

WHITNEY A. STEVENS-SOSTRE

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EDUCATION

- 2016–2023 | **Ph.D. in Neuroscience**, University of Wisconsin-Madison (UW-Madison), 2021 NIH F99/K00 D-SPAN Fellow, 2022 Bouchet Honor Society Inductee.
- 2011–2015 | **B.S. with honors in Biology**, University of Puerto Rico at Mayagüez (UPRM)
Major GPA: 3.60/4.00. Approved 142 credits.

RESEARCH EXPERIENCE

- 2023–Present | **University of Wisconsin-Madison – Dept. Ophthalmology and Visual Sciences**
Postdoctoral Fellow (K00) – “Intrinsic Biophysical Properties Underlying Excitability of the Mammalian Retina.” Advisor: Dr. Mrinalini Hoon
- 2016–2023 | **University of Wisconsin-Madison – Neuroscience Training Program**
Graduate Research Assistant – “Cytosolic Domains in hERG Channel Gating.” Advisor: Dr. Gail A. Robertson
- 2015–2016 | **University of Chicago – Post-Baccalaureate Research Education Program (PREP)**
Research Technician – “Influence of signaling pathways in gliogenesis during hindbrain development.” Advisor: Dr. Miriam Domowicz
- 2014–2015 | **UPRM – Department of Chemical Engineering**
Undergraduate Researcher – “Microgravity effect in the tolerance of toxicity by excess lipids in yeast.” Advisor: Dr. Magda Latorre-Esteves
- Summer 2014 | **University of Illinois at Urbana-Champaign (UIUC)**
Summer Intern – “Effect of *de novo* encephalopathy mutations in the C-terminal tail of KCNQ2 on CaM binding to KCNQ channels.” Advisor: Dr. Hee Jung Chung
- 2013–2014 | **UPRM Anaerobic Microbiology Laboratory**
Undergraduate Researcher – “*Drosophila melanogaster* as a model organism to detect virulence factors in *Enterococcus faecalis*.” Advisor: Dr. Luis Ríos
- Summer 2013 | **University of Vermont**
Research Assistant – “Expression and localization of Flightin and transgenic cMyBP-C in *Drosophila melanogaster* indirect flight muscles.” Advisor: Dr. Jim Vigoreaux
- 2011–2013 & Summer 2012 | **UPRM Laboratory of Cell and Developmental Neurobiology**
Undergraduate Researcher – “Myopodia formation and ablation in *Drosophila melanogaster* in Muscle-29.” Advisor: Dr. Franklin Carrero-Martínez
- Summer 2011 | **UPRM Laboratory of Cell and Developmental Neurobiology**
Summer Intern – Department of Defense High School Apprenticeship. Advisor: Dr. Franklin Carrero-Martínez

LANGUAGES

English: Native language
Spanish: Native language

PUBLICATIONS

- **Stevens-Sostre, W. A.***, Flores-Aldama, L.*, Bustos, D., Li, J., Delemotte, L., Robertson, G.A. An intracellular hydrophobic nexus is critical for slow deactivation in hERG channels. 2023. bioRxiv. <https://doi.org/10.1101/2023.03.04.531007>. *Equal contribution.
- Ríos-Pérez, E. B., Liu, F., **Stevens-Sostre, W. A.**, Eichel, C. A., Silignavong, J., & Robertson, G. A. A stable cell line inducibly expressing hERG1a/1b heteromeric channels. *J Pharmacol Toxicol Methods*, 110, 107081. (2021) <https://doi.org/10.1016/j.vascn.2021.107081>
- Harley, C.A., Bernardo-Seisdedos, G., **Stevens-Sostre, W.A.**, Jones, D.K., Azevedo, M.M., Sampaio, L., Lorga-Gomes, M., Trudeau, M.A., Millet, O., Robertson, G.A., Morais-Cabral, J.H. Conformation-sensitive antibody reveals an altered cytosolic PAS/CNBh assembly during hERG channel gating. *Proc Natl Acad Sci U S A* 118, doi:10.1073/pnas.2108796118 (2021). <https://doi.org/10.1073/pnas.2108796118>

ABSTRACTS AND PRESENTATIONS

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| Poster | ▪ Stevens-Sostre, W.A.* , Flores-Aldama, L.*, Bustos Guajardo, D., Delemotte, L., Li, J., Robertson, G.A. An Intracellular Hydrophobic Nexus is Critical for Slow Deactivation in hERG Channels. NTP 2022 Re-Connectome Symposium . Madison, WI. (September 2022) |
| Oral | ▪ Department of Neuroscience Spring Seminar Series Graduate Student Speaker: “An Intracellular Hydrophobic Nexus is Critical for Slow Deactivation in hERG Channels” (April 2022) |
| Oral | ▪ Stevens-Sostre, W.A.* , Flores-Aldama, L.*, Bustos Guajardo, D., Delemotte, L., Robertson, G.A. An Intracellular Hydrophobic Nexus is Critical for Slow Deactivation in hERG Channels. Ligand Recognition and Molecular Gating Gordon Research Conference (GRC) . Lucca, IT (March 2022) |
| Oral | ▪ Stevens-Sostre, W.A.* , Flores-Aldama, L.*, Bustos Guajardo, D., Delemotte, L., Robertson, G.A. An Intracellular Hydrophobic Nexus is Critical for Slow Deactivation in hERG Channels. Ligand Recognition and Molecular Gating Gordon Research Seminar (GRS) . Lucca, IT (March 2022) |
| Poster | ▪ Stevens-Sostre, W.A. , Harley, C.A., Bernardo-Seisdedos, G., Jones, D.K., Azevedo, M.M., Sampaio, L., Lorga-Gomes, M., Trudeau, M.A., Millet, O., Robertson, G.A., Morais-Cabral, J.H. Conformation-sensitive antibody reveals an altered cytosolic PAS/CNBh assembly during hERG channel gating. 66th Biophysical Society Annual Meeting and Justice for Underrepresented Scholars Training in Biophysics (JUST-B) Poster Session . San Francisco, CA (February 2022). |
| Poster | ▪ Stevens-Sostre, W.A. , Flores-Aldama, L., Robertson, G.A. A hydrophobic patch in the PAS-cap alpha-helix is critical for slow deactivation in HERG channels. 65th Biophysical Society Annual Meeting . Virtual platform. (February 2021) |
| Poster | ▪ Stevens-Sostre, W.A. , Harley, C.A., Bernardo-Seisdedos, G., Millet, O., Morais-Cabral, J.H., Robertson, G.A. Antibody epitope mutations disrupt hERG deactivation and define PAS-channel interaction sites. Cardiovascular Research Center (CVRC) Cardiovascular Research Summit . Madison, WI (October 2019). |
| Poster | ▪ Stevens-Sostre, W.A. , Harley, C.A., Bernardo-Seisdedos, G., Millet, O., Morais-Cabral, J.H., Robertson, G.A. Antibody epitope mutations disrupt hERG deactivation and define PAS-channel interaction sites. SGP 73rd Annual Symposium / SOBLA Annual Meeting . Valparaiso, Chile (September 2019). |

ABSTRACTS AND PRESENTATIONS (CONT.)

- Poster | ■ Ríos-Perez, E. B., Liu, F., Eichel, C. A., **Stevens-Sostre, W. A.**, Silignavong, J., Robertson, G.A. Inducible heteromerization in a stable hERG1a/1b cell line. **Biophysical Society Annual Meeting**. Baltimore, MD (March 2019).
- Poster | ■ Ríos-Perez, E. B., Liu, F., Eichel, C. A., **Stevens-Sostre, W. A.**, Silignavong, J., Robertson, G.A. A Novel hERG 1A/1B Stable Cell Line for Drug Screening and Research Applications. **SciMed GRS Poster Session** at Madison, WI (November 2018).
- Poster | ■ Ríos-Perez, E. B., Liu, F., Eichel, C. A., **Stevens-Sostre, W. A.**, Silignavong, J., Robertson, G.A. A Novel hERG 1A/1B Stable Cell Line for Drug Screening and Research Applications. **Neuroscience Research Symposium** at Madison, WI (August 2018).
- Poster | ■ **Stevens-Sostre, W. A.**, Zhao, Y., and Robertson, G.A. An Intrinsic Ligand Mediates the Interaction of Conserved Cytoplasmic Domains of a Neural K⁺ Channel. **SciMed GRS Poster Session** at Madison, WI (September 2017).
- Poster | ■ **Stevens-Sostre, W. A.**, Zhao, Y., and Robertson, G.A. An Intrinsic Ligand Mediates the Interaction of Conserved Cytoplasmic Domains of a Neural K⁺ Channel. **SciMed GRS Poster Session** at Madison, WI (September 2017).
- Oral | ■ **Stevens-Sostre, W. A.**, Henry, J. G., Santana, D., Schwartz, N. B., and Domowicz, M. M. A role for the NOTCH pathway in the specification of glial precursors during hindbrain development. **11th Annual PREP Symposium** at Chicago, IL (June 2016).
- Poster | ■ **Stevens-Sostre, W. A.**, Henry, J. G., Santana, D., Schwartz, N. B., and Domowicz, M. M. A role for the NOTCH pathway in the specification of glial precursors during hindbrain development. **Scientific Innovation Through Diverse Perspectives (SITDP)** at Rochester, MN (May 2016).
- Poster | ■ **Stevens-Sostre, W.A.**, Cavaretta, J.P., and Chung, H.J. Effect of *de novo* encephalopathy mutations in the C-terminal tail of KCNQ2 on CaM binding to KCNQ channels. **2014 Annual Biomedical Research Conference for Minority Students (ABRCMS)** at San Antonio, TX (November 2014).
- Oral & Poster | ■ **Stevens-Sostre, W.A.**, Menard, L., and Vigoreaux, J.O. Expression and localization of Flightin and transgenic cMyBP-C in *Drosophila melanogaster* indirect flight muscle. **4th Undergraduate Research Symposium (URS4)** at Mayagüez, PR (May 2014) and at **2013 ABRCMS** at Nashville, TN (November 2013).
- Oral | ■ **Stevens-Sostre, W.A.**, and Carrero-Martínez, F. Myopodia Formation and Ablation in *Drosophila melanogaster* in Muscle-29. **48th ACS Junior Technical Meeting - 33rd Puerto Rico Interdisciplinary Scientific Meeting (PRISM)** at Cayey, PR (March 2013).
- Poster | ■ **Stevens-Sostre, W.A.**, and Carrero-Martínez, F. Neuromuscular Junction (Myopodia) Formation and Ablation in *Drosophila melanogaster* in Muscle-29. **36th ACS Senior Technical Meeting** at Ponce, PR (November 2012).

HONORS AND AWARDS

2021 - present	National Institutes of Health (NIH) Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) F99/K00 Award
2022	Best Poster Award at the NTP 2022 Re-Connectome Symposium at UW-Madison
2022	Travel award to attend the “Ion channels and transporters: From molecule to human” EMBO-FEBS Lecture Course at the Ettore Majorana Foundation and Centre for Scientific Culture in Erice, Italy
2022	Bouchet Honor Society Inductee at UW-Madison
2021	Travel Award for the 2022 Biophysical Society Meeting
2021	Awarded Neuroscience Training Program (NTP) travel award
2019	Yale Ciencia Academy Fellow
2019	Travel award to attend the joint Society of General Physiologists (SGP) and Latin American Biophysical Society (SOBLA) 2019 Symposium in Valparaiso, Chile
2018–2020	T32 Predoctoral Traineeship, Training Program in Translational Cardiovascular Science, Cardiovascular Research Center at UW-Madison
2016	Awarded Advanced Opportunities Fellowship through the SciMed GRS Program at UW-Madison
2017 –2018	T32 Predoctoral Traineeship, Neuroscience Training Program at UW-Madison
2015–2016	PREP Scholar at the University of Chicago funded by the NIH
2015	2015 Illinois Summer Neuroscience Institute (ISNI) Participant at UIUC
2014	44 th Annual Graduate/Professional Student Recruitment Initiative Participant at The Ohio State University
2014–2015	Elected Publicity Secretary of the Student Council of the Faculty of Arts and Sciences at UPRM
2013–2015	Maximizing Access to Research Careers (MARC) Undergraduate Student Training in Academic Research (U-STAR) Scholar at UPRM funded by the NIH
2013–2014	Elected Student Council Member of the Faculty of Arts and Sciences at UPRM
2014	Summer Research Opportunities Program (SROP) Participant at UIUC
2012–2013	UPRM School of Art and Sciences – Honor Roll Student
2012–2013	RISE-2-BEST Program Scholar at UPRM funded by the NIH
2011	Awarded Department of Defense (DoD) High School Apprenticeship Program (HSAP)

INTELLECTUAL PROPERTY

- Liu, F., Rios-Perez, E., **Stevens-Sostre, W.A.**, Silignavong, J. and Robertson, G.A. (2017). Stable cell line expressing hERG 1a and 1b. WARF case P180135US01.

LEADERSHIP AND OUTREACH

- Invited panelist at the “Addressing Disparities in Career Advancement for Women and Gender Minorities in STEMM” panel through the UW-Madison Postdoctoral Association (UWPA). Panel was sponsored by the Women in Science & Engineering Leadership Institute (WISELI). (September 2023)

LEADERSHIP AND OUTREACH (CONT.)

- Volunteer at UW-Madison's Science Expo at Madison East High School through the Antiracism Learning and Action in Neuroscience (ALAN) group. Shared my career trajectory with students and discussed how to be successful in STEM fields. (October 2023)
- Invited panelist in "Grad School After Coursework: Tips for Success" Workshop. (January 2023)
- Co-organized the 2023 #BlackInBiophysicsWeek, which included webinar, professional development, and networking events. (May 22-26th, 2023)
- Invited speaker at the "2022 NTP Re-Connectome Symposium" at UW-Madison. Presented "Thriving while Surviving: A Guide to Achieve YOUR Success in Graduate School."
- Panelist at the "Big 10 Neuroscience Seminar Series" hosted by the UW-Madison Neuroscience Department. (December 17th, 2021)
- "STEM Explorations Camp" virtual field trip speaker for Sherman Middle School 8th grade students. (July 16th, 2021)
- Co-organized the 2021 #BlackInBiophysicsWeek, which included outreach, professional development, and networking events. (May 10-16th, 2021)
- "My Story in Science" virtual field trip panelist for Muskego Virtual Classes 6th-8th grade students. (April 29th, 2021)
- Organized the "Black in Biophysics Happy Hour!" virtual social event at the 65th Virtual Annual Meeting of the Biophysical Society. (February 26th, 2021)
- Founded the Black In Biophysics movement/organization. (February 2021)
- NTP Equity/Diversity working group member. (January 2021)
- Organized, recruited speakers, and moderated the "Conversations with Scientists: Success Stories in STEM Careers" outreach panel to expose high school students to STEM careers by sharing trajectories of graduate students in diverse cultural and professional backgrounds (October 2019)
- NTP Volunteer at the "Monster Mash" event at the Madison Children's Museum. Demonstrated anatomy of the human brain. (October 2018)
- Volunteer for the Sun Prairie High School Health Care/STEM Career Panel. Participated in a discussion about my path to science, my research, and the variety of careers that involve STEM. (September 2018)
- Student representative at the UW-Madison SROP Graduate School Resource Fair. (July 2018)
- SciMed GRS Outreach Volunteer for the "Writing a Powerful Grad Application" workshop. (November 2017)
- NTP Volunteer at the Wisconsin Science Festival. (November 2017)
- Student representative for the NTP at the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Conference. (October 2017)
- Graduate panel participant at Biosciences Opportunities Preview Program. (September 2017)
- Student representative at the UW-Madison SROP Graduate School Resource Fair. (July 2017)
- Volunteer for the Mission 4.0 academic support program at Madison West High School. Led high school students through a prism glasses experiment that tested sensory-motor adaptation. (March 2017)
- 2016 Expanding Your Horizons Volunteer at UW-Madison. (November 2016)
- NTP Volunteer at the Madison Children's Museum. Demonstrated anatomy of the human brain. (November 2016)
- SciMed GRS Outreach Volunteer – Family Science Night at Lapham-Marquette Elementary School. Led students through apple preservation and pumpkin volcano experiments. (November 2016)
- NTP Volunteer – Saturday Science at the Wisconsin Institutes of Discovery. Led children and the public through a hands-on demonstration that tested procedural learning. (September 2016)
- Teaching Assistant - Brains! Workshops for middle school students. Led small groups of students from a local Chicago Public Middle School through 3 hands-on experiments recording from sensory neurons and muscles. (December 2015)

LEADERSHIP AND OUTREACH (CONT.)

- Volunteer at the 2015 NanoDays sponsored by the Nanotechnology Center for Biomedical, Environmental and Sustainability Applications (CREST-UPRM).
- Prepared application and was awarded funds from the UPRM College of Arts and Sciences for fellow MARC Scholars to participate in MIT's 2014 Quantitative Biology Workshop.
- Science Week committee member – Assisted in the organization of the Science Week sponsored by Student Council of the Faculty of Arts and Sciences by establishing the activity logistic, inviting faculty speakers and organizing the undergraduate poster session. (2014)
- Volunteer at the Brain Awareness Day at Orpheum Children's Museum during SROP internship in Dr. Hee Jung Chung's Laboratory at UIUC. (April 2014)
- Activities committee member – Assisted in the organization of activities for the student body of the Faculty of Arts and Sciences at UPRM. (2013)
- District Level High School Science Fair Judge in Puerto Rico. (February 2013)
- Volunteer at the UPRM Laboratory of Cell and Developmental Neurobiology's pilot implementation of the Drosophila K-12 module that was created in response to NIHs Lessons About Bioscience (LAB) Challenge. (December 2011)

ADDITIONAL EXPERIENCE AND SKILLS

TEACHING

- Mentor for students of the NIH project titled: Maintaining, Engaging and Tracking Alumni in Science Health Research (METAS+) in their transition from UPR at Cayey to graduate school (March 2022 – February 2023)
- Science instructor for the Precollege Enrichment Opportunity Program for Learning Excellence (PEOPLE) program (Summer 2022)
- SciMed GRS Peer Mentor for three 1st year graduate students (2019-2020)
- Subgroup TA for the NTP "It's not just electrophysiology: Many ways to study ion channels Subgroup," led by Dr. Gail A. Robertson (Spring 2019)
- NTP Peer Mentor for NTP 1st year graduate student (2018-2019)
- Facilitator for the "Mind and Body" block of the ForWard Curriculum in the MD Program at the UW-Madison School of Medicine and Public Health (Fall 2017)
- **Graduate Mentor**, Robertson Lab, UW-Madison (2017 – 2022)
 - Mentored 1 student during their Hilldale Undergraduate/Faculty Research Fellowship (2019-2020)
 - Mentored 1 undergraduate student during their American Heart Association (AHA) Undergraduate Student Fellowship (Summer 2018)
 - Mentored 1 undergraduate Student Independent Project for Introductory Biology 152 (Spring 2018)
 - Mentored 1 undergraduate student (Summer 2022)

WORKSHOPS

- Completed the "Ion channels and transporters: From molecule to human" EMBO-FEBS Lecture Course at the Ettore Majorana Foundation and Centre for Scientific Culture in Erice, Italy. (May 5th – 11th, 2022)
- Completed the "Project Management for Graduate Students" Workshops at UW-Madison. (April 2017)
- CRISPR-Cas Genome Editing Workshop with application to human cell lines at UW-Madison. (March 2017)
- "Microfluidics: intuition, understanding, and applications" workshop sponsored by HHMI at UPRM. *Offered by Dr. Nate Cira.* (May 2015)
- Tissue Engineering workshop sponsored by HHMI at UPRM. *Offered by Dr. Jennifer Puetzer.* (May 2014)
- 2014 Quantitative Biology Workshop at MIT. (January 2014)