

**College of Sciences
Faculty Excellence
Awards
2020-2021**

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Dr. Vivian Incera
Dean, College of Sciences

The UTRGV College of Sciences (COS) Faculty Excellence Awards Program serves to recognize, celebrate, and honor the outstanding efforts of COS faculty members. These awards provide a great opportunity to disseminate and promote a culture of excellence through the celebration of our finest faculty accomplishments. This year we extended the number of awards to include the very important and often forgotten role of faculty mentoring, as well as, special recognitions to outstanding undergraduate and graduate coordinators. Given that there were more outstanding faculty members than awards available, the COS Faculty Award Committee had a difficult task to carry out. The committee, chaired by Associate Dean Dr. Teresa Feria, deserves our gratitude for an excellent job in conducting a fair and very professional selection process.

**Congratulations to all the 2020-2021
Awardees!**

In the years to come, we will continue recognizing additional faculty! Keep up your excellent work!

Dr. Teresa Patricia Feria
Associate Dean for Faculty Success,
Diversity and Inclusion
College of Sciences





Dr. Edgar Corpuz
Department of Physics and
Astronomy

**COLLEGE AWARD FOR
EXCELLENCE IN TEACHING**

Dr. Edgar Corpuz is an Associate Professor at the Department of Physics and Astronomy. He received his Ph.D. in physics from Kansas State University with research specialization in physics education. He teaches a wide variety of courses including lower and upper division physics courses, and graduate courses for the MSIS in Science and Technology degree program. He is an advocate of student-centered teaching techniques which include interactive lecture-demonstration, team-based learning (TBL) approach, and inquiry-based laboratory experiences.

Dr. Corpuz has used research based student-centered teaching techniques in his courses. He has been using web-based polling systems, simulations, and real-life scenarios not only to engage students but also to enhance and make their learning of physics concepts more meaningful. The formative and summative assessments in his courses require students to demonstrate higher-order thinking skills – an extremely important aspect of any instruction and an intended course learning out-

come. He has introduced authentic assessment tools like the use of group video projects where students work together in discussing medical or engineering applications of physics, which he found engages the students to see the wider applicability of what they study in class.

Dr. Corpuz' dynamic teaching has led to the development of high-quality curriculum materials. During the COVID-19 period, such developments included multiple new sets of inquiry-based laboratory activities that incorporated web-based simulations to support the online offerings of introductory engineering physics courses taken by students with multidisciplinary backgrounds. In addition, he redesigned his Physics for Scientists and Engineers course adopting open or library licensed materials while incorporating principles of backward design to ensure alignment of course activities and assessments with course student learning outcomes. Due to his efforts of redesigned courses, he was awarded the 2021 Open Educational Resources Award.



Dr. Rupesh Kariyat
Department of Biology

**COLLEGE AWARD FOR
EXCELLENCE IN RESEARCH**

Dr. Rupesh Kariyat is an Assistant Professor in the Department of Biology. He received his MS from the University of Wyoming, Ph.D. from The Pennsylvania State University, and did his postdoctoral training at the Swiss Federal Institute of Technology (ETH, Zurich). Dr. Kariyat's research focuses on species interactions mediated by insects and plants, addressing questions on mating system evolution, ecological interactions, and their underlying molecular mechanisms. He uses a combination of field, greenhouse, growth chamber, and lab-based experiments with a crew of undergraduate, graduate, and high school students at UTRGV. Dr. Kariyat's research has identified how plant surface defenses affect insect herbivores and how these herbivores use counter-defense measures to feed and develop on their host plants. The long-term goal of Dr. Kariyat's research program is to identify and develop sustainable pest management strategies, thereby reducing the use of harmful pesticides.

Dr. Kariyat has published more than 40

peer-reviewed research articles and has given multiple invited talks at both national and international venues and has organized symposiums and served on the editorial boards of international research journals. Since joining UTRGV, Dr. Kariyat's research program has received more than \$3M in grants including funding from agencies such as USDA-NIFA, USDA-ARS, ASPB, and ConTex. Dr. Kariyat was also a recipient of the University of Texas Regents Rising Star Award for promising incoming faculty. At UTRGV Dr. Kariyat has graduated five MS thesis students and has advised more than 25 undergraduate/High Scholar students. His students have either started their Ph.D. programs at R1 Institutions or have secured permanent positions in industry/government. At UTRGV, Dr. Kariyat teaches undergraduate Entomology and Ecology, and graduate Plant-Microbe Interactions and Insect Ecology. More details about Kariyat's lab, students, teaching, and outreach activities can be found at <https://phenotype2017.wixsite.com/kariyatlab>.



Dr. Julie Mustard
Department of Biology

**COLLEGE AWARD FOR
EXCELLENCE IN SERVICE**

Dr. Julie Mustard is an Associate Professor in the Biology Department. Her research focuses on the molecular mechanisms underlying learning and memory using the honeybee as a model system. Current students use olfactory associative conditioning to examine how caffeine and ethanol influence learning. Her group also examines how compounds in nectar may manipulate pollinator behavior. Her teaching interests include cell biology, neuroscience, and scientific writing.

She joined colleagues from Biology and SEEMS in establishing a pollinator garden (<https://www.utrgv.edu/pollinatorcantina>) on the Brownsville campus with funds from the UTRGV Transforming Our World initiative. Dr. Mustard and colleagues also received USDA funding to expand and enhance the garden, and she has spent many hours working alongside students to construct and maintain the garden. A little used space has been transformed into 32 beds containing more than 50 species of native plants and nesting habitat for native bees; this space is also used in

courses and for student projects. Establishing the garden led to the certification of UTRGV as a Bee Campus, and Dr. Mustard helps coordinate ongoing activities through the Bee Campus Committee.

Dr. Mustard is vice chair of the Institutional Biosafety Committee (IBC), which works with researchers to make sure their experimental protocols are safe for lab members and the broader community. Additionally, she serves as a handling editor for the journal *Insects* as well as providing peer review for journals and grants. Dr. Mustard is a strong advocate of outreach to the community and can be found discussing bees and brains at events such as HESTEC and Earth Fest.



Dr. Xiaohui Wang
School of Mathematical and
Statistical Sciences

**COLLEGE AWARD FOR
EXCELLENCE IN
COMMUNITY ENGAGEMENT**

Dr. Xiaohui (Sophie) Wang joined UTPA in 2005 after obtaining her Ph.D in statistics from Texas A&M University, College Station. Currently, she is Professor of Statistics in the School of Mathematical and Statistical Sciences specializing in biostatistics and applied statistics. She combines her expertise with inclusive multidisciplinary research and active outreach to the community. Dr. Wang served as Director of the Statistical Consulting Center for many years. She is currently leading the transition of the center into an interdisciplinary research and education venue that will continue to involve faculty and researchers in the community. Since 2010, Dr. Wang has led the Statistical Consulting Center to co-sponsor the Students Statistics Research Conference every semester.

Dr. Wang has many scholarly activities with community partners on critical community-identified needs. Dr. Wang and her team were awarded a NSF grant of \$1.64 million (2020-2024) that will impact two local school districts, 5 high schools, and more than 1300 students. Additionally,

Dr. Wang and her team are studying obesity and diabetes of local Hispanic children where they reached out to the community, carried out multiple rounds of pilot studies, and eventually succeeded in three consecutive external grants with total funding of \$1.2 million (2017-2022). Their work is impacting 2 local school districts, 28 elementary schools, and more than 1200 students and their families. In addition, Dr. Wang has been working with doctors from local hospitals on several patient-driven and well-known medical problems, such as evaluating whether same day discharge after thyroidectomy is safe and whether outpatient parathyroidectomy is safe and effective.

During the past 5 years, with her long list of professional achievements including 6 external grants from various state and federal agencies and 11 peer-reviewed papers published in prestigious journals, Dr. Wang has successfully connected the COS and UTRGV's mission with critical community needs.



Dr. Josef Sifuentes

School of Mathematical and Statistical Sciences

COLLEGE AWARD FOR EXCELLENCE IN STUDENT MENTORING

Dr. Josef Sifuentes is an Assistant Professor in the School of Mathematical and Statistical Sciences at UTRGV. He earned his bachelor's degree in Visual Art, Mathematics and Computational and Applied Mathematics at Rice University in Houston, TX. He continued at Rice University to earn his doctorate in Applied Mathematics where he was an NSF Graduate Research Fellow. He continued his adventures in mathematics as a research scientist at the Courant Institute at New York University. He returned to Texas to join the faculty at Texas A&M. His beginning at UTRGV in its first year doubled as a family homecoming as his wife is from the Rio Grande Valley.

In addition to his work in iterative methods in applied mathematics, he has worked to bring students at all levels into the fun of mathematics. He put his background in art to work in developing a summer camp combining math and art for Valley High School students. As co-director of the UTRGV LSAMP Summer Research Academy, he has overseen under-

graduate research experiences in mathematics, science and engineering. He has directed more than 10 senior capstone projects and 5 masters students. He has served as the UTRGV Faculty Mentor for the Gulf States Region of the Math Alliance and accompanied many students to present their work at regional and national conferences. In an NSF sponsored collaboration with UT Dallas, he developed a series of YouTube lectures in Real Analysis that are freely available to all who wish to peak under the hood of calculus' engine.

Dr. Jenq-Jong Tsay

School of Mathematical and Statistical Sciences

COLLEGE AWARD FOR EXCELLENCE IN FACULTY MENTORING



Dr. Jenq-Jong Tsay is Professor of Mathematics Education in the School of Mathematical and Statistical Sciences. He received his bachelor's degree from Taiwan, Master's degree from the University of Central Oklahoma, and PhD in Educational Mathematics from the University of Northern Colorado. His research specialty area is teaching, learning, teacher preparation and professional development. His research focusses on Mathematical Knowledge for Teaching with an integration of intercultural competences, equity, and social justice for mathematics.

He is project director and co-director on several state and federal funded projects/programs for professional development of middle school, high school, post-secondary instructors, and college mathematics educators. Supported by DoE FIPSE, a video case packet for professional development of novice college mathematics faculty was published at <http://collegemathvideocases.org/home/index.php>. Supported by NSF IUSE, an online module for the use of

professional development for college mathematics instructors who teach prospective elementary teachers is in process. Both projects are not just to emphasize teaching genuine mathematics (conceptual understanding vs. procedural memorization) but also to promote teaching all people mathematics (learner-focus for all).

Dr. Tsay has been instrumental in providing junior faculty with materials and navigating them into the tenure-track process. Especially, he has been enhancing the concept of intercultural competences (learner focused), equity (intellectual access readiness), and social justice (social-economical barrier-removal) in teaching practices and in establishing and sustaining an intercultural of collegial collaboration.



Dr. Juan Gonzalez
School of Earth, Environmental,
and Marine Sciences

**UNDERGRADUATE
COORDINATOR
EXCELLENCE AWARD**

Dr. Juan L. González is an Associate Professor of Geology at the School of Earth, Environmental, and Marine Science. He graduated from Humboldt State University in northern California with a BS in Geology, and received his MSc from Universidad EAFIT, in his home country of Colombia, and his PhD from Tulane University in Louisiana, both in Geology. After completing his PhD, he spent a year as a post-doctoral fellow at Tulane University. His academic interests are wide ranging and include, past and future sea-level change, coastal tectonics, coastal wetland sustainability, geoarchaeology, geology of the Rio Grande Valley, and promoting Geoheritage. His research is multidisciplinary and largely field based; an example of this is his involvement in the Community Historical Archaeology Project with Schools (CHAPS) Program, a multidisciplinary team (geology, archaeology, history and biology) working to better understand and integrate the natural and cultural history of the Rio Grande Valley which includes geological events that have shaped the landscape and the arrival of people in the

region during the Pleistocene period.

Dr. González joined UTPA/UTRGV in 2009 and has served as the Academic Coordinator for the Environmental Sciences Program since 2017. In this role, he has daily interactions with students ensuring they are on track to graduation and helping them with course substitutions and waivers. Over the last six years, Dr. González has impacted many students by involving them in his research and through the Engaged Scholar Program at UTRGV, focusing on local geological issues. Two of those students are currently working on their PhDs at the University of Texas El Paso and at Lund University in Sweden. Two other students recently finished their MSc at Rice University and University of Houston, and many more have gone to have successful careers in geosciences in Texas and across the country.

When asked what he enjoys the most about his job, Dr. González response was, “the daily interactions with the students in and outside the classroom”.



Dr. Zhijun Qiao
School of Mathematical and
Statistical Sciences

**GRADUATE COORDINATOR
EXCELLENCE AWARD**

Dr. Zhijun Qiao (Ph.D. 1997, Fudan University, China; partial differential equations, inverse problems, radar imaging and signal processing) joined UTPA/UTRGV in 2004, where he holds the title of Full Professor and the President’s Endowed Professorship. He is the founding graduate director of the PhD program in Mathematics and Statistics with Interdisciplinary Applications (MSIA) in the School of Mathematical and Statistical Sciences which will launch in fall 2021. Dr. Qiao’s research interests are in a broad range of fields in interdisciplinary mathematics research including inverse problem of Maxwell equations, radar image and signal processing, synthetic aperture radar (SAR) and inverse synthetic aperture radar (ISAR) image reconstructions, integrable systems, mathematical modelling and image processing. He has published two monographs along with more than 180 research articles in various research journals. Many of his papers have been published in top research journals such as Communications in Mathematical Physics, IEEE Transactions on Geoscience and Remote Sens-

ing, Physics Reviews E, and Journal of Differential Equations. With his accomplishments in research, Dr. Qiao has been invited to deliver more than 20 plenary/key-note presentations at international conferences/workshops. Dr. Qiao was the Program Director/Principal Investigators of several programs, including the Dept of Education GAANN grant (2012 – 2016). He has directed more than 50 undergraduate and graduate students and most of his students are from underrepresented groups; in addition he has co-advised more than 6 PhD students. He has also contributed to the development of the UTRGV PhD MSIA program in collaboration with several departments across the UTRGV campuses. He is currently serving on one of the top journals: Studies in Applied Mathematics as an editor and Deputy Editor-in-Chief of Journal of Non-linear Mathematical Physics.

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