

## Dr. Joseph M. DeSimone

Joseph DeSimone is the Chancellor's Eminent Professor of Chemistry at the University of North Carolina at Chapel Hill and William R. Kenan Jr. Professor of Chemical Engineering at North Carolina State University. DeSimone has published over 240 scientific articles and has over 115 issued patents in his name with over 120 patents pending. In 2005 DeSimone was elected into the National Academy of Engineering and the American Academy of Arts and Sciences. DeSimone has received 38 major awards and recognitions including the \$500,000 Lemelson-MIT Prize for Invention and Innovation; the *2008 Tar Heel of the Year* by the Raleigh News & Observer; *2007 Collaboration Success Award* from the Council for Chemical Research; the 2005 ACS Award for Creative Invention; the *2002 John Scott Award* presented by the City Trusts, Philadelphia, given to "the most deserving" men and women whose inventions have contributed in some outstanding way to the "comfort, welfare and happiness" of mankind; the *2002 Engineering Excellence Award by DuPont*; the *2002 Wallace H. Carothers Award* from the Delaware Section of the ACS; 2000 Oliver Max Gardner Award from the University of North Carolina, given to that person, who in the opinion of the Board of Governors' Committee, ". . . during the current scholastic year, has made the greatest contribution to the welfare of the human race". Among DeSimone's notable inventions is an environmentally friendly manufacturing process that relies on supercritical carbon dioxide instead of water and bio-persistent surfactants (detergents) for the creation of fluoropolymers or high-performance plastics, such as Teflon®. In 2002, DeSimone, along with Dr. Richard Stack a cardiologist at Duke, co-founded *Bioabsorbable Vascular Solutions (BVS)* to commercialize a fully bioabsorbable, drug-eluting stent. BVS was acquired by *Guidant Corporation* in 2003 and these stents are now being evaluated in an international clinical trial for the treatment of coronary artery disease. DeSimone's group is now heavily focused on learning how to bring the precision, uniformity and mass production techniques associated with the fabrication of nanoscale features found in the microelectronics industry to the nano-medicine field for the fabrication and delivery of therapeutic, detection and imaging agents for the diagnosis and treatment of diseases. Particular focus for PRINT is the targeted delivery of biologicals, such as mABs and siRNA, to intracellular targets. DeSimone recently launched Liquidia Technologies ([www.liquidia.com](http://www.liquidia.com)) which now employs 37 people in RTP and has raised \$25 million in venture financing. DeSimone's laboratory and the PRINT technology recently became a foundation for the new \$25 million Carolina Center for Cancer Nanotechnology Excellence funded by the National Cancer Institute. DeSimone is the co-PI of this newly established Center along with Dr. Rudy Juliano. DeSimone received his BS in Chemistry in 1986 from Ursinus College in Collegeville, PA and his Ph.D. in Chemistry in 1990 from Virginia Tech.

