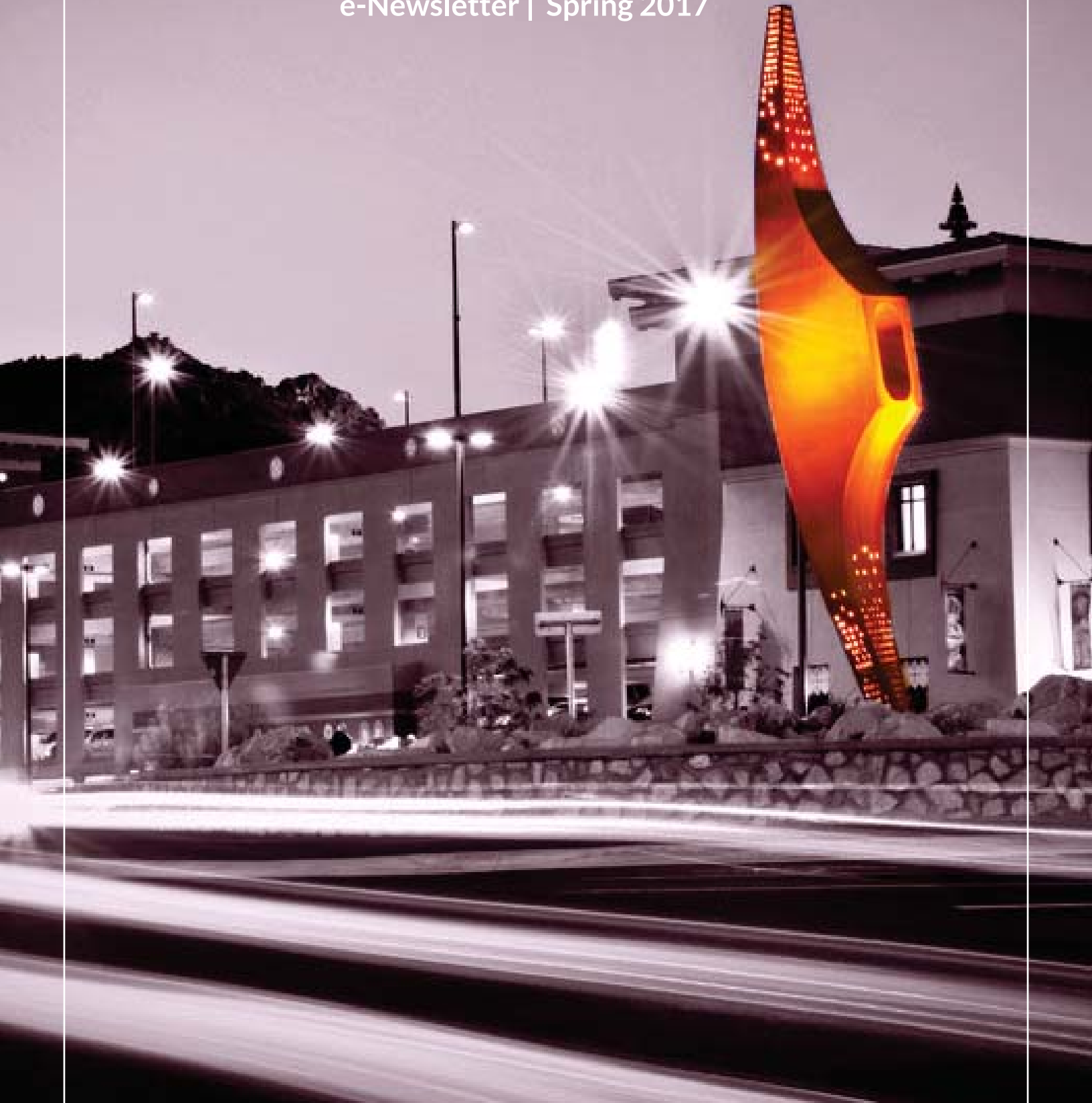




College *of* Science

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2016 ROTA AWARD

Dr. Jorge Lopez / Physics Department



With having performed research everywhere from Buenos Aires, Argentina to having been invited to give talks in the Far East across the globe in China and Japan, Jorge Lopez Ph.D., this brilliant researcher has been awarded the University of Texas Regents' Outstanding Teaching Award last fall. He has great pride in being a recipient of this very prominent award and hopes to continue to inspire his students during their time here at UTEP.

He talks about the great satisfaction he has experienced with being selected as one of the awardees. Lopez stated, "I was very happy to receive such a prestigious award. The ROTA has always been like a distant dream, difficult to obtain mainly because of the vast competition. Now that the dream has come true, I begin to realize its full impact, its responsibilities, and the role of teacher mentor it has imposed on me."



Learn more about this award:

<http://www.utsystem.edu/sites/regents-outstanding-teaching-awards>

Lopez feels that his most significant accomplishment so far as a scientist has been without a doubt, helping with the teaching and mentoring efforts of a new generation of scientists from the El Paso/Juarez area. He feels that he has been successful partly from being from the area and this has allowed him to be a role model for UTEP students. Furthermore, along with his recruiting efforts in local high schools and preparatorias in Mexico, he has attracted dozens of students to UTEP and to the UTEP Department of Physics. To date he has worked directly with over 100 students in research projects, and many have co-authored papers with him. The publications, books, talks,

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-Dr. Jorge Lopez

invitations, and the many awards are also a source of pride, but way below in his list of priorities with respect to his young research colleagues.

Cristian Botez, Ph.D., Department of Physics Chair and Dr. C. Sharp Cook Chair in Physics commented about Lopez's award, and his many accomplishments. "The UT-ROTA is a prestigious honor bestowed by the Regents on some of the best and most impactful educators within the UT system. As the Chairman of the Board, Paul L. Foster indicated, "UT educators provide invaluable mentorship and deliver high-quality instruction and innovation while enhancing the minds of the nation's next leaders. Their deep commitment to outstanding education ensures student success across the System. The Board of Regents is honored to recognize our dedicated faculty members through the ROTA program." Clearly, Dr. Jorge Lopez is one of these outstanding educators. Over his 26 years at UTEP, he has taught more than twenty different courses at all levels, redesigned several courses, and participated in multi-million dollar institutional projects, such as the Partnership for Excellence in Teaching Education, the Model

Institutions of Excellence, and the Math and Science Partnership. In addition, Jorge has led several outreach and recruitment efforts at high schools and universities, always looking to attract new talented students to UTEP."

His scientific background includes being a student here at UTEP and doing his postdoc at The Niels Bohr Institute in Copenhagen, and the Lawrence Berkeley Lab in Berkeley, CA. Most of his research has been in nuclear theory, specifically studying the dynamics of nuclear reactions involving heavy nuclei, and more specifically investigating the transition from the nuclear liquid state to a mixture of liquid-gas. His first paper on the subject was published in 1984 and his latest in 2016; in 2000 he wrote the book *Lecture Notes on Phase Transformation in Nuclear Matter*. What he likes about this area is the fact that it lies between classical and quantum physics: a nuclear reaction begins with nuclei ruled by quantum mechanics, but during the collision — and as the temperature increases — the reaction miraculously becomes classical, only to become quantum again after a millionth of a millionth of a millionth of a second later. The consequences of this classicality are many, for instance, neutron stars are expected to have a crust that resembles Italian pasta, reactions are believed to undergo liquid-to-gas evaporation much like boiling water, and nuclei are known to behave like droplets of liquid.

Lopez has been very successful in executing his research and communicating it to a wider audience. He feels that a very personal aspect of his teaching is how he designs the courses according to the goals of the students. While pre-med students need to master multiple choice tests to pass the MCAT exam, engineering students need strong basis of electromagnetism to continue with, for instance, microelectronic devices; he tailors his courses according to their individual needs. Although it is difficult to track former students, he is particularly proud of his many advisees which have earned advanced graduate degrees and now work in places such as Intel, Apple, GM, Bruker, etc., and of course those that are professors in many universities in the USA and Mexico.

Miguel Castro-Colin, Ph.D., Bruker, Lopez's former student explains how he met Lopez and what he learned. Castro-Colin said, "At the time I met Prof. Lopez he was busy organizing workshops for high school and kindergarten teachers. He had been, and is, clearly preoccupied with reaching minds as they are being shaped. Dr. Lopez's didactic talent allows him to visualize the key material that facilitates, and complicates, the life of the advanced engineering student, who may have not had all required physics background."