

## Deaf Studies Conference brings new knowledge and perspectives to the field

On November 1-3, 2018, the ASL and Deaf Studies department held a Deaf Studies Conference on campus, consisting of various workshops, presentations, and other collaborative activities with presenters from throughout the world.

The conference, themed “Transformations,” studied existing frameworks through the generation of new knowledge and perspectives. “We live in a time

of enormous social, political and technological change, a time when categories, identities, boundaries, are becoming increasingly fluid, a time that is increasingly transformational,” according to the conference marketing brochure.

“After many months of discussing, planning, and worrying, the 2018 Deaf Studies Conference: Transformations finally happened,” said Dr. Arlene B. Kelly,

ASL and Deaf Studies professor and chair. “Attendees expressed a lot of gratitude for this conference, a first since 1997. I even had some reflective takeaways from the conference. There’s so much research that needs to be conducted to make significant transformations in the world.”

With a generous sponsorship from DawnSignPress, the ASL and Deaf Studies was fortunate to have three

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Student Luilly Segundo shares details on Panamanian Sign Language at the poster session, held at JSAC on November 2.



Dr. Carolyn McCaskill, ASL and Deaf Studies professor, gives a presentation on Black ASL.



Student Kailyn Aaron-Lozano elaborates on the nuances of Plains Indian Sign Language.

## “Research Expo Part II: Poster Session” to be held April 4, 2019; Part 1 provides glimpse at possibilities

The Office of Research Support and International Affairs (RSIA) is preparing for Gallaudet Research Expo Part II: Poster Session, <https://youtu.be/gP2jtL0HOvM>, which will be held on Thursday, April 4, 2019, noon-2 p.m., in the LLRH6 Co-Lab and Terrace areas. Poster submissions for RExpo Part II are due by Friday, March 15. Students, Faculty, and Staff are encouraged to submit quality research studies, both past and present, for a poster display at this event. For more information and accommodations, contact [researchexpo@gallaudet.edu](mailto:researchexpo@gallaudet.edu).

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Senda Benaissa, senior research associate/international academic coordinator in the Office of Research Support and International Affairs (RSIA), and principal organizer of the Gallaudet Research Expo, welcomes the audience to Elstad Auditorium on October 31, 2018 for Expo Part I: Presentation Session.

## Carnegie classifies Gallaudet ‘High Research Activity’ University

Gallaudet University’s ongoing commitment to research that benefits deaf and hard of hearing people and all humanity around the world led to a higher reclassification in December 2018 by the Carnegie Classification of Institutions of Higher Learning. For the first time since the classification system was created in 1970, Gallaudet is recognized as a research university, specifically, in Carnegie’s “Basic” Category for “Doctoral Universities: High Research Activity (R2).”

The Carnegie Classification of Institutions of Higher Education was created by the

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## Priority Research Fund grantees announced

The Office of Research Support and International Affairs (RSIA) joins Provost Carol J. Erting in extending congratulations to the following individuals for receiving Priority Research Fund (PRF) grants for the 2019 fiscal year.

A high level of research activity is essential to the mission of Gallaudet University and the well-being of our constituents. These researchers are to be applauded for helping Gallaudet fulfill these objectives.

The PRF is a \$35,000 award paid by RSIA to assist faculty and staff with expenses associated with getting their studies underway, with the understanding that they will obtain external funding to expand and sustain work in their chosen area when the start-up funding expires.

**Dr. Lori Day**  
**Dr. Deborah Schooler**  
Psychology  
**NEW: FIRST YEAR**

Title: Attitudes Toward Working with Deaf Clinical Psychology Trainees  
Abstract: Currently, there is a need for deaf mental health professionals to serve deaf populations, but bias against deaf students may result in an underrepresentation of deaf clinicians. Anecdotal reports document deaf students' experiences of biases from hearing supervisors. Combatting this bias requires a systematic understanding of the attitudes of hearing professionals, who may be perpetrators of bias, towards working with deaf trainees. With a multi-method approach, the proposed study addresses the attitudes of hearing psychology professionals towards working with deaf trainees. First, in a survey of trainers, attitudes

towards working with deaf trainees will be assessed. Quantitative and qualitative analyses will be used to identify the predictors of biased attitudes. Second, an intervention designed to shift attitudes towards working with deaf trainees will be tested. The intervention will be based on the literature on bias reduction, generally, and will be further informed by the results of our survey of clinical trainers. Taken together, these results will strengthen our understanding of the barriers deaf students experience during their training experiences and will provide us with tools for combatting discrimination.

**Dr. Sherry Eyer**

**Dr. Donna Morere**

Psychology

**Dr. Thomas E. Allen**

NSF Visual Learning and Visual Language (VL2)

**Dr. Ilaria Berteletti**

Ph.D. Program in Educational Neuroscience (PEN)

**SECOND YEAR**

Title: Language, Mathematics, Cognition, and Learning: The Extended Educational Longitudinal Study (EELS-II)

Abstract: Despite normal levels of intelligence, deaf children remain behind their hearing peers in academic achievement. Evidence highlights the importance of early language access for later academic success. Little research tracks achievement for deaf children with a view toward identifying the role of language in later cognitive and academic development. The current research will contribute basic knowledge through building on a previous longitudinal study that tracked deaf children and their emergent literacy skills from ages 3 to 7. Researchers will investigate whether previously observed relationships between early language skills and emergent literacy among these children predict later literacy and numeracy outcomes. They hypothesize that the impact of language skills on early reading will persist through all stages of reading skill development and also predict cognitive skills associated with numeracy through middle school. The proposed research would follow this cohort of children for an additional three years (beginning at age 10) with math and reading assessments, and allow us to develop and test models of learning that include indicators of early visual language experience and reading and math outcomes. Influences of home and classroom strategies on academic growth

## Gallaudet's TAP and IT partner with Google to produce popular speech to text app

Live Transcribe (<https://www.android.com/accessibility/live-transcribe/>), a speech to text app developed by Google in partnership with Gallaudet University's Technology Access Program (TAP), received more than a million downloads in the Google Play Store as of March 18, 2019, since its release for Android just six weeks earlier.

The app, which provides immediate and easy-to-use captioning of spoken, face to face conversations, was originally developed by Google for internal use by some of their deaf employees, according to Dr. Christian Vogler, director of TAP. However, once word of the technology got around, "members of the Gallaudet University community convinced the Google product team in March 2018 that there would be tremendous value in releasing it to the wider public," said Vogler.

Since then, Google has worked closely with TAP and Gallaudet's Information Technology program to receive user interface guidance. A heavy emphasis was placed on instant availability without complicated setup, visual indicators of the environment, and other features that mirror the conversational dynamics of deaf and hard of hearing people interacting with hearing people.

TAP coordinated the trusted tester program for Google during the run-up to the launch. Testers were recruited by TAP and featured a mix of students, faculty, and staff, as well as members of both the deaf and hard of hearing communities off-campus.



TAP staff members (from left) Dr. Christian Vogler, director, Norman Williams, senior research engineer, and Paula Tucker, research associate, demonstrate the Live Transcribe app.

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2018

## Deaf Studies Conference

*Booths representing different deaf organizations and vendors were set up at the Gallaudet Kellogg Conference Hotel, the site where most workshops were held.*

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international keynote speakers: Dr. Annelies Kusters from Heriot-Watt (Edinburgh, Scotland); Dr. Maartje De Meulder from the University of Namur (Namur Belgium); and Dr. Yutaka Osugi from Tsukuba University of Technology (Tsukuba, Ibaraki, Japan).

“It was incredible to see scholars and advocates from all over the United States and the world come to discuss new knowledge and trends in the field of deaf studies,” said Tawny Hlibok, Department of ASL and Deaf Studies assistant professor, who co-chaired the conference with Matthew Malzkuhn, an instructor in

the department. “Gallaudet is the perfect place to do that,” Hlibok added.

Post-conference proceedings will be published as part of the fifth issue of *Deaf Studies Digital Journal*. The publication is made possible by a generous grant from the National Endowment for the Humanities. Both Executive Editor Patrick Boudreault and Managing Editor Ivy Davis say they are genuinely thrilled to see the publication of more than 15 presenters from the conference made available to the community in the summer of 2019.



Trisha Houston, of California State University, Fresno, presented “Defining Academia Influences on Mobility, Identity, and Culture of Deaf Scholars in Higher Education.” Houston, an adjunct lecturer at Fresno City College and CSU Fresno, is preparing to defend her dissertation for a Doctorate in Educational Leadership.



Dr. Maartje De Meulder, postdoctoral research fellow at the University of Namur in Belgium, gives a presentation titled: “Transformations in Deaf Studies: Implications for Sign Language Policy, Revitalization, and Rights.” De Meulder has co-edited two edited volumes, *Innovations in Deaf Studies* and the forthcoming book *Recognizing Sign Languages*, and has publications in journals including *Language Policy*, *Language Problems and Language Planning*, *Current Issues in Language Planning*, *Human Rights Quarterly* and *Sign Language Studies*, and a range of book chapters in various books.





Keynote speaker Randall Amster, who leads curriculum change for Georgetown University's innovative *Designing the Future* project, gives insights on how Georgetown's community is experimenting with new ways to deliver exemplary higher education that keeps pace with an ever-changing world.



Provost Carol J. Erting welcomes the audience to Part I of the University's third Research Expo, designed around the theme, "The Value of Interdisciplinary Research."



Associate Provost for Student Success and Academic Quality Thomas Horejes introduces keynote speaker Dr. Randall Amster, faculty coordinator for the Core Pathways Initiative at Georgetown University.



Connor Baer, an undergraduate majoring in history and international affairs, presents his interdisciplinary research proposal, "Examining State Sterilization Laws: A Case Study." His research advisor is Dr. Brian Greenwald.



Senda Benaissa (left) and Susan Larson (right), a RSIA graduate assistant who helped coordinate the Expo, are shown with students who presented interdisciplinary research proposals at the event: (from second left) Ph.D. Candidates Diana Andriola and Bradley White, and undergraduate Connor Baer. (Not pictured is graduate student Daniel Maier.)



Dr. Benjamin Bahan, a professor in the Department of ASL and Deaf Studies and co-leader of academic programming for Gallaudet's Creativity Way, presents on Creativity Way's Interdisciplinary Knowledge Studios.



Bradley White, a Ph.D. candidate in the PEN program, presents his interdisciplinary research proposal, "The Role of Auditory Experience in the Neurobiological Systems for Effortful Listening." His faculty advisor is Dr. Clifton Langdon.



Diana Andriola, a Ph.D. Candidate in the Program in Educational Neuroscience (PEN), presents her interdisciplinary research proposal, "Investigating the Neurobiological Correlates of Phonological Awareness and Reading in Children." Her faculty advisor is Dr. Clifton Langdon.



Linguistics graduate student Daniel Maier presents his interdisciplinary research proposal, "Spatial Navigation Abilities in Older Deaf Adults With and Without Vestibular Impairment." His faculty advisors are Dr. Kristen Maul and Dr. Chiz Tamaki.



## “Research Expo Part II: Poster Session” to be held April 4, 2019; Part 1 provides glimpse at possibilities

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The Poster Session will be a natural segue from Part I of Gallaudet’s third Research Expo on October 31, 2018, which offered a glimpse at the almost unlimited possibilities that can be realized in bringing the University to higher, more enriching levels for its students through sharing the vast stores of talent the campus community possesses.

The morning component to Part I drew more than 100 people for a keynote presentation by Dr. Randall Amster, director and professor in the Program on Justice and Peace at Georgetown University, on how Georgetown is exploring ways to stay on the cutting edge of higher education in an ever-changing world through the using interdisciplinary engagement to address complex problems; a presentation by Dr. Benjamin Bahan,

a professor in the Department of ASL and Deaf Studies, on Gallaudet’s new Creativity Way: Interdisciplinary Knowledge Studios; and four presentations on insightful and meaningful interdisciplinary research proposals by undergraduate and graduate students.

In the afternoon, the upstairs of Peikoff Alumni House was an incubator of creative thought, filled with faculty, staff, and administrators who engaged in roundtable discussions pertaining to two high priority issues that the University must address in moving forward -- interdisciplinary approaches to Gallaudet’s challenges to ensure language acquisition for deaf and hard of hearing children from birth to age 5, and ensuring Gallaudet students access to an interdisciplinary, bilingual curriculum delivered in English/ASL and digital adaptive courseware.



More than 90 faculty, staff, and students, gather in ‘Ole Jim during the afternoon of the Research Expo for roundtable discussions hosted by President Cordano and Provost Erting.



President Cordano and Provost Erting are shown during the afternoon roundtable discussions.



President Cordano looks on as Evon Black (center) associate director of recruitment in the Office of Undergraduate Admissions, along with fellow members of her discussion group, Dr. Clifton Langdon, assistant professor in the Ph.D. in Educational Neuroscience Program, and Joseph Santini, director of instruction, curriculum, and assessment in the Clerc Center’s Department of Curriculum and Assessment, summarize their findings.

## Carnegie classifies Gallaudet ‘High Research Activity’ University

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Carnegie Commission on Higher Education as a framework for classifying U.S. colleges and universities, primarily for educational and research purposes. The classification first appeared in 1973, with seven periodic updates over the years, the last one in 2015. At that time, based on the Higher Education Research and Development (HERD) survey for research activities, Gallaudet reported conferring 18 doctoral degrees -- two shy of the 20 doctoral-level degrees required for Carnegie’s higher distinction -- and 141 master’s degrees. This earned Gallaudet the classification, “Master’s Colleges and Universities: Medium Programs,” which also takes into account a college or university’s awarding of between 100 and 200 master’s degrees.

The HERD survey for FY 2017 showed that the doctoral degrees Gallaudet awarded had risen to 25, justifying the High Research Activity classification. Another important factor taken into consideration in Gallaudet’s upgraded reclassification was the amount of funding earmarked for research and development. The latest HERD survey reported Gallaudet spent about \$7 million for research and development, surpassing the \$5 million minimum requirement and placing Gallaudet in consideration for “Very High Research Activity (R1).” The R2 classification was determined by a formula that calculates the University’s aggregate level of research and per capita research using expenditures and staffing divided by the number of full time faculty.

## Schuchman Deaf Documentary Center solves a puzzle, discovers a mystery

Research continues on the involvement of Deaf test subjects in early space studies. Comparing historic personal letters about the 1955-1968 weightlessness and motion sickness studies with scientific reports resulted in a revelation -- and a mystery.

Deaf people in the 1950s and 1960s could not simply pick up a phone and call home: teletypes had yet to be invented and no interpreting relay services existed. This made detailed, descriptive letters the primary means of communicating to loved ones about what was happening during research conducted at the Naval School of Aviation Medicine in Pensacola, Florida. Luckily, one man, Robert Greenmun, Gallaudet Class of 1936, documented in personal letters the many experiments in which he participated.

Greenmun's attention to detail helps us understand the nature of scientific research on weightlessness and motion sickness, and also offers a glimpse into Deaf life and culture. Recently, copies of several National Aeronautics and Space Administration research reports came to the Drs. John S. & Betty J. Schuchman Deaf Documentary Center (SDDC).

Several letters mentioned stitching of the eyes, but it was not clear until now how that happened. Silk threads attached to the eyes enabled researchers to notice minute fluctuations. It was easier to notice the movement of a thread than the flutter of the eye. But how were those threads attached? A 1960 report "The Loss of Counter-Rolling of the Eyes in Three Persons Presumably Without Functional Otolith Organs" explains that "sutures in the conjunctiva" provided the visual markers. Threads were sewn into the inside of the eyelid, not the cornea.

This was a revelation and a relief. At least nothing was attached to the cornea. But the report raised a new question: it mentioned a new Deaf person, a 27 year-old woman with the initials DG. It is becoming clear that the involvement of Deaf women, particularly the first test subjects, got lost in the community narrative. Slowly, we are adding their names to the record.

The SDDC continues to research and build the collection, and work on a documentary film has begun. The Deaf Difference + Space Survival exhibition remains open in the Jordan Student Academic Center.

-- By Jean Bergey, associate director, SDDC. (Bergey's in-depth account of Deaf people's participation in weightlessness and motion experiments in early space research can be found at <https://www.gallaudet.edu/news/deaf-difference-space-survival>.)



The Drs. John S. & Betty J. Schuchman Deaf Documentary Center is grateful for community support, including (from left) Jane Fleitman Nowalski, Dr. E. Lynn Jacobowitz, Lori Kronick Bonheyo, Donna DiMarco, Hillary Bressler Rosko, and Janet Rothenberg Weinstock, who organized a gathering of deaf people with New York City, N.Y. roots to help raise funds for a three-year research project to document deaf New York City stories. Together, they helped Gallaudet match a National Endowment for the Humanities challenge grant for the Deaf NYC Project.  
Photo: Zhee Chatmon



On May 9, 2018, Navy and NASA test subject Harry Larson, Class of 1961, gave a tour of the Deaf Difference + Space Survival exhibition to colleagues David Winkler and Diana West from the Naval Historical Foundation. They discussed and marveled about how the story of deaf participation in early space science went largely unknown for over half a century. A full story by Jean Bergey, associate director of the Schuchman Deaf Documentary Center, can be found at <https://www.gallaudet.edu/news/deaf-difference-space-survival>.

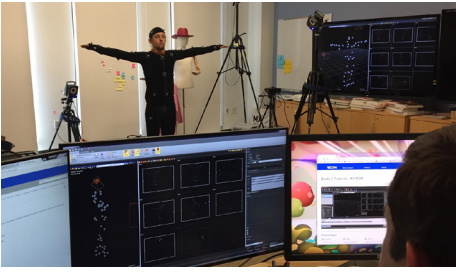
Photo: Rani Alameh



Dr. Brian Greenwald (left) and Dr. William Ennis III (center) are pictured with an unidentified interpreter at the 10th Deaf History International Conference, held July 17 to 21 at the University of Technology Sydney in Sydney, New South Wales, Australia, which was co-sponsored by Gallaudet. They presented a paper they co-authored, "The Eugenic Attack in American Deaf People: Discourse in Deaf Marriage and Fecundity," and contributed a poster, "The National Deaf Mute College Benefactor and Friend: Henry Dawes and Native American Hostilities." Greenwald and Ennis are professors in the Department of History, Philosophy, Religion, and Sociology, and Greenwald is director of the John S. & Betty J. Schuchman Center on Deaf Documentary Studies. Greenwald was elected president of Deaf History International at the conference, which carried the theme "Colonialism in Deaf History."

Photo: Zhee Chatmon





## NSF INSPIRE team holds meeting to advance RAVE language learning tool

The National Science Foundation's (NSF) INSPIRE grant team, headed by Dr. Laura-Ann Petitto, primary investigator, convened its fall 2018 international meeting at Gallaudet in the Petitto Brain and Language Laboratory for Neuroimaging (BL2), September 16 to 20, 2018, where it discussed its revolutionary language learning tool, the Robot AVatar thermal-Enhanced prototype, or "RAVE."

The aim of the meeting was to explore new tests and analyses on collected experimental data in order to: better understand RAVE's ability to facilitate language learning in young deaf and hearing babies; design new experiments to study and test RAVE's potential to positively impact infant language learning; explore new variations of RAVE's AI and thermal IR imaging technology that can be developed to improve it; discuss directions for dissemination, including publications and conferences; discuss potential Big Data testing of RAVE involving the Cloud, as well as possible site testing in homes and schools; and explore new grants to write.

Professor Petitto is thankful to her collaborators for traveling small and great distances for the NSF INSPIRE conference. The work completed by the team focused on what is next for RAVE, including how to best disseminate the results of the transformative learning tool system and its data to the scientific and general community.

Visit [Petitto.net/what's-new/rave/](http://Petitto.net/what's-new/rave/) to learn more about RAVE and its interdisciplinary team.

### About RAVE

The RAVE language learning tool is designed to provide language to young babies, deaf and hearing (ages 6 to 12 months), with minimal language exposure during critical periods of brain sensitivity when young babies need to encounter the rhythmic temporal patterns of their native

language. Exposure to these language patterns in early life contributes to a baby's acquisition of its language's phonetic-syllabic units (be it signed or spoken), vocabulary, syntactic and morphological regularities -- all vital to early reading success. RAVE involves an embodied robot that directs attention to an avatar producing American Sign Language (ASL) and other social gestures and communicative behaviors.

Two features make RAVE unique in science and translation: (1) RAVE provides rhythmic temporal language patterns in ASL that the human infant brain needs to encounter at just the right period in development; (2) RAVE uses advanced artificial intelligence technology and computational algorithms that permit RAVE's artificial avatar agent the remarkable capacity to produce language conversations and social interactions with a human baby that are socially contingent on (that is, meaningfully related to) the baby's emotional and attentional level of interest (as measured with the innovative technology called Thermal Infrared Imaging) -- even before the baby is actually capable of producing language.

### VL2's Dr. Lorna Quandt and Melissa Malzkuhn secure \$300,000 NSF funding award

NSF-Gallaudet Science of Learning Center, Visual Language and Visual Learning (VL2) team members Dr. Lorna Quandt and Melissa Malzkuhn secured a new NSF funding award in the amount of \$300,000 (award no., 1839379) for the project, "Signing Avatars & Immersive Learning: Development and Testing of a Novel Embodied Learning Environment." Quandt, an assistant professor in the Ph.D. in Educational Neuroscience Program, serves as the principal investigator of the research project, and Malzkuhn, creative director of the VL2 Motion Light Lab, is co-principal Investigator.

Improved resources for learning ASL are in high demand. Traditional educational materials for ASL tend to include books and videos, but there has been limited progress in using cutting-edge technologies to harness the visual-spatial nature of ASL for improved learning outcomes. Interactive speaking avatars have become valuable learning tools for spoken language instruction, whereas the potential uses of signing avatars have not been adequately explored.

The aim of this Early Grant for Exploratory Research is to investigate the feasibility of a system in which signing avatars (computer-animated virtual humans built from motion capture recordings) teach users ASL in an immersive virtual environment. The system is called Signing Avatars and Immersive Learning (SAIL).

The project focuses on developing and testing this entirely novel ASL learning tool, fostering the inclusion of underrepresented minorities in STEM. This work has the potential to substantially advance the fields of virtual reality, ASL instruction, and embodied learning.

This project leverages the cognitive neuroscience of embodied learning to test the SAIL system. The ultimate goal is to develop a prototype of the system and test its use in a sample of hearing non-signers. Signing avatars are created using motion capture recordings of native deaf signers signing in ASL.

The avatars are placed in a virtual reality landscape accessed via head-mounted goggles. Users enter the virtual reality environment, and the user's own movements are captured via a gesture-tracking system. A "teacher" avatar guides users through an interactive ASL lesson involving both the observation and production of signs.

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## DoIT continues tradition of producing highly productive research scholars

Faculty and students in the Department of Interpretation and Translation (DoIT) continue making notable strides in research, as illustrated by the following examples:

### Seven Ph.D. graduates complete dissertations in 2018

A large body of original scholarship was generated in 2018 from the seven individuals who graduated with a Ph.D. from DoIT: LeWana Clark, Stephen Fitzmaurice, Keith Gamache, Mark Halley, Annette Miner, Laurie Shaffer, and Naomi Sheneman. Their research topics included an examination of speaker identification by interpreters in legal settings, a study of policies surrounding K-12 interpreters, fingerspelling development and production by students, interpreter activists in the DPN protest, situated learning in interpreter education, an ethnographic study of healthcare interpreting, and the role of extra-linguistic knowledge in interpreting.

### Students present findings at 2018 Master's of Interpreting Research Forum

After a year and a half of work, students in the Master's of Interpreting (MAI) Program presented their original research findings at DoIT's Annual MAI Research Forum. Their studies examined a variety of topics in interpreting and translation studies and pedagogy. Jeremy Miller was presented with DoIT's Excellence in Research at the 2018 Graduate Hooding exercises for his study, "Impact of visual preparation materials on depiction in ASL interpretations and target audience comprehension."



MAI students at the 2018 Research Forum are (from left): Rachel Sulmonte, Elsa Sylvester, Angela Reel, Krystal Butler, Jeremy Miller, Jenni Mosiman, Cami Miner, SJ Knight, and Lena Jenny.

### BAI students shine with 2018 research poster presentations

Twenty-three DoIT seniors presented the findings of their small-scale research projects during the 2018 BAI Research Poster Presentations. The BAI students included Alecia Abeling, Alyssa Barlow, Kaylee Bodtke-Stout, Calene Carrano, Jim Celestine,

Margaret Coffey, Teresa Dominick, Susan Galdieri, Michael Hernandez, Bridgette Johnson, Carlton Mangonon, Casey McCarthy, Ryan McMillen, Eliany Morejon, Ashley Pigliavento, Aleksandr Rozentsvit, Emilio Schaffino, Naomi Schofield, Rebecca Snodgrass, Courtney Thomas, Martin Valli, Megan Watson, and Candace Whitlow.



BAI researchers with instructors Janis Cole (standing, left), ASL tutor; Annie Marks (standing, right), doctoral student; and Dr. Keith Cagle (standing, behind Marks), DoIT chair.

Photo: Tony Ellis

### DoIT Colloquium Lecture Series

The Gallaudet University Department of Interpretation and Translation and Center for the Advancement of Interpretation and Translation's 2018-19 Colloquium Lecture Series closes with an April 12 presentation by Paul Harrelson, DoIT instructor, entitled "Deaf employees' perspectives on effective interpreting in the workplace," takes place from 10 to 11 a.m. in Merrill Learning Center, #B111.

The highly acclaimed annual series consists of four academic lectures that showcase research scholars presenting on topics critical to interpreting and translation studies, and in keeping with Gallaudet's reputation as a world leader in research, development, and outreach leading to advancements in knowledge and practice for deaf and hard of hearing people. The highly acclaimed series is viewed by thousands of students, practitioners, and scholars nationally and internationally.

The first lecture, "The phrasal rhythm in ASL varieties: What interpreters need to know," was presented on October 12, 2018 by Dr. Joseph Hill, an assistant professor in the Department of American Sign Language and Interpreting Education at the National Technical Institutes for the Deaf at Rochester Institute of Technology, who earned his master's and doctorate degrees in ASL linguistics from Gallaudet.

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## DoIT continues tradition of producing highly productive research scholars

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The second lecture, “Community based participatory research in Interpreting Studies,” was given on December 7, 2018 by Dr. Miako Villanueva, an associate professor in the Department of Linguistics at Gallaudet, who specializes in applied linguistics and engaged research – incorporating knowledge and approaches gleaned from linguistic research of ASL directly into language teaching, curriculum development, language assessment, interpretation, and interpreting pedagogy. She also maintains a freelance interpretation practice.

The third lecture, “Paying undue allegiance to sociology: Deconstructing descriptive devices for ethical guidance,” took place on February 8 and was presented by Dr. Robyn Dean, lead instructor for the Rochester Institute of Technology’s graduate degree program in healthcare interpretation.



*Dr. Miako Villanueva was the second presenter in the 2018-2019 DoIT lecture series, presenting December 7 on community based participatory research in interpreting studies.  
Photo: Tony Ellis*



*Dr. Joseph Hill (in blue shirt) is surrounded by Gallaudet students, faculty, and fans at his October 12 presentation, which opened the 2018-2019 DoIT Colloquium Lecture Series.  
Photo: Tony Ellis*

## DoIT faculty publications and presentations around the globe

**Dr. Keith Cagle** gave two lectures at the Seventh Forum of the National Institute of Deaf Education in Rio de Janeiro, Brazil, in July 2018. One lecture, titled “Deaf perspectives in translation in American Sign Language,” was based on his collaborative research with **Dr. Brenda Nicodemus**, Dr. Laurie Swabey, professor of Interpreting at St. Catherine University, Minn., and director of the Collaborative for the Advancement of Teaching Interpreting Excellence, and Jim Beldon, co-owner of Keystone Interpreting Solutions and a teacher at St. Catherine University. Cagle’s second lecture was titled “Trajectory of translators and interpreters in the Americas: Political perspectives on career.”



*Dr. Keith Cagle presents in Rio de Janeiro, Brazil  
Photo: Tony Ellis*

“The ASL-English interpreter-scheduler interface,” an article by **Pamela Collins**, was accepted for the June 2019 issue of the prestigious Italian journal *Rivista di Psicolinguistica Applicata* (Journal of Applied Psycholinguistics). An article by **Dr. Valerie Dively**, Dr. Giulia Petitta, former DoIT visiting scholar from the National Research Council, Rome, Italy, Nicodemus, and DoIT doctoral students **Mark Halley** and **Mark Holmes**, was awarded “Best Paper in 2018” by Names: The Journal of Onomastics. Dively and Holmes presented this collaborative work at the 2018 American Name Society Annual Meeting in Salt Lake City, Utah.



*Dr. Valerie Dively and doctoral student Marc Holmes present at American Name Society in Salt Lake City, Utah.*

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## NSF INSPIRE team holds meeting

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Users learn ASL signs from both the first-person perspective and the third-person perspective. The inclusion of the first-person perspective may enhance the potential for embodied learning processes. Following the development of SAIL, the project involves conducting an electroencephalography (EEG) experiment to examine how the sensorimotor systems of the brain are engaged by the embodied experiences provided in SAIL.

The project team pioneers the integration of multiple technologies: avatars, motion capture systems, virtual reality, gesture tracking, and EEG with the goal of making progress toward an improved tool for sign language learning.

This award reflects NSF's statutory mission and has been deemed worthy of support through evaluation using the foundation's intellectual merit and broader impacts review criteria.

### Malzkuhn named Founding Obama Fellow

Melissa Malzkuhn was selected as member of the inaugural class of Obama Fellows, one of only 20 individuals out of 20,000 applicants from 191 countries. She was selected for her work designing digital tools for deaf children.

The Obama Foundation Fellows are powerful examples of the many pathways that individuals can take to improve their communities. These civic leaders bring a variety of disciplines and skill sets to their work – including community organizing, healthcare, technology, and the arts – and they apply those talents to a range of missions, from empowering parents and teachers to improve our schools, to ensuring deaf children have equal access to literacy tools, to bringing trauma-informed care to the criminal justice system and refugee camps, to working with partners across the healthcare system to treat addiction collaboratively.

### Kubicek to Participate in Society for Neuroscience's 2019 Early Career Policy Ambassadors Program

Emily Kubicek (Dr. Lorna Quandt, advisor), a third year Ph.D. in Educational Neuroscience (PEN) Program student, has been selected to participate in the Society for Neuroscience's 2019 Early Career Policy Ambassadors (ECPA) Program. The one-year program will allow Kubicek and other early career scientists to interact with leading neuroscience advocates, meet policymakers, gain necessary skills to advocate for science, and encourage those in their personal networks to join the conversation.

The ECPA program kicks off at the Society for Neuroscience's 2019 Capitol Hill Day, where the ambassadors will engage with members of Congress about the value of strong national invest-

ment in scientific research, including the National Institutes of Health and the National Science Foundation (NSF). Over the course of the year, Kubicek will engage in at least two additional advocacy-related activities at the NSF-Gallaudet University Science of Learning Center, Visual Learning and Visual Language (VL2), which houses Gallaudet's PEN program.

Kubicek works in the VL2 Action & Brain Lab, where she uses electroencephalography to investigate the neural underpinnings of spatial cognition in signers and non-signers. Specifically, her research explores how sign language experience may impact performance on mental rotation tasks. Kubicek is passionate about diversity in STEM and hopes her work both in and out of the lab will aid in creating a more accessible environment for all underrepresented groups in science.

### PEN Distinguished Lecture Series continues

The Ph.D. in Educational Neuroscience (PEN) Program recently continued its 2018-2019 Distinguished Lecture Series in Educational Neuroscience with a February 21 presentation by Dr. Sian Beilock, eighth President of Barnard College and a cognitive scientist whose research has revolved around performance anxiety, with a focus on success in math and science for women and girls. Beilock's topic will be "Overcoming anxiety about math" for the PhD in Educational Neuroscience (PEN) Distinguished Lecture Series.

The lecture series closes with an April 4, 2019, presentation by Dr. Ted Supalla, professor of neurology, linguistics, and psychology at Georgetown University and director of the Sign Language Research Lab. Supalla's lecture, "Revisiting the Process of Grammaticalization in Signed Languages"

Both lectures take place 4-5:30 p.m. at Gallaudet Merrill Learning Center, Room B111. The events are free and open to the public. This year's lecture series theme, "From Mirror Neurons To Society: How The Brain And Experience Provide New Insights Into Learning," has showcased work investigating the neural underpinnings of learning and experience. How does the brain learn through differing experiences and societal context?

Internationally renowned scientist, Dr. Giacomo Rizzolatti (University of Parma and Consiglio Nazionale delle Ricerche, Italy) kicked off the series on October 25 with "The 'Mirror' Brain," followed by Dr. Sebastian Lipina, director of the Unit of Applied Neurobiology for the National Council of Scientific and Technical Research in Argentina, who presented "Contemporary Neuroscientific Contributions to the Study of Childhood Poverty" on November 15, 2018.

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## PEN/NSF

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In summer 2018, Dr. Ilaria Berteletti, director of the Ph.D. in Educational Neuroscience, was invited to the University of Trento in Italy to collaborate on a new project investigating the impact of education and language experience on the development of children's number sense. Berteletti is pictured with Dr. Manuela Piazza (right) of the University of Trento, in front of the Palazzo Fedrigotti (ca. 1790 A.D.), which houses the Interdepartmental Center for the Mind and Brain.

Photo: Kennesha Baldwin



Dr. Laura-Ann Petitto, head of the National Science Foundation's INSPIRE grant team, gave a lecture on October 3, 2018, at the internationally renowned MRI Neuroimaging Center in (Saclay) Paris, France. Petitto's lecture, "Babies Sensitivities to the Rhythmic Temporal Beats of Human Language," articulated discoveries revealing the rhythmic temporal patterning sensitivities that infants possess to specific aspects of the structure of human language. Petitto is pictured with Dr. Stanislas Dehaene, director of the INSERM-CEA Cognitive Neuroimaging Unit, Collège de France.

Photo courtesy of Dr. Laura-Ann Petitto

## DoIT continues tradition of producing highly productive research scholars

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In addition to presenting at the 2018 Conference of Interpreter Trainers, **Paul Harrelson** published a chapter with doctoral students **Yi Hin Chan** and **Annie Marks** in a 2018 Gallaudet University Press volume titled *Next Generation of Research in Interpreter Education: Pursuing Evidence-Based Practices*. In December 2018, **Dr. Danielle Hunt** gave a research presentation titled "Ideology in signed language interpretation research and practice: Identity and alignment" at the CLAVIER 18 – The Corpus and Language Variation in English Research conference in Milan, Italy. Hunt and **Dr. Melanie Metzger** also completed final revisions for two papers on interpreter education co-authored with DoIT Chair **Dr. Keith Cagle**, both to appear in 2019.

In 2018, **Dr. Brenda Nicodemus** co-authored two papers with DoIT doctoral students **Sandra McClure** and **Mark Halley** and **Marc Holmes**. She co-authored and published two research articles with Dr. Karen Emmorey from the Laboratory for Language and Cognitive Neuroscience in San Diego, Calif. In addition, she was the co-editor of a special issue of the journal *Translation and Interpreting Studies* that focused on linguistic analysis in interpretation studies.

**Dr. Emily Shaw** presented at the International Society for Gesture Studies in Cape Town, South Africa. Her talk, "When multimodal systems collide: Interpreting multimodality between hearing and deaf interactants engaged in a shared task," focused on the study of gestured constructions that emerged between deaf and hearing co-workers. Shaw also completed her book, *Gesture in Multiparty Interaction*, where spoken English and ASL interactions are examined as fundamentally embodied. Shaw continued her analysis of the palm up form in interpreted interaction in the fall with bachelor in interpretation major and linguistics minor **Weston Broache**. She is also partnering with Dr. Julie Hochgesang, associate professor in the Department of Linguistics, in developing two projects that include corpus-based approaches to collecting and analyzing language variation in ASL.

**Dr. Lori Whynot** is engaged in a postdoctoral fellowship in the Netherlands with the Radboud University Center for Language Studies' Vici grant project, "Deaf Communication Without a Shared Language." The research team is studying aspects of International Sign conference interpreting and cross-signing communication strategies in relation to the linguistic distances between the languages of the interlocutors.

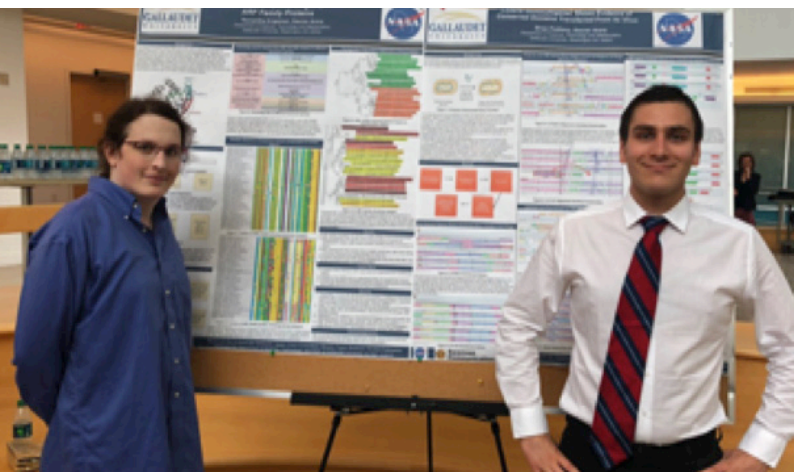
## News summary from the Department of Science, Technology, and Math

### Student researchers benefit from faculty expertise

Dr. Gaurav Arora, an assistant professor in the Department of Science, Technology, and Math (DSTM), worked with two 2018 summer interns on research projects in evolution. Brian Podlisny, a biology major, looked at horizontal gene transfer (HGT) between viruses and bacteria. HGT consists of the transfer of genetic materials between organisms. Genes that are received through HGT by bacteria are quickly removed unless these genes serve a beneficial role. Podlisny was interested in *Listeria monocytogenes*, a bacterium known to cause stomach infections. His analysis found evidence of genes transferred from specific viruses to *Listeria*. He also found that these genes are kept by the bacteria. Podlisny also showed that parts of these transferred genes are conserved in *Listeria*, suggesting a functional role.

Samantha Krigsman, an information technology major, worked on the evolutionary analysis of a family of proteins known to play a role in cell transportation. Krigsman studied the gene sequences of these proteins in several organisms and showed that some of these proteins are related via common chemical signatures. She created a number of evolutionary trees to understand the role of these proteins.

Arora also collaborated with Dr. Caroline Solomon, a biology professor in DSTM, on a project that looked at the presence of bacteria in Anacostia water samples. Arora and his students used computational and bioinformatics tools to analyze biological data, making the research a good example of interdisciplinary work with many opportunities for collaboration between disciplines.



*Casey Peck and Jonathan Gutierrez garnered second place awards at the October 20, 2018 University of Maryland, Baltimore County Undergraduate Symposium for their work. More than 200 student researchers gave presentations at the symposium.*

### Research Experiences for Undergraduates Program -- Accessible Information and Communications Technologies

Gallaudet's Accessible Information and Communication Technologies (AICT) Program hosted a Research Experiences for Undergraduates Program for students from all over the United States during the summer of 2018. The 10-week program was led by Dr. Raja Kushalnagar, Information Technology Program director in DSTM, Dr. Christian Vogler, Technology Access Program (TAP) director, Dr. Poorna Kushalnagar, Deaf Health Communication and Quality of Life Research Lab director, Linda Kozma-Spytek, senior research audiologist in TAP, and Norman Williams, senior research engineer for TAP and Visual Language & Visual Learning. This noted group of researchers provided a unique, accessible computing research environment focused on user interface requirements, application development, and information testing of communication programs used by deaf, hard of hearing, and low vision people.

The following undergraduates and their research projects on wideband audio, multimodal user interfaces, captioned video relay services, and voice interfaces were as follows:

- Samantha Krigsman (Gallaudet University): "Origins of G-Proteins in the Tree of Life."
- Brian Podlisny (Gallaudet University): "Evidence of Horizontal Gene Transfer in *Listeria monocytogenes*."
- Casey Peck (Gallaudet University): "Why are there high levels of ammonium in the Anacostia River -- Who is responsible? A look at the Anacostia River microbiome."
- Mauricio Orzoco (Gallaudet University): "The effect of a rainy spring: Examining the effectiveness of the Anacostia River Storage Tunnel."
- Becca Dingman (Rochester Institute of Technology) and Eli Litwick (University of Maryland): "Impact of Wideband and Narrowband on Phone Conversations by Hard of Hearing Users."
- Jacob Rhoades (Rochester Institute of Technology) and Landrie Tchakuoa (Jackson State University): "Captioned Video Relay Service."
- Evan Gambill (Mercer University), Jason Rodolitz (Pomona College), and Brittany Willis (Gallaudet University): "Voice Interface Accessibility for Deaf or Hard of Hearing Users."
- Athena Willis (Gallaudet University) and Elizabeth Codick (Rochester Institute of Technology): "Design and Evaluation of User Interfaces American Sign Language and English Print."

The wideband audio team (Kozma-Spytek, Dingman, and Litwick) investigated whether wideband audio significantly improves communication quality in telephone conversations with deaf or hard of hearing participants. They found that there was no significant difference, but there are many factors that telecommunications industry stakeholders need to be aware of in order to understand how their audio encoding choices affect accessibility.

The voice interface team (Vogler, Rodolitz, Gambill, and Willis) investigated whether deaf and hard of hearing consumers want alternate interfaces in lieu of voice interfaces and, if so,

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what requirements are important for them when they use voice interfaces. They found that, overwhelmingly, users prefer alternate interfaces, but the consensus later became less clear due to the lack of maturity in voice interfaces.

The captioned video relay team (Rhoades and Tchakoua) investigated deaf and hard of hearing users' preferences for automatic captioning in conjunction with sign language interpreters. They discovered that users find automatic captions useful in clearing up misunderstandings, but that the first draft of caption interfaces was not usable.

The multimodal user interfaces team (Dr. R. Kushalnagar, Willis, and Codick) investigated disparities in deaf user efforts in following and seeking academic information via written and signed modalities. Deaf and hard of hearing people used different modalities depending on whether they were reading, searching, or skimming information.

The survey team (Dr. P. Kushalnagar, Willis, and Biskupiak) developed a revised version of the System Usability Scale (SUS) in ASL (SUS-ASL\_R).

The REU AICT program will start advertising for applications in spring 2019, at <http://aict.gallaudet.edu>.

### Center for Science and Technology Research brings together faculty members

Starting from Fall 2018, a new Center for Science and Technology Research (CSTR) was started at Gallaudet with Dr. Paul Sabila, a professor in DSTM, as the director. The CSTR has brought together nine DSTM faculty members from various backgrounds with the goal of strengthening STEM research collaboration within the University. An additional aim of the center is to recruit, train, and mentor students from Gallaudet and other universities. The CSTR faculty members are: Dr. Gaurav Arora, Dr. Tugba Kucukkal, Dr. Caroline Solomon, Dr. Adebawale Ogunjirin, Dr. Raja Kushalnagar, Dr. Emily Meehan, Dr. Mohammad Obiedat, Dr. Joshua Schneider, and Dr. Paul Sabila. Anna Robinson is the lab coordinator for both Biology and CSTR labs.

### Advancements in nanotechnology research continue

Dr. Sabila has been working on various projects related to nanotechnology and organic synthesis. Nanotechnology is the study, synthesis, and fabrications of materials and devices in the nanoscale which is one billion times smaller than a meter. It aims to study, explore, and exploit these properties to make new general devices that are faster and more efficient with potential applications in various sectors, including electronics, semiconductors, healthcare, and therapeutics.

Sabila works on various synthetic routes to bismuth telluride and molybdenum disulfide nanomaterials. Bismuth telluride nanomaterials have interesting thermoelectric properties, making it a viable candidate for synthesis and fabrication of energy-harvesting devices that convert heat to electrical energy. This has a potential application in new generation of solar panels, personal and wearable electronic and medical devices like phones, watches, medical



*The Department of Science, Technology, and Mathematics (DSTM) and the Technology Access Program hosted a joint poster and demonstration symposium by four internship programs on July 27, 2018 at the Sorenson Language and Communication Center Atrium. This marked the ninth year that Gallaudet has hosted a summer internship program. Interns from four internship programs -- accessible information and communications technology, bioinformatics, ecology, and nanotechnology -- shared their summer research projects and findings.*

devices like hearing aids, blood sugar monitors, and pacemakers. Molybdenum disulfide nanomaterials have semiconductor properties with the potential of replacing silicon in the semiconductor industry. Sabila is also working to develop new methodologies for the synthesis of organic compounds, with the goal of using cheaper and readily available starting materials and inexpensive catalysts that are more environmentally friendly. More recently, he started working on the application of electrochemical techniques to synthesize organic compounds.

Sabila has continued to collaborate with researchers from Howard University, Harvard University, and Massachusetts Institute of Technology under the Center for Integrated Quantum Materials. Last summer, Sabila and collaborators from Howard University mentored Gallaudet student Jaquelyn Lalescu in her research on the use of a Raman spectroscopy instrument to analyze nanomaterials. During the internship, she prepared a video in American Sign Language to help deaf and hard of hearing students learn how the Raman instrument works, how to prepare and analyze samples, and finally, how to analyze Raman spectroscopy data and interpret the results. Lalescu also gave two presentations on "Introduction to American Sign Language and the Deaf Culture" (one at Howard University and one at Harvard University).

### Ion channel research findings published in interdisciplinary journal

Activities like walking, moving hands, etc. result from billions of neurons in our body that communicate through electrical signals. However, these signals cannot pass from one neuron to another due to a tiny gap between them. Neurotransmitters such as acetylcholine are needed to bridge the gap. Nicotinic acetylcholine receptor, a transmembrane ion channel

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## News summary from DSTM

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protein, opens up upon binding a neurotransmitter and lets the ions pass through. Mutations in this protein are linked to neurological disorders such as hereditary epilepsy.

The goal of a study by principal investigator Dr. Tugba Kucukkal, DSTM assistant professor in the Chemistry and Physics Program, and project collaborator Dr. Steven Stuart of the Clemson University Department of Chemistry, was to understand how mutations change ion channel proteins through computer simulations. Their study was published in the November 2018 issue of *Journal of Theoretical and Computational Chemistry*.

According to Kucukkai, natural protein was embedded in a lipid bilayer mimicking the cell membrane, which then immersed into physiological saline solution, again mimicking its natural environment in the body. Acetylcholine binding was copied through external electrical voltage. Two mutant protein systems were prepared the same way.

After running complex simulations, the systems were analyzed to see the difference between the natural and mutant protein properties. Mutants were found to affect the energetics and geometry of the channel significantly. One of the mutants blocked the channel and prevented ion passage, even though the channel was geometrically open after applying high external electrical voltage. This was due to the high energetic barrier caused by the mutant.

### Research on synthesis of molecules through ligand gated ion channels has medical implications

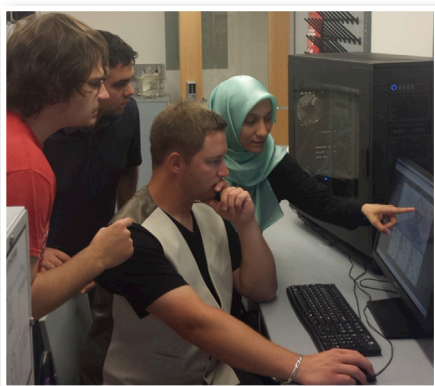
Research by Dr. Adebawale Ogunjirin, DSTM assistant professor on the synthesis of small molecules that can bind to and modulate the flux of ligands, ions or molecules attached to a metal atom by coordinate bonding, through gated channels, has implications into drugs that treat a variety of disorders.

Ligand gated ion channels (LGICs) are opened, or gated, by the binding of a neurotransmitter to an orthosteric site(s) that triggers a conformational change in the receptor protein. The change in conformation changes how the receptor allows ions such as sodium, potassium, or chloride to pass through it. In other words, the passage of ligand through the receptor is gated, in this case managed, by a neurotransmitter in this kind of receptor. The modulation of gating is not limited to endogenous neurotransmitters. Modulation of gating can occur by the binding of endogenous or exogenous modulators to allosteric sites – sites other than where the endogenous modulator binds. LGICs are known to mediate fast synaptic transmission in the nervous system and at the somatic neuromuscular junctions.

The synthesized small molecules act as exogenous modulators, thereby translating into drugs for the management of disorders associated with neurotransmitter release, degradation, or insufficiency, or as enzyme substrate in clinical practices.

Ogunjirin supervises a laboratory at Gallaudet where he mentors students in the art of drug design. He also collaborates with chemical researchers at Howard University and James Madison University. The latter university's state-of-the-art instruments aid in quick synthesis, purification, and identification of newly synthesized compounds.

Collaborations like this provide summer internship opportunities to deaf students at Gallaudet and elsewhere. They also enhance faculty's professional expertise through research interaction with other experts in the field. In fall 2017 and spring 2018, for example, Ogunjirin mentored Jonathan Gutierrez, who won an award to present his work at the Annual Biochemical Research Conference for Minority Students. In the summer of 2018, Ogunjirin mentored Gregorio Mata in the art of designing, synthesizing, isolating, and identifying newer compounds from pre-existing ones. Specifically, Mata pursued Ogunjirin's research goal to synthesize a series of nicotinic acetylcholine receptor ligands with different alkyl chain length attached to pyridine nitrogen of the lead compound, A84543. His work was among those at DSTM's November 9, 2018 undergraduate research poster presentations.



Dr. Tugba Kucukkal, an assistant professor in the Department of Science, Technology, and Math, and student researchers Ian Evans, Chemistry and Physics Program,

and Kiana Estrada, Biology Program, use Gallaudet's HPC Limulus Supercomputer for computer simulations to map target mutation sites for their research study, "Development of an Accurate Computational Protocol to Study Ataxia Disease-Causing DNA Mutations." Friedreich's Ataxia is an inherited disease that causes progressive damage to the nervous system. Currently, there is no cure. Their research aims to understand how DNA variations (mutations) cause the disease through molecular modeling (computer simulations). The research will be presented at the Gallaudet Research Expo on April 4, 2019.



Jonathan Gutierrez (right) is shown with Dr. Adebawale Ogunjirin at the 2018 Annual Biochemical Research Conference for minority students in Indianapolis, Ind.



## Faculty, Staff, & Students awarded



This year's recipients for the fourth Dr. Rachel Hartig Research Excellence Award were: Dr. Anne Quartararo (center), who was awarded for her book, *Deaf Identity and Social Images in Nineteenth-Century France*, and Dr. Joseph J. Murray (right), ASL and Deaf Studies professor and World Federation of the Deaf vice president, who co-authored a scholarly work on the recognition of sign Languages and the rights of deaf communities worldwide. The award, named for Professor Emerita Rachel Hartig (left), who retired from Gallaudet's Department of Foreign Languages, Literatures, and Culture in 2011 after teaching for 38 years, encourages and celebrates the production of noteworthy work in the field of international deaf cultural studies.

Photo: Pilar Pinar



Katherine Bean, M.A. Program in International Development support staff member and outreach liaison, was a featured panelist at a June 11, 2018 Gender Summit hosted by FHI360, an international nonprofit organization working to improve the health and well-being of people around the world. Panelists addressed a wide range of topics, including barriers to entry and advancement, implicit biases and microaggressions, the near-absence of women of color in the development field, and the lack of deaf professionals and professionals with disabilities. Bean stated, "...deaf professionals bring an unique lens and approach to work that is needed in the international development field."

Photo courtesy of Audrey Cooper

### OSP, RSIA, IRB, and Graduate School Collaborate on New Research/Grants Management Tool

The Office of Sponsored Programs, Research Support and International Affairs (RSIA), the Institutional Review Board (IRB), and the Graduate School and Continuing Education have been working together over the past year to purchase and implement a new, integrated research and grants management tool, the Cayuse Research Suite. During the fall 2018 semester, members from each unit attended intensive training and customization sessions to make sure the system fits Gallaudet's research and grant needs, allowing the University to manage its expanding research and grant portfolio.

The Cayuse Research Suite will support the OSP with proposal development and electronic submission to grants.gov, the main U.S. federal government resource

for finding and applying for federal government grants; RSIA, with internal grant proposal submission; and the IRB, with application submission, protocol review, and meeting administration. Additionally, the Cayuse system integrates with the Collaborative Institutional Training Initiative to track human subjects and conflict of interest training and scores. The University will implement the conflict of interest module as soon as it becomes available.

The OSP and implementation team wish to thank the Office of the Provost for funding and support of grants and research across campus, as well as the staff of Gallaudet Technology Services and Gallaudet Interpreting Services for their many hours of assistance during this process.

### Get NSF grant opportunities daily

The Office of Sponsored Programs reminds campus researchers that the National Science Foundation (NSF) can send grant opportunities directly to their email inbox daily. Rather than sending individual emails for each program, the NSF will send one bulletin per day for all programs that have notifications for that day. Sign up today by subscribing to the mailing list at <https://public.govdelivery.com/accounts/USNSF/subscriber/new?preferences=true#tab1>.

## HSLC Colloquia

The Hearing, Speech, Language Sciences Research Colloquia brings speakers from a wide range of backgrounds to present their research findings on broad topics of interest. In the first research colloquium of spring 2019, Dr. Deborah Chen-Pichler, a professor in the Department of Linguistics, presented her research on Bimodal Bilingual Development on January 30. Other presenters in the colloquia this semester are Ray Hull, Wichita State University, Communication Sciences and Disorders, "Counseling in AR and other areas," February 20, and Yuri Agrawal, Johns Hopkins Medicine, Neurology/Otolaryngology, "Vestibular function, cognition and aging," April 5.



## PRF grantees announced

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trajectories for children with different language histories and demographic backgrounds will be evaluated.

### Dr. Patrick Boudreault

Interpretation and Translation

### Dr. Marlon Kuntze

Government and Public Affairs

### FINAL YEAR

Title: Comprehension of text in ASL:

Impact of linguistic complexity

Abstract: It is important to know how ASL may be modified to match language ability of a targeted population before material may be developed for a videotext publication. Right now, there is no empirical basis for determining how ASL may be linguistically manipulated for a specific comprehension level. The literature on the relationship between linguistic complexity and comprehension is broad, and a lot of it is related to reading. There is limited discussion on the relationship between comprehension and linguistic complexity of ASL. A few lines of research led the researchers to hypothesize that syntactic and morphological complexity are respectively good areas to start the investigation. Their line of research comes from language development studies. This study proposes to investigate how comprehension may be affected on the sentential level by varying the syntactic structure of two-clause sentences and the morphological complexity of classifiers.

Research at Gallaudet is a publication of Gallaudet University's Office of Research Support and International Affairs (RSIA), a unit within the University's Academic Affairs division.

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### Dr. Chizuko Tamaki

### Dr. Kristen Maul

Hearing, Speech, and Language Sciences

### FINAL YEAR

Title: Spatial Navigation Abilities in Deaf Older Adults With and Without Vestibular Impairment

Abstract: The purposes of this three-year project are to: 1. develop and adapt spatial memory and spatial navigation assessment tools to be administered to deaf/Deaf populations; 2. characterize the spatial memory and spatial navigation abilities in young adults who are deaf, with and without vestibular impairments (VI); and 3. assess the role of ASL in spatial memory and navigation abilities in older adults. Older individuals with VI may present with difficulty with spatial memory and navigation, which increases the risk of falling or wayfinding difficulties. High prevalence (54-85%) of VI in deaf/Deaf populations puts older individuals at risk, while evidence of high visuo-spatial IQ in ASL users suggests that the spatial cognitive functions among deaf ASL users with VI may not be as affected as those among deaf non-ASL users with VI. To address purposes #1 and #2, spatial memory and spatial navigation assessment tools (virtual reality navigation and memory tasks, sense-of-direction questionnaire) will be normed and adapted to the young deaf/Deaf adult population (ages 21-35). To address purpose #3, these spatial memory and navigation tasks are administered to subjects 60 years or older with different experiences in hearing status, ASL use, and VI.