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High Resolution Photo: Dr. Magesh Thiyagarajan
High Resolution Photo: Book Cover

Texas A&M University-Corpus Christi Engineering Professor Publishes His First Book on Growing Scientific Field
Book is first authored by Faculty from new College of Science and Engineering

CORPUS CHRISTI, Texas – Dr. Magesh Thiyagarajan, director of the Plasma Engineering Research Lab (PERL) and assistant professor of engineering at Texas A&M University-Corpus Christi, recently published his first sole-authored book, “Laser Induced Plasmas and Optical Diagnostics.”

The 268-page book, which is the first authored by a professor in the University’s new College of Science and Engineering, provides systematic and detailed assembly of laser induced plasmas and a range of optical diagnostic fundamental principles, experimental details, data acquisition and research findings. It is based on Thiyagarajan’s original, previous, and current research.

Thiyagarajan wrote the book as a one-stop shop for laser plasmas and wide range optical diagnostics. It is designed to be used by graduate level researchers to further advance the development of this ground-breaking technology and will be of interest to all those in academia and industry who need an up-to-date critical analysis and summary of lasers and laser plasma research and applications.

“Plasma science and engineering is a rapidly-growing field that can provide a great opportunity for engineering students to participate at the state-of-the-art facility through cutting edge research,” said Thiyagarajan. “These technologies will have a great impact in many military and consumer applications.”

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Plasmas, the most common form of matter, are conductive assemblies of charged particles that comprise more than 99 percent of the visible universe. Thiyagarajan’s book draws on his extensive experience working with plasma technology which is designed to provide future researchers with information from articles published in scientific journals over the last 10 years.

“I am delighted to see Dr. Thiyagarajan’s book on laser plasma and optical diagnostics, which is built upon his research in subject areas and complements journal publications he has contributed to the fields of study,” added Dr. L.D. Chen, director of the School of Engineering and Computing Sciences at Texas A&M University-Corpus Christi.

In fall 2010, Thiyagarajan received a $700,000 research grant from the U.S. Department of Defense for pursuing research to develop novel portable atmospheric cold plasma technologies. The award has enabled PERL to conduct atmospheric pressure cold plasma-based biomedical engineering research for combat care medical treatment, treatment of cancer and infections, sterilization of surgical equipments, surface decontamination, dermatology, drug delivery, and food processing, as well as applications for alternative energy. Dr. Thiyagarajan is currently authoring his second book based on this cold plasma technology and he hopes to publish this book this year.

Thiyagarajan received his master’s degree from the University of Tennessee-Knoxville and his Ph.D. from the University of Wisconsin-Madison in 2008. Prior to joining the Texas A&M-Corpus Christi faculty in 2009, he was a lead engineer with GE Corporation.

-A&M-Corpus Christi-