NACS welcomed six new students in fall 2021. The students were asked to provide a few fun facts that most people don’t know about them. Please read on to learn more.

**Zeynep Atak**
Zeynep does STEM projects to promote science and academia in her country (Turkey) to younger age groups, especially girls. She has social responsibility projects in Turkey to help people with Down Syndrome reintegrate into society, and she enjoys cooking Turkish and Tatar dishes and introducing them to different people.

**Vladimir Butyrkin**
Vladimir likes traveling and car trips. He once traveled for work and drove a car for 17 hours in a row. Another time he drove with his friend (piloting the vehicle one after another) for almost three days, with no long stops.

**Kristine Hodgson-Torres**
Kristine knits and crochets fun gifts for her friends and family. She can play the ukulele and she white-water rafted on the Nile River.

**Kelly Marshall**
Kelly enjoys going to Washington Capitals hockey games. She also enjoys trying challenging baking projects.

**Joselyn Rodriguez**
Joselyn loves music and she has played violin for 10 years. She has moved a lot throughout her life and has lived in 7 different states as well as South America!

**Deena Shariq**
Deena once competed in a dragon boat race in China. She has a life-size 3D printed model of her brain, and she is a painter.
What’s New in NACS?

External Review Visit

The External Review of the NACS program took place virtually on October 20 and 21. The reviewers (listed below) met with 32 faculty and 16 students over the two days.

* Amy Lee, Professor in the Department of Neuroscience at the University of Texas, Austin
* Susan Rivera, Professor and Chair in the Department of Psychology at the University of California, Davis
* David Vicario, Professor in the Department of Psychology and Dean of Social and Behavioral Sciences at Rutgers University

The report from the reviewers identified strengths, weaknesses, and major recommendations, which will be discussed at the NACS Town Hall on January 28 from 10:00—11:30am in room 1103 BRB.

NACS Students Receive NRSA Awards

Daniel Callow and Kathryn McNaughton were recently awarded the Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (F31).

Daniel's proposal title is “The effects of acute aerobic exercise on hippocampal function and microstructure in older adults,” and his advisor is Carson Smith.

Kathryn’s proposal title is "Investigating Neural and Behavioral Alignment as a Mechanism of Social Interaction Challenges in Adolescents with Autism Spectrum Disorder," and her advisor is Elizabeth Redcay.

Diversity & Inclusion on NACS Website

NACS added a Diversity & Inclusion area to the NACS website in April 2021. The area has information about the D&I committee and resources on funding, graduate school applications, research, teaching, and professional development that is relevant for graduate students, undergraduate students, postdocs, and/or faculty.

Events

NACS Seminars Series
Fall 2021 and Spring 2022

NACS Faculty Meeting
December 10, 2021

NACS Student Meeting
December 10, 2021

NACS Town Hall
January 28, 2022

NACS-Fest
February 10 - 11, 2022

NACS Research Day
April 29, 2022
In the Spotlight: NACS Faculty

Dr. Sandra Gordon-Salant

Sandra Gordon-Salant is a professor in the Department of Hearing and Speech Sciences (HESP), as well as a faculty member in NACS. She earned her Ph.D. at Northwestern University, and started at UMD as an assistant professor immediately upon graduation. Over the years, she has worn many hats at UMD, including Director of the Doctoral Program in Clinical Audiology in HESP, Director of Graduates Studies in HESP, ADVANCE Professor in the College of Behavioral and Social Sciences, and co-Director of the Center for the Comparative and Evolutionary Biology of Hearing (together with Dr. Catherine Carr, Biology). In the NACS program, she has served on the Executive Committee and as the Director of Admissions, and she currently is co-mentor to one NACS student (Anna Tinnemore). Sandy’s research program is concerned primarily with speech perception difficulties in real-world challenging situations, particularly by older adults. Together with her colleague, Peter Fitzgibbons, she has promoted the theory that many of the difficulties experienced by older adults are attributed, in part, to age-related deficits in auditory temporal processing. She was the co-editor of the volume, The Aging Auditory System, published as part of the Springer Handbook for Auditory Research (SHAR) series (A. Popper, series co-editor), and has published over 100 peer-reviewed papers and book chapters. The National Institute on Aging (NIA) of the NIH has funded Sandy’s research program continuously since 1986. She also receives funding from Creare, LLC, to support collaborative projects with colleagues at Walter Reed National Military Medical Center. Sandy currently serves as the Principal Investigator of a program project grant from the NIA entitled, “Neuroplasticity in Auditory Aging.” She collaborates with NACS faculty members Samira Anderson, Matt Goupell, Shihab Shamma, Jonathan Simon, Patrick Kanold, and Stefanie Kuchinsky on this grant, as well as with Doug Brungart on the Creare contract. She has received numerous awards for her contributions to research, including Fellow of the Acoustical Society of America, Kawana Award for publications from the American Speech-Language-Hearing Association (ASHA), Jerger award for Lifetime Achievement in Research, Honors of ASHA, and Distinguished Scholar-Teacher at the University of Maryland. On the personal side, Sandy enjoys travel (when possible), hiking, entertaining, and hanging out with her growing family.

What advice would you give to students who are starting out in the NACS program?

I will synthesize my many ideas into three primary ideas –

1. Take advantage of a broad range of courses and lab experiences early in the program and keep an open mind about your research objectives.

2. Speak up and share your ideas with other students in the program, invited NACS speakers, and faculty members. It is through the in-depth exchange of ideas that you really grow as a researcher, plus it’s energizing.

3. Learn to manage your time well so that you can get the most out of your doctoral education and the wonderful people at UMD with whom you interact.
Tell us about your current position and how you think the training experience in the NACS program helped you prepare for it.

My current research focuses on the study of how processing of sensory information is regulated to gate context-dependent decision-making in individuals. In my laboratory we use the olfactory system as experimental model, taking advantage of the simple organization and well known circuitry of the olfactory pathway to gain insights into the how centrifugal feedback modifies olfactory coding. Taking a systemic approach using techniques such as *in vitro* electrophysiology, *in vivo* extracellular recordings in freely behaving animals, and optogenetic and chemogenetic control of neuronal activity, we try to understand how neuronal circuits process sensory information and how neuronal coding is altered in neuropathologies such as Fragile X syndrome (FXS) that is accompanied by atypical sensory perception including olfaction.

Most of my Academic training was done in the United States and at University of Maryland. After I graduated from college in Chile I was motivated to understand how sensory processing was interpreted in the brain. My husband was doing his PhD at the NIH and I decided to work for a year as a Laboratory Assistant to get laboratory experience and later applied to a doctoral program myself. Fortunately, I was hired by Dr. Ricardo Araneda, whose research was a perfect match for my scientific interests. I studied how inhibition could modulate sensory processing in the olfactory bulb (OB). In his lab I studied the generation and integration of inhibitory neurons into the adult OB and their role in olfactory behavior. A year later I became a NACS Ph.D. graduate student under his mentorship. We keep in touch and will start our official scientific collaboration in the upcoming year when he will receive one of my PhD students for a stay.

It was such an enjoyable time to have had the opportunity of being a NACS student and having Ricardo as my mentor. Academically, the NACS program gave me the opportunities to explore neuroscience from all angles depending on my interests, had first class teachers, and offered their students many activities to deepen their knowledge. I particularly remember Dr. Quinlan’s class in Cellular and Molecular Neuroscience that was extremely challenging and very innovative. I also remember my first Computational Neuroscience class with Dr. Butts. Coming from a country where programming was not listed as a part of any scholar or university program, I struggled to get the knowledge I needed to pass that class, but the support I got was extraordinary and now I use MATLAB routinely in my lab. Beyond classes, all the NACS faculty were always available to contribute to my formation either by an informal scientific chat in the hallway or by being part of my thesis committee.

I am very fond of all the memories I had and how critical the NACS program was for my formation. The program is extremely supportive of its students. I received a supplemental summer award from NACS, and a travel award to attend a conference, where I was able to share my research and receive feedback from field experts. Moreover, the NACS yearly retreats helped us to get together as a community and boost scientific collaboration among members. Along the same lines, I presented an idea of organizing seminars for the NACS students, where in an informal setting students could share their research. The program immediately supported this idea and even offered to provide lunch. I am very glad that they are still being held.

Being on the other side of the scientific development, in a country like Chile where the national budget for science cannot adequately support all their talented researchers, made me admire how the NACS program and the University of Maryland supports students and scientific research. I am confident that with all the skills I learned while in the USA, I can contribute scientifically and also mentor the next generation of Chilean scientists. I will always be thankful for what the NACS program and Ricardo gave me.
In the Spotlight: NACS Alumni

Dr. Amanda Burton (NACS PhD 2017) is a Staff Scientist/Clinical Trials Results Information Research Specialist at the National Library of Medicine (NLM) at the National Institutes of Health.

Tell us about your current position and how you think the training experience in the NACS program helped you prepare for it.

I have over 4 years of experience working for ClinicalTrials.gov at the NLM where I have gained extensive experience communicating with and advising internal and external users of the clinical trials registration and results database, performing quality assurance assessments, and mentoring trainees in reviewing clinical trials results records that meet review criteria and maintain compliance with the Final Rule for Clinical Trials Registration and Results Information Submission (42 CFR Part 11) in accordance with Section 801 of the Food and Drug Administration Amendments Act of 2007 (FDAAA 801).

As a Clinical Trials Results Information Research Specialist, my main task is to provide technical results information and policy assistance, and disseminate information about the results submission process to data providers via written e-mail correspondence, phone, and web. In addition, other tasks include overseeing the teleconference process, leading prospective outreach and customer service initiatives for improving results submissions, performing quality assurance reviews of submitted clinical trial results records, and collaborating with other information specialists and staff to develop resource materials, public site content, and newsletters.

Before joining NLM, I had over 5 years of experience conducting behavioral neuroscience research under Dr. Matthew Roesch in the NACS program at UMD. The NACs program supplied me with valuable technical experience and communication skills to be able to think critically and analytically about biomedical research, develop process improvements, and work collaboratively with team members to effectively manage and complete several research projects resulting in over 12 publications. My dissertation focused on the long-term effects of exposure to drugs of abuse on behavior and brain using modern neuroscience techniques to record from single-neurons in a common animal model of drug abuse. My time in the NACS program also provided ample opportunity outside of the lab to be involved in leadership and outreach through a variety of committees where I was able to further develop tangible skills used in my current position.
Recent Student Publications
(NACS students and alumni in bold & italics; faculty in bold)


**Awards and Accomplishments**

**Ricardo Araneda,** Professor of Biology, was awarded a BHHP seed grant together with Drs. Joseph Kao and Adam Puche from UMB.

**Daniel Butts,** Associate Professor of Biology, received two grants from the NSF: A three year grant studying color vision called *Computations for spatial-chromatic interactions and their physiological implementation in primary visual cortex,* and a seed grant called *Active vision during natural exploration: more than meets the eye?*

**Melissa Caras,** Assistant Professor of Biology, received a Young Investigator Award from the Brain and Behavior Research Foundation.

**Lea Dougherty,** Associate Professor of Psychology, was awarded the 2020 College of Behavioral and Social Sciences Award for Excellence in Research. She also received two five-year awards from NIMH: *Neural Mechanisms of Risk and Resilience for Irritability Across the Transition to Adulthood,* and *Neural Mechanisms of Risk and Resilience in Early Childhood Irritability.* In addition, she received a grant for *Impact of Climate Change on Neurobehavioral Development Part 2: Identifying Potential Vulnerabilities in Brain and Behavior from the Adolescent Brain and Child Development (ABCD) Dataset.*

**Naomi Feldman,** Associate Professor of Linguistics and the Institute for Advanced Computer Studies, was named a Graduate Faculty Mentor of the Year. She also received a grant from NSF for *Computational Models of Plasticity and Learning in Speech Perception.*

**Yasmeen Faroqi Shah,** Associate Professor in Hearing and Speech Sciences, was awarded an R21 grant from the National Institute on Deafness and Other Communication Disorders (NIDCD) for a project called *Diagnostic Markers of Language Impairment in Bilingual Adults.* This project represents the first systematic psychometric investigation of clinical language measures for Spanish-English speaking bilingual adults across multiple language domains. She was also selected for the Outstanding Director of Graduate Studies (DGS) Award for 2021 by the Graduate School.

**Arianna Gard,** Assistant Professor of Psychology, and colleague Fanita Tyrell were awarded three small grants to support their project *Representation and Research Ethics (RARE).*

**Sandra Gordon-Salant,** Professor of Hearing and Speech Sciences, and Dr. Catherine Carr, Professor of Biology, successfully renewed the NIH-funded T32 training grant, *Comparative and Evolutionary Biology of Hearing,* now in its 27th year of funding. Many of the T32 pre-doctoral trainees have been NACS students, including current trainees Anna Tinnemore, James Baldassano, and Rose Ying.

**Matt Goupell,** Professor of Hearing and Speech Sciences, was awarded a grant from MIPs (Maryland Industrial Partnerships) 6731 for *Personalize headphone audio: Beyond HRTFs.* He also became a Fellow of the Acoustical Society of America.

**Amy Hauffer,** Senior Applied Neuroscientist at Johns Hopkins University Applied Physics Laboratory, became certified as a LUMA human centered design Instructor. She also received a Catalyst Ignition Grant Innovation Award: *MEDICO: Medical Interventions for Covert Operations,* and a JANEX Engage Conference Innovation Award at the Warfighter Training Modernization Conference.

**Scott Juntti,** Assistant Professor of Biology, published a paper on improvement of CRISPR gene editing in cichlid fish. The lab was also awarded an NIH R35 MIRA grant to support them for the next 5 years. They will be studying how hormonal signaling changes gene expression and circuits for behavior.

**Jeff MacSwan,** Professor of Teaching and Learning, Policy and Leadership, received the Lifetime Achievement Award from Bilingual Education Research, and the Leadership through Scholarship Award from Second Language Research of the American Educational Research Association (AERA).

**Rochelle Newman,** Professor and Chair of Hearing and Speech Sciences, received funding from the NSF for the project *Collaborative Research: Direct impacts of executive functions on language comprehension: Evidence from eye movements and electrophysiology.*

**Colin Phillips,** Professor of Linguistics, was named a fellow of the American Association for the Advancement of Science (AAAS). He also became co-editor of the journal *Annual Review of Linguistics.* He also won an NSF grant for research and education efforts in Planet Word, an innovative museum that recently opened in downtown Washington DC. Other participating NACS faculty include Yi Ting Huang, Jan Edwards, and Rochelle Newman, all HESP faculty.

**Maria Polinsky,** Professor of Linguistics, received two NSF awards: *Computational Models for Studying Word Class Distinctions in Polysynthetic Languages,* a two-year award, and *Variation in Exceptive Structures,* a four year award.

**Rachel Romeo,** Assistant Professor of Human Development and Quantitative Methodology, received an NIH Pathway to Independence Award. In addition, she was notified in May that she had the Most Cited Article in *Psychological Science* in the previous 3 years.

**Alexander Shackman,** Associate Professor of Psychology, was elected a Fellow of the Association for Psychological Science (APS). He is also a Standing Member of Adult Psychopathology and Disorders of Aging (APDA) Study Section, NIH.

**Jonathan Simon,** Professor of ECE and Biology, was awarded a two year NIH R21 grant to continue his cross-lab investigation of the effects of (and the effects of recovery from) minor strokes: *Mindfulness Matters: The Impact of Mindfulness Based Stress Reduction on Post-Stroke Cognition.*

**Masaaki Torii,** Associate Professor at the Center for Neuroscience Research at Children’s National Hospital, was awarded a Phase I STTR (Small Business Technology Transfer) grant from NIAAA for developing a novel drug for neuro-developmental deficits in Fetal Alcohol Spectrum Disorders.

**Congratulations to NACS Faculty awarded 2022 BBI Seed Grants!**

**Yasmeen Faroqi-Shah** and **Bob Slevc**: *Neurocognitive mechanisms of sentence production in aging and stroke.*

**Matt Goupell** and Michael Cumming: *Machine learning analyses of audiological data to predict age-related declines in hearing and cognition.*

Heather Yarger, Angel Dunbar, and **Elizabeth Redcay**: *Respiratory sinus arrhythmia as a biomarker of anxiety in adolescents with autism spectrum disorder.*

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**What’s New With Faculty?**
The NACS Outreach Committee is a student-led program to bring neuroscience and cognitive science into the community. By taking science to schools and other community venues, they are fostering a potential interest in science for future generations and enhancing their abilities to communicate science to a diverse audience.

If you are interested in participating, please contact NACS students Gloria Kim (hkim1230@umd.edu) or Deena Shariq (dshariq@umd.edu)

Support NACS!

We would like to take this opportunity to remind you that you can donate to the NACS Program Gift Fund. The NACS Gift Fund is a very important source of funding for our program. We use the funds to pay for expenses that we cannot pay for using our state funds, such as appreciation gifts or awards and our recruitment event. Donating is easy and simple. To donate go to our website and click on “Give to NACS.”

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Follow NACS on Twitter to help stay connected. If you are on Twitter, give us a follow to keep up with the latest NACS news. Also, if you have had a paper recently accepted, received a grant, fellowship, or award, or just think something is really cool and want to share, tag us to let us know. We want to share as many of the achievements of our students and faculty as we can!