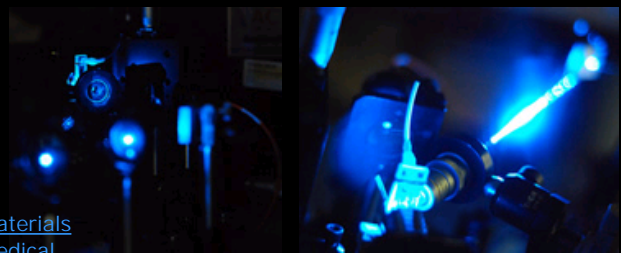


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The most exciting aspect of my current research is that we develop optical, laser, and nano-particle based biomedical sensors that have the potential to make a difference in people's lives in many different ways. For instance, by developing a noninvasive optical method, using fluorescent or polarized light, to measure the blood sugar in diabetic patients we can help them avoid the pain, embarrassment, and potential infection that comes with current measurement methods that require them to prick the skin. Further, by investigating an approach known as surface enhanced Raman spectroscopy, that combines optics with nano-particles, we may be able to develop point-of-care technologies to help the doctor make an earlier diagnosis and provide treatment for patients with Alzheimer's disease or patients about to have a heart attack."

Biography

Dr. Cote is Head of the Department of Biomedical Engineering and holds the Charles H. and Bettye Barclay Professorship in Engineering at Texas A&M University. He joined the Texas A&M Engineering faculty in 1991 as an assistant professor and was named professor in 2002. Dr. Cote directs the Optical Biosensing Laboratory, where research focuses on the development of macro-scale to nano-scale systems using lasers, fiberoptics and electronics for new, noninvasive ways to test blood sugar levels in diabetes; to detect other body chemicals such as beta amyloid for Alzheimer's disease; to detect analytes in cells and cell culture; to optical assess cardiovascular disease, and to diagnose cancer. Dr. Cote is a co-holder of four U.S. patents and over 150 publications. He is a founder of the small medical device company, BioTex, Inc. He is a Fellow of the American Institute for Medical and Biological Engineering. He is a Fellow of the Michael E. DeBakey Institute for Comparative Cardiovascular Science and Biomedical Devices at Texas A&M. He is the recipient of the University of Connecticut School of Engineering Academy of Distinguished Engineers and the Mary Jane Kugel Award from the Juvenile Diabetes Research Foundation. He has also received both the Association of Former Students Faculty Fellow Award and the Faculty Distinguished Achievement Award in Teaching from Texas A&M. He is a member of IEEE-Engineering in Medicine & Biology Society, SPIE-Biomedical Optics Group, BMES-Biomedical Engineering Society, ASEE-American Society for Engineering Education, and Tau Beta Pi Engineering Honor Society. Dr. Cote received his master's and Ph.D. degrees in bioengineering from the University of Connecticut. He has a bachelor's degree in electrical engineering from the Rochester Institute of Technology. His tenure at Texas A&M includes work with NASA-Johnson Space Center, NIH, NSF, DOE, DoD, The Whitaker Foundation and other private foundations, Oak Ridge National Lab, & industry.

Keywords



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