2013.

Co-developed and utilized molecular tools to identify and manipulate neuronal populations altered by memory formation.

*Senior Honors Thesis*, **Colgate Univ.**, J. Yoshino Lab, Hamilton, NY  
Sept 2010 – June 2011.

Designed and implemented experiments to research how acetate supplementation affects Multiple Sclerosis disease progression in an animal model.

*Summer Research Assistant*, **Univ. of Colo.**, W. B. Macklin Lab, Cell and Dev. Bio. Dept., Aurora, CO  
Summer 2010.

Investigated the effects of retinoic acid on oligodendrocyte development in zebrafish.

*Summer Research Assistant*, **Cleveland Clinic**, B. D. Trapp Lab, Neurosci. Dept., Cleveland, OH  
Summer 2009.

Performed histological analysis of brain tissue to correlate Multiple Sclerosis lesions with MRI.

### PUBLICATIONS

**Schneider CL**, Prentiss EK, Busza A, Matmati K, Matmati N, Williams ZR, Sahin B, Mahon BZ. (2019). Survival of Retinal Ganglion Cells After Damage of the Occipital Lobe in Humans is Activity-Dependent. *Proceedings of the Royal Society B*.

Busza A, **Schneider CL**, Williams ZR, Mahon BZ, Sahin B (2019). Using vision to study post-stroke recovery and test hypotheses about neurorehabilitation. *Neurorehabilitation and Neural Repair*: 33(2); 87-95.

Prentiss EK\*, **Schneider CL\***, Williams ZR, Sahin B, Mahon BZ. (2018). Spontaneous in-flight accommodation of hand orientation to unseen grasp targets: a case of action blindsight. *Cognitive Neuropsychology*: 35(7): 343-351. \*denotes co-first authors

**Schneider CL**, Prentiss E, Busza A, Williams Z, Sahin B, Mahon BZ. (2017). Do areas of retinal ganglion cell degeneration coincide with areas of decreased representation in V1 following stroke? *Journal of Vision*: 17(7).

Sorensen AT, Cooper YA, Ramamoorthi K, Young A, LaVerriere E, Fropf R, Baratta MV, Weng F, Zhang Y, **Schneider C**, Gotzsche CR, Hemberg M, Maier S, Yin JCP, Lin Y. (2016). A Robust Activity Marking System for Exploring Active Neuronal Ensembles. *eLife* 5:e13918.

Chen J, Easley K, **Schneider C**, Nakamura K, Kidd G, Chang A, Staugaitis SM, Fox RJ, Fisher EJ, Arnold DL, Trapp BD. (2013). Clinically feasible MTR is sensitive to cortical demyelination in MS. *Neurology*: 80; 246-252.

#### MANUSCRIPTS IN PREPARATION

**Schneider CL**, Sahin B, Mahon BZ (in prep). Selective Serotonin Reuptake Inhibitors Enhance Post-Stroke Recovery by Reinstating Juvenile-Like Experience-Dependent Plasticity.

**Schneider CL**, Prentiss E, Williams ZR, Busza A, Matmati K, Matmati N, Sahin B, Mahon BZ. (in prep) Neurovascular and Neuroplastic Contributions to Spontaneous Visual Recovery After Stroke.

#### RESEARCH TALKS

**Schneider CL**, Prentiss EK, Busza A, Matmati K, Matmati N, Williams, ZR, Sahin B, Mahon BZ. (2018). Survival of Retinal Ganglion Cells After Damage of the Occipital Lobe in Humans is Activity-Dependent. Fall Vision Meeting, Reno, NV.

**Schneider CL**, Prentiss EK, Busza A, Matmati K, Matmati N, Williams, ZR, Sahin B, Mahon BZ. (2018). Survival of Retinal Ganglion Cells After Damage of the Occipital Lobe in Humans is Activity-Dependent. University of Rochester MSTP Annual Retreat, University of Rochester, NY.

**Schneider CL**, Prentiss EK, Busza A, Matmati K, Matmati N, Williams, ZR, Sahin B, Mahon BZ. (2018). Survival of Retinal Ganglion Cells After Damage of the Occipital Lobe in Humans is Activity-Dependent. Department of Brain and Cognitive Sciences Lunch Talk Series, University of Rochester, NY.

#### POSTERS

**Schneider CL**, Busza A, Prentiss EK, Williams ZR, Mahon BZ, Sahin B. (2019) Fluoxetine May Enhance Visual Recovery After Acute Ischemic Stroke by Cortical Remapping of the Blind Visual Field. International Stroke Conference, Honolulu, HI.

**Schneider CL**, Prentiss EK, Busza A, Matmati K, Matmati N, Williams, ZR, Sahin B, Mahon BZ. (2018). Survival of Retinal Ganglion Cells After Damage of the Occipital Lobe in Humans is Activity-Dependent. MD PhD National Student Conference, Keystone, CO.

**Schneider CL**, Prentiss EK, Williams ZR, Sahin B, Mahon BZ (2018). Neuroplastic and neurovascular contributions to visual recovery in post-stroke cortical blindness. Cognitive Neuroscience Society, Boston, MA.

**Schneider CL**, Prentiss EK, Williams ZR, Sahin B, Mahon BZ (2017). Trans-synaptic retrograde retinal ganglion cell degeneration after stroke coincides with the stable blind field and with areas of decreased representation in V1. Society for Neuroscience, Washington, D.C.

**Schneider CL**, Prentiss E, Williams ZR, Sahin B, Mahon BZ (2017). Trans-synaptic retrograde retinal ganglion cell degeneration after stroke coincides with the stable blind field and with areas of decreased representation in V1. APSA Northeast Regional Meeting, Rochester, NY.

**Schneider CL**, Prentiss E, Busza A, Williams ZR, Sahin B, Mahon BZ (2017). A Case of Visual Cortex Remapping and Restored Neurovascular Coupling Supporting Spontaneous Visual Recovery After Stroke. University of Rochester Medical Scientist Research Symposium, Rochester, NY.

**Schneider CL**, Prentiss E, Williams ZR, Busza A, Sahin B, Mahon BZ. (2016). Do Areas of Retinal Ganglion Cell Degeneration Coincide with Areas of Decreased Representation in Visual Cortex Following Stroke? Optical Society of America Fall Vision Meeting, Rochester, NY.

**Schneider CL**, Prentiss E, Williams ZR, Busza A, Sahin B, Mahon BZ. (2016). Do Areas of Retinal Ganglion Cell Degeneration Coincide with Areas of Decreased Representation in Visual Cortex Following Stroke? American Physician Scientist Association Northeast Regional Meeting, Buffalo, NY.

Prentiss E, Chen Q, **Schneider C**, Mahon BZ (2016). The Role of the Parvocellular Visual Pathway in Fast Visuomotor Updating. The Cognitive Neuroscience Society Annual Meeting, New York, NY.

**Schneider CL**, Williams ZR, Busza A, Sahin B, Mahon BZ (2016). Visual Improvement and Changes in Visual Cortex Activity: A Pilot with Two Stroke Patients. University of Rochester Medical Scientist Research Symposium, Rochester, NY.

### HONORS AND AWARDS

**National Research Service Award (NRSA) for predoctoral fellowships (F30EY027988).**

Neurovascular and Neuroplastic Contributions to Visual Recovery After Stroke. Oct. 2018.

**Summer Workshop on the Dynamic Brain Fellowship.** Allen Institute for Brain Science, Summer 2017.

**Class of 1997 Award** for academic rigor and multi-faceted campus leadership: Spring 2011.

**William E. and Nellie K. Edmonston Neuroscience Award** for academic excellence, outstanding intellectual curiosity, and dedication to the field of neuroscience: Spring 2011.

**Phi Beta Kappa** National Honor Society: elected Fall 2010.

**Charles A. Dana Scholar** for superior academic achievement and demonstrated leadership: selected Spring 2010, 2011.

**Beta Beta Beta** National Biological Honor's Society: inducted Fall 2010.

**Konosioni Senior Honor Society:** inducted Spring 2010.

**Phi Eta Sigma** First Year Honor Society: inducted Fall 2008.

**Dean's Honor Roll:** all semesters.

### TEACHING AND LEADERSHIP EXPERIENCE

*Teaching Assistant, U of R*

Professional Development, Small Group Facilitator, Aug 2016.

Mind Brain and Behavior, Neuroanatomy Lab Tutor, Aug 2016, 2017.

Skills in Complete Patient Evaluation, Lecturer, Jan 2017, 2018.

Molecules to Cells, Problem Based Learning Tutor, Feb 2017.

Lab in Neurobiology, Teaching Assistant, Spring 2017.

*Student Interviewer, URMSTP*, Aug 2015 – Dec 2017.

Interviewed MD PhD applicants and provide written feedback to the admissions committee

*Honor Board Representative, UR School of Medicine*, U of R, Aug 2017 – May 2018.

Adjudicated on cases of student misconduct and ethical concerns related to medical education.

*Leadership Team, Artisan Church*, Rochester, May 2015 – May 2018.

Advised and supported church staff, organized events, preached sermons.

*Public Relations Chair, URMSTP Student Council*, U of R, Aug 2015 – Aug 2017.

Maintained program website and social media outlets.

**U of R Medical Center Christian Fellowship**, U of R, Aug 2013 – May 2015.

*Co-president*, Aug 2014 – May 2015; *Bible study leader*, Aug 2013 – May 2015

Organized events with Christian physicians, led bible study every other week.

**Residential Life**, Colgate University, Aug 2008 – May 2011.

*Apartment Manager*, Aug 2009 – May 2011; *Resident Advisor*, Aug 2008 – May 2009.

Fostered community, advised residents, and ensured resident safety; trained in CPR, alcohol safety, and dealing with hate crimes, harassment and sexual assault.

*English Teacher*, **English Resource Center**, Dakar, Senegal, Spring 2010.

Planned and taught an eight-week course in intermediate conversational English; developed and led a seminar for English majors on how to research for and write a senior thesis.

**Colgate Christian Fellowship**, Colgate University, Aug 2007 – May 2011.

*President*, 2009; *Campus Liaison*, 2008.

Facilitated multiple weekly meetings, devised and delegated goal-oriented tasks, obtained funds and implemented a budget of \$10,000, and cultivated collaboration with other campus organizations.

## HEALTHCARE EXPERIENCE

*Medical Student*, **U of R School of Medicine and Dentistry**, Rochester, NY, Aug 2013 – Present.

Passed Primary Care Clerkship (outpatient pediatrics and adult) with Honors (top 20%).

Completed two years of basic science coursework for medical school and sat for Step 1 (score: 240).

*Health Sciences Intern*, **Dr. Richard Cohen Family Practice**, Hamilton, NY, Sept – Dec 2010.

Gained exposure to the fields of pediatrics, gerontology, and general medicine.

*Volunteer*, **Centre Talibou Dabo**, Dakar, Senegal, Spring 2010.

Assisted physical therapists in treating adults with physical disabilities.

*Volunteer*, **Clinique Bartimée**, Thies, Senegal, Mar 2010.

Shadowed during rounds, assisted with minor surgical procedures, and observed treatments.

*Fellow*, **Dr. Miller Endowed Fellowship - Adam's Camp**, Centennial, CO, May – Aug 2008.

Treated campers with Autism, Down's Syndrome, and Cerebral Palsy alongside occupational and physical therapists and documented camper progress toward therapy goals.

## SKILLS AND CERTIFICATIONS

**Software:** MATLAB, R, Psychtoolbox, Brain Voyager, Excel, Adobe Photoshop and Illustrator, Python, Eprime, DMDX.

**Lab techniques:** neuronal culture and prep, stereotactic surgery, immunohistochemistry, contextual fear conditioning, PCR, cloning, genotyping and animal husbandry.

**Certifications:** MRI safety certified, CPR certified, Greater Than Minimal Risk CITI certified.

**Languages:** French (professional working proficiency), Wolof (elementary proficiency).

## REFERENCES

Dr. Brad Mahon

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McGovern Institute for Brain Research

Massachusetts Institute of Technology

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