

Arunan Nadarajah, PhD

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(a) Professional Preparation

Undergraduate Institution: Indian Institute of Technology, Madras, India	Major: Chemical Engineering	Degree & Year: B.Tech., 1983
Graduate Institutions: University of Florida University of Florida	Major: Chemical Engineering Chemical Engineering	Degree & Year: M.S., 1984 Ph.D., 1988
Postdoctoral Institution: University of Alabama in Huntsville	Area: Materials Science	Inclusive Dates (years): 1988-1990

(b) Appointments

- 2006- Professor of Bioengineering, University of Toledo.
- 2006-18 Chair & Graduate Studies Director, Dept. of Bioengineering, University of Toledo.
- 2009-11 Founding Director of the Center for Materials and Sensor Characterization, University of Toledo.
- 2004-06 Interim Associate Dean for Research, College of Engineering, University of Toledo.
- 2000- Professor of Chemical & Environmental Engineering, University of Toledo.
- 1999-06 Director of Graduate Studies and Research, Department of Chemical & Environmental Engineering, University of Toledo.
- 1997-00 Associate Professor of Chemical & Environmental Engineering, University of Toledo.
- 1996-97 Associate Professor of Chemical Engineering and Materials Science, University of Alabama in Huntsville.
- 1990-96 Assistant Professor of Chemical Engineering and Materials Science, University of Alabama in Huntsville.
- 1988-90 Postdoctoral Research Associate, Center for Microgravity and Materials Research, University of Alabama in Huntsville.
- 1986-88 Instructor, Department of Mathematics, University of Florida.
- 1983-86 Graduate Research Assistant, Department of Chemical Engineering, University of Florida.

(c) Selected Publications

1. J.G. Lawrence, L.M. Berhan and A. Nadarajah, "Elastic Properties and Morphology of Individual Carbon Nanofibers," *ACS Nano*, **2**, p1230 (2008).
2. A. Nadarajah, J.G. Lawrence and T.W. Hughes, "Development and Commercialization of Vapor Grown Carbon Nanofibers: A Review," *Key Eng Materials*, **380**, p193 (2008).
3. J.G. Lawrence, L.M. Berhan and A. Nadarajah, "Structural Transformation of Vapor Grown Carbon Nanofibers Studied by HRTEM," *J. Nanoparticle Research*, **10**, p1155 (2008).
4. G. Iyer, L.M.V. Tillekeratne, M.R. Coleman and A. Nadarajah, "Equilibrium Swelling Behavior of Thermally Responsive Metal Affinity Hydrogels, Part I: Compositional Effects," *Polymer*, **49**, p3737 (2008).
5. G. Iyer, L.M.V. Tillekeratne, M.R. Coleman and A. Nadarajah, "Equilibrium Swelling Behavior of Thermally Responsive Metal Affinity Hydrogels, Part II: Solution Effects," *Polymer*, **49**, p3744 (2008).

6. S. Kim, G. Iyer, A. Nadarajah, J.M. Frantz and A.L. Spongberg, "Polyacrylamide Hydrogel Properties for Horticultural Applications", *Int. J. of Polymer Analysis & Charact*, **15**, p307 (2010).
7. G. Iyer and A. Nadarajah, "Molecular Design of Thermally Responsive Metal Affinity Hydrogels for Contaminant Removal from Wastewater," in *New Membranes and Advanced Materials for Wastewater Treatment*, A. Mueller, B. Guieysse and A. Sarkar, Editors, ACS Symposium Series (2010).
8. M. Hamed Rad, M.H. Imanieh, A. Nadarajah, "Perovskite ceramics and recent experimental progress in reactor design for chemical looping combustion application," *Chemical Papers*, **69**, p627 (2015)
9. M.H. Imanieh, M. Hamed Rad, A. Nadarajah, J. González-Platas, F. Rivera-López and I.R. Martín, "Novel perovskite ceramics for chemical looping combustion application," *J. CO₂ Utilization*, **13**, p95 (2016).
10. M.H. Imanieh, I.R. Martín, A. Nadarajah, J.G. Lawrence, V. Lavín and J. González-Platas, "Upconversion emission of a novel glass ceramic containing Er³⁺, Yb³⁺:Sr_{1-x}Y_xF_{2+x} nano-crystals," *J. Luminescence*, **172**, p201 (2016).
11. L.B. Rodriguez, A. Avalos, N. Chiaia and A. Nadarajah, "Effect of Formulation and Process Parameters on Chitosan Microparticles Prepared by an Emulsion Crosslinking Technique," *AAPS PharmSciTech*, **18**, p1084 (2017).

(e) Synergistic Activities

- (i) Enhancing the BS in Bioengineering program resulting in the enrollment nearly tripling from ~150 in 2006 to ~430 in 2018. During this time freshmen retention improved significantly from ~55% in 2006 to ~80% in 2018.
- (ii) Responsible for establishing the Joint PhD Program in Biomedical Engineering between the Colleges of Engineering and Medicine.
- (iii) Development of the Center for Materials and Sensor Characterization, a core research facility of the University of Toledo. This involved the obtaining grants for over \$3 million for laboratory construction and equipment purchases for a establishing a state-of-the-art facility to serve all of Northwest Ohio.
- (iv) Development of advanced materials research in the College of Engineering, including the formation of research groups to develop novel polymer nanocomposites, materials for molecular and cellular sensing applications and others.

(f) Collaborators and Other Affiliations

- (i) Collaborators: Michael Weintraub, Professor of Environmental Science, University of Toledo
Charlene Czerniak, Distinguished Professor of Education, University of Toledo
Eda Yildirim-Ayan, Associate Professor of Bioengineering, University of Toledo
- (ii) Graduate Advisor: Professor Ranganathan Narayanan, University of Florida
Postdoctoral Advisor: Professor Franz Rosenberger, University of Alabama in Huntsville (Retired)
- (iii) Students and Postdocs:
Thesis Advisor, PhD: George R. Schmidt, Nancy E. Knox, Srinivas Atreya, Meirong Li, Huayu Li, Joel E. Adair, Young-Seo Yoon, Ganesh Iyer, Joseph G. Lawrence, Sangjoon Kim, Lidia B. Rodriguez, Abraham Avalos, Dinesha T. Agosthinghage Dona.
Thesis Advisor, MS: Chun Fang Lu, Jie Lu, Matthew E. Tauriainen, Lisa J. Crawford, Joseph G. Lawrence, Burcu Ekşioğlu, Xin Guan, Shuai Shi, Bradley Guthrie, Mina Hamed Rad, Mahsa Gholami, Niloofar Alipourasiabi.
Postgraduate-Scholars Sponsored: Dr. Xinglong Xu, Dr. Ling Hu, Dr. Joseph G. Lawrence, Dr. Lidia Rodriguez, Dr. Mahammad H. Imanieh.