

**College of Sciences
Faculty Excellence
Awards
2021 – 2022**

UTRGVTM

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College of Sciences

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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. Paty Feria, deserves our gratitude for an excellent job in conducting a fair and very professional selection process.

Congratulations to all the 2021 – 2022 Awardees!

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

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





Dr. Aaron Wilson

School of Mathematical and Statistical Sciences

COLLEGE AWARD FOR EXCELLENCE IN TEACHING

Dr. Aaron T. Wilson is an Associate Professor in the School of Mathematical and Statistical Sciences at the University of Texas Rio Grande Valley. His research focuses on informal learning, mathematical identity development, and also the preparation of teachers of multilingual learners. In his mathematics courses, he tries to outsource the teaching to his students as often as possible. This is done mainly because “the ones who teach the most math, learn the most math”.

Consider this: the mathematician Paul Erdős once said that some mathematical proofs occupy a position in the Book of good mathematics. These proofs possess special qualities that set them apart from common proofs: they are elegant, beautiful, powerful, and yet simple. Yet, the same can be said of teaching: there are teaching moments that attain the status of being in the Book of good teaching and good teachers learn the art of having these moments often.

Mathematical truths and properties depend on proof, that is, on clear and logical reasoning which can be expressed and interpreted by others. Thus, mathematical proofs are themselves instances of teaching. Teaching mathematics involves presenting mathematics in clear and logical ways. But learning mathematics also involves presenting clear and logical reasoning. Learners of all ages

are presenting proofs when they show their work; they are teaching what they know.

Since learning mathematics thus implies teaching mathematics, in Dr. Wilson’s courses, peer-teaching is a recurring mode of instruction. As so often happens in the act of presenting mathematical arguments, the presentation of the argument leads to discovering or, at least, improving the argument. That is, teaching implies learning and the ones who teach the most mathematics learn the most mathematics.



Dr. Hamidreza Ramezani

Department of Physics & Astronomy

COLLEGE AWARD FOR EXCELLENCE IN RESEARCH

Dr. Hamidreza Ramezani joined UTRGV in January 2016 and currently, he is an Associate Professor in the Department of Physics and Astronomy. He received his Ph.D. from Wesleyan University and did his postdoc at UC Berkeley. Dr. Ramezani’s research is focused on engineering wave-transport using light-matter interaction in synthetic topological quantum and classical open systems. The topological properties of the open system are quite different from closed — the so-called Hermitian — systems. In open systems, usually, there is an external environment that allows the energy to transfer between the main system and the external system. This transfer of energy generates unexpected phenomena including the bio-orthogonality of the Hilbert space, coalescence of the eigenvectors of the system at the so-called exceptional point, and skin effect, which is the extreme sensitivity to the boundary conditions, to name a few. Dr. Ramezani aims to explore these unconventional properties in open systems and propose new types of transport. Examples of such transports are robust localization of light at will, non-reciprocal localization, and constant intensity waves in one-dimensional linear systems using exceptional points.

Dr. Ramezani has more than 50 publications in high-impact factor journals including Physical Review Letters and Nature Communications

and has been invited to give talks in different international venues including the META conference, and SPIE Photonics. His papers have more than 4600 citations and his h-index is 20. Dr. Ramezani’s works are recognized internationally, for instance, his paper on unidirectional invisibility was selected by IEEE as one of the breakthroughs in photonics in 2011, his non-reciprocal localization of light has been selected as editors’ suggestion in Phys. Rev. Lett and covered by Inside Science from IOP.

Dr. Ramezani is the recipient of several awards including the Biruni award from IRPA in APS, and the regent rising STAR award from UT systems. Dr. Ramezani’s research attracted funding from the Department of Defense, the National Science Foundation, and APS. His students received awards several times from APS, OSA, and COS at UTRGV. So far four MS students graduated from Dr. Ramezani’s group and all of them are currently Ph.D. candidates at R1 universities. His research group currently has four graduate students, one postdoc, and one research scientist. You can visit <https://sites.google.com/wesleyan.edu/r1lab> if you are interested to know more about Dr. Ramezani’s research lab.



Dr. Nicholas Dimakis

Department of Physics & Astronomy

COLLEGE AWARD FOR
EXCELLENCE IN SERVICE

Dr. Nikolaos (Nicholas) Dimakis is a Full Professor and Chair of the Department of Physics and Astronomy. He graduated with a BS degree from the National University of Athens in Mathematics in 1990 and got his Ph.D. in Physics in 1997 from the Illinois Institute of Technology (IIT) in Chicago. He was employed as Senior Research Associate at Argonne National Laboratory and Associate Director of Science of the Academic Research Center at IIT. In 1999 he became Assistant Research Professor at IIT. He joined the University of Texas Pan American during Fall 2004 and became Associate Professor in 2010 and later served as Interim Chair, Department Chair, and as Interim Associate Dean for Assessment and Community Engagement at the UTRGV College of Sciences. Dr. Dimakis is a well-known researcher in computational materials science with 52+ peer review publications as well as about 50 invited and contributed presentations, and successfully obtained external funds of about \$8.2M in his entire academic career.

Back in 2012, Dr. Dimakis provided leadership in the development of the online version of the General Physics I and II courses as well as the Physics for Engineers I and II. During the COVID-19 pandemic he provided leadership in the development of the online versions of the Physics, Physical Science and Astronomy laboratories. He was

also instrumental in the approval of the Ph.D. in Physics. Dr. Dimakis is an extensive peer-reviewed journal referee and served as Guest Editor at the MDPI journal Catalysts. He was also invited by the Czech Academy of Sciences to evaluate and categorize selected already published materials from Czech Universities. Dr. Dimakis serves as a member and Chair of international accreditation committees.

Dr. Christopher Vitek

Department of Biology

COLLEGE AWARD FOR
EXCELLENCE IN COMMUNITY
ENGAGEMENT



Dr. Christopher Vitek is a Professor in the Biology Department. He received his Ph.D. from Clark University in 2004 and did his postdoctoral training at the Florida Medical Entomology Laboratory (FMEL), part of the University of Florida system. Dr. Vitek's research focuses on population and community ecology of disease vectors, predominantly focusing on mosquitoes and the diseases they transmit. During his research efforts at UTRGV, he has examined the degree to which local mosquito populations are resistant to insecticides; the ability of local mosquito to become infected with, and ultimately transmit, disease like dengue and Zika virus; and the role that environment plays in insecticide resistance and population growth in mosquito populations. Since joining UTRGV, Dr. Vitek has also established the Center for Vector-Borne Diseases (CVBD). In 2017, he collaborated with faculty from the University of Texas Medical Branch to establish the CDC-funded Western Gulf Center of Excellence in Vector-Borne Diseases (CVBD).

As part of his research and funding, Dr. Vitek has collaborated and built strong partnerships with city, county, and state public health offices and vector-control offices. His research results and findings from surveillance activities are disseminated directly to local and state agencies

to better assist control efforts. During field work his students engage with local community members to answer any questions about mosquitoes and vector-borne diseases. He has worked to develop and disseminate community-oriented seminars through the CVBD, aimed at increasing public awareness and knowledge of vector-borne diseases and issues related to their spread and control. He also works closely with faculty from Texas A&M University to help train and provide CE credits for vector-control and public health professionals to ensure more effective mosquito control.



Dr. Frank Dirrigl

Department of Biology

COLLEGE AWARD FOR
EXCELLENCE IN STUDENT
MENTORING

Dr. Frank Dirrigl is a Professor in the Department of Biology. He received his Bachelor's, Master's and PhD from the University of Connecticut. After his first nature hike at a summer camp, he knew he wanted to lead them too and become a teacher to share his love for natural history with students. This led to his natural and social sciences transdisciplinary education and experience in zoology, museum management, environmental biology, environmental anthropology, and vertebrate osteology and taphonomy. His publication record spans across all these disciplines.

Dr. Dirrigl has taught college classes for over 30 years, and he has significantly impacted students by providing them the knowledge and skills toolbox that they have used to pursue careers. His mentoring focuses on encouraging students to do things at UTRGV that they have never done before or had the confidence to pursue. He believes he is providing the same encouragement, understanding, and opportunities that he received as a student. Dr. Dirrigl understands the different personal and academic challenges that students are sometimes faced with. His office door is usually open to provide help, support, and answer students' questions.

He has mentored high school, undergraduates, and graduate students interested in conducting independent research, working on his current projects, or those students being trained under programmatic grants. This has led to several publications that include students as co-authors. Like the professors he had in college, Dr. Dirrigl seeks to "pay back" all the guidance that allowed him to become a zoologist and professor. His mentoring of students does not stop after graduation. Many past students often contact him for professional advice and guidance in their biology or environmental positions and when earning a Master's or Ph.D.



Dr. Jason Parsons

Department of Chemistry

COLLEGE AWARD FOR
EXCELLENCE IN FACULTY
MENTORING

Jason G. Parsons is a Professor of Chemistry in the Department of Chemistry. He received his bachelor's from Memorial University of Newfoundland, Canada. He received his MSc. in Chemistry and his PhD. in Environmental Science and Engineering from the University of Texas at El Paso. His research focuses on the development of novel catalytic nanomaterials for environmental applications. General areas of interest include the synthesis and reactivity of hybrid nanomaterials for the photodegradation of pesticides, water remediation, sulfur removal from crude oil, and electrode synthesis.

Over the years, Dr. Parsons has actively engaged in the mentoring of students, his research group includes undergraduate and graduate students. He has directed the research projects of 34 master's students and provided the support to complete their thesis and publications. He has also mentored over 100 undergraduate students in their senior research projects. Dr. Parsons was the Co-director/PI of the UTRGV Research Training Initiative for Student Enhancement (RISE) program supported by the NIH-NIGMS. The project was aimed at training undergraduate students in research. He was a member of the USDA NIFA funded Integrating Food Science/Engineering & Education Network (IFSEEN) a federally funded program for the education and linking of future

Hispanic Food Safety/Science Professionals and Leaders. He has also been a part of several other Federally funded and internally funded projects. Dr. Parsons has also mentored three junior faculty members within the Department of Chemistry supporting them in the tenure track process.



Dr. Nicolas Pereyra
Department of Physics & Astronomy

**UNDERGRADUATE
COORDINATOR EXCELLENCE
AWARD**

Dr. Pererya is an Associate Professor in the Department of Physics and Astronomy. He received his PhD in Physics at the University of Maryland in 1997. Dr. Pereyra's research work has been largely in the development of computational models of physical systems.

In 1990-1991 he developed simulations of the oil transport through pipelines in a project funded by a Venezuelan oil company. In 1993-1998 he served as research assistant/research associate at Goddard Space Flight Center, NASA. In 1998-2001 he served as a research associate in computational physics at the National Center of Scientific Calculations of Venezuela. In 2001-2005 he served as a research associate in computational astrophysics at the University of Pittsburg. In 2005-2007 he served as a computational physicist at the company Prism Computational Sciences, Inc. Since 2007, he joined the legacy institution of UTPA as Lecturer and he has continued at UTRGV to date. At UTRGV he has forwarded his research in the modeling of line-driven disk wind scenario in QSOs and other areas including scholarly work in educational Physics.

Over the years, Dr. Pereyra has taught classes in Physics, Mathematics, and Astronomy at both undergraduate and graduate levels. At UTRGV, he has placed significant effort in the development and implementation of undergraduate programs in Physics and Astronomy. In 2007/2008, in collaboration with

the then Department Chair Dr. Steven Tidrow, he coordinated the reactivation and activities at the Edinburg campus Planetarium.

At UTRGV he has coordinated several Astronomy and Physics outreach activities and has coordinated and revised the Department's undergraduate Astronomy Labs. In 2009/2012 he developed, coordinated, and implemented the Astronomy Minor program. In 2017/2018 he developed, implemented, and taught ASTR 1401/1402 bilingual (English/Spanish) courses. He actively collaborated in the curriculum revision of the UTRGV's Physics BS program in all its five implementations since fall 2015, including the latest implementation in fall 2022. Dr. Pereyra has served as PHYA Undergraduate Advisor since Fall 2010. Dr. Pereyra is currently serving as the Chair of the PHYA Undergraduate Committee and as the Physis B.S. Program Coordinator. Dr. Pereyra is also currently serving as Co-PI in an NSF Educational Research Grant.



Dr. Efrain Ferrer
Department of Physics & Astronomy

**GRADUATE COORDINATOR
EXCELLENCE AWARD**

Dr. Efrain J. Ferrer is a Full Professor at the department of Physics & Astronomy of UTRGV. He finished his bachelor's degree in Physics at Havana University (Cuba) and his PhD in Mathematical Physics at the P. N. Lebedev Physical Institute in Moscow (Russia). Over the years his research interests have covered a broad range of questions within theoretical physics, including the physics of the standard model at finite temperature and density, the effects of background fields in string theories, the study of lower dimensional models with fractional statistics, the investigation of non-perturbative effects of external fields in quantum field theories, the discovery and study of a new phase in dense quark matter under a magnetic field: the so called magnetic CFL phase of color superconductivity, the investigation of the equation of state of relativistic systems during the BEC-BCS crossover, etc. More recently he is investigating the region of the QCD phase diagram that can be realized at moderate baryon densities and temperature. The results of this investigation are of interest for the future heavy-ion-collision experiments at moderate energies planned at FAIR, NICA and JAERI, as well as for the physics of neutron stars. The fields of application of his studies are particle physics, cosmology, astrophysics and condensed matter. He has published over eighty papers in referred international specialized journals, four invited book chapters, twenty nine conference proceedings papers and participated in a large number of international conferences and invited seminars. His scholarly activities have been carried out in institutes and universities of US, Cuba, Russia, Spain, Finland, Italy and Switzerland. He had tenured positions

at SUNY-Fredonia, Western Illinois University, The University of Texas at El Paso (UTEP), CUNY College at Staten Island. and since the Fall of 2019 he is a Professor of Physics at The University of Texas at Rio Grande Valley (UTRGV).

His research has been always supported by federal grants from NSF and DOE. In 2000 he was awarded a Fulbright grant to develop a collaborative project with scientists from the Institute for Space Studies of Catalonia (Spain). He has supervised the research work of more than 20 undergraduates and graduate students. His students have presented the results of their works in regional and national research conferences and have received several awards.

His scholarly accomplishments have been recognized with several awards: The 2015 APS Outstanding Referee Recognition, Provost's Award for Excellence in Scholarly/Creative/Performative/Professional Activities for 2008 (WIU), The 2008 College of Arts and Sciences Outstanding Faculty Award for Research/Scholarly Activities (WIU), The Kasling Memorial Lecture Award for 2003 (For outstanding achievement in research and scholarship, SUNY - Fredonia), The 2002 SUNY Chancellor's Research Recognition Award (Honored that year to only 38 faculty from the entire SUNY system for their research accomplishments), The 1998 Hagan Young Scholar Award, The 1998 SUNY-Fredonia Achievement Award, and The 1993 SUNY-Fredonia Scholarly Incentive Award.

ACKNOWLEDGEMENTS

Special thanks to the College of Sciences Executive Board

- Dr. Vivian Incera, Dean
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