

Andrew J. Steckl - Gieringer Professor and Ohio Eminent Scholar of Microelectronics
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Education

B.S.E. Electrical Engineering, 1964-1968, Princeton University
M.S. Electrical Engineering, 1968-1970, University of Rochester
Ph.D. Materials Science/Electrical Engineering, 1970-1973, University of Rochester

Professional Experience

1988-Present University of Cincinnati
1985 Summer Stanford University, Visiting Professor
1981-1986 RPI, Founding Director, Center for Integrated Electronics
1977 Summer IBM T.J. Watson Research Center, Faculty Fellow
1976-87 Rensselaer Polytechnic Institute (RPI), Professor of Electrical Engineering
1973-76 Rockwell Electronics Research Center, Member of the Technical Staff
1972-7 Honeywell Radiation Center, Senior Research Engineer

Awards and Professional Recognition

2013 Senior Faculty Engineering Research Award, University of Cincinnati.
2013 Distinguished Research Professor, University of Cincinnati.
2013 Life Fellow of the Institute of Electrical and Electronic Engineering (IEEE).
2010 Fellow of American Association for the Advancement of Science (AAAS).
2009 University of Cincinnati Graduate Fellow.
2007 Distinguished Engineering Research Award, University of Cincinnati.
2006 Rieveschl Award for Distinguished Scientific Research, University of Cincinnati.
1999 Scientific Member of the Bohmische Physikalische Gessellschaft.
1999 College of Engineering Research Award, University of Cincinnati.
1998 Fellow of the Institute of Electrical and Electronic Engineering (IEEE).

Selected Publications (from over 400 to date)

A. J. Steckl, "Circuits on Cellulose", *IEEE Spectrum*, 48, Feb. **2013**.
N. Bedford, M. Pelaez, D. Dionysiou, and A. J. Steckl, "Degradation of Potent Cyanobacteria Toxin Microcystin-LR Using Photocatalytic Cellulosic Electrospun Fibers", *RSC J Matls. Chem.* **22**, 12666, June **2012**.
S. Punnamaraju, H. You and A. J. Steckl, "Triggered Release across Droplet Interface Lipid Bilayer Membrane" *Langmuir*, **28**, 7657, May **2012**.
N. Bedford, R. Naik, and A. J. Steckl, "Fiber-Based Bulk-Heterojunction Organic Solar Cells Using Coaxial Electrospinning", *Adv. Energy Materials*, **2** (9), 1136, Sept. **2012**.
D. Han, S. Filocamo, R. Kirby, and A. J. Steckl, "Deactivating Chemical Agents Using Enzyme-Coated Nanofibers Formed by Electrospinning", *ACS Applied Materials and Interfaces*, **3** (12), 4633, Dec. **2011**.
H. You and A. J. Steckl, "Electrowetting on Flexible Substrates", *Jour. Adhesion Sci. Tech*, DOI: 10.1163/156856111X600244, Nov. **2011**.
A. J. Steckl, H. Spaeth, E. Gomez, H. You and J. Grote, "DNA as an Optical Material", *Optics and Photonics News*, **22**, 35-39, July **2011**.
N. Bedford, G. D. Winget, S. Punnamaraju, and A. J. Steckl, "Immobilization of Stable Thylakoid Vesicles in Conductive Nanofibers by Electrospinning", *ACS Biomacromolecules*, **12** (3), 778, Mar. **2011**.
S. Punnamaraju and A. J. Steckl, "Electric Field Control of Droplet Interface Lipid Bilayer Membranes", *Langmuir*, **27**(2), 618-626, Jan. **2011** (DOI: 10.1021/la1036508).

- A. J. Steckl, H. You, and D. Y. Kim, "Flexible electrowetting and electrowetting on flexible substrates", *Proc. SPIE* **7956**, 795607 (Jan. **2011**). Invited Paper. (DOI:10.1117/12.871021)
- D. Y. Kim and A. J. Steckl, "Electrowetting on Paper for Electronic Paper Display", *ACS Applied Materials and Interfaces*, **2**, 3318, Nov. **2010**. (featured on cover of Journal).
- N. Bedford and A. J. Steckl, "Photocatalytic Self-Cleaning Textile Fibers by Coaxial Electrospinning", *ACS Applied Materials and Interfaces*, **2** (8), 2448, Aug. **2010**.
- H. You and A. J. Steckl, "Three-Color Electrowetting Electronic Reader Display Device" *Appl. Phys. Lett.* **97**, 023514, July **2010**.
- D. Wu, D. Han, and A. J. Steckl, "Immunoassay on Free-standing Electrospun Membranes", *ACS Applied Materials and Interfaces*, **2** (1), 252, Jan. **2010**.
- D. Han and A. J. Steckl, "Superhydrophobic and oleophobic fibers by coaxial electrospinning", *Langmuir* **25**, 9454-9462, Aug. **2009**.
- H. You, H. Spaeth, V. Linhard, and A. J. Steckl, "Role of Surfactants in the Interaction of Dye Molecules in DNA Polymers", *Langmuir* **25**, 11698, Aug. **2009**.
- D. Wu and A. J. Steckl, "High Speed Nanofluidic Protein Accumulator", *Lab-on-a-Chip* **9** (13), 1890, June **2009**.
- A. J. Steckl, H. Spaeth, K. Singh, J. Grote, and R. Naik, "Chirality of sulforhodamine dye molecules incorporated in DNA thin films", *Appl. Phys. Lett.* **93** 193903, Nov. **2008**.
- A. J. Steckl, "DNA – A New Material for Photonics", *Nature Photonics*, **1**, 3, Jan. **2007**.
- D. Y. Kim and A. J. Steckl, "Liquid-State Field-Effect Transistors Using Electrowetting", *Appl. Phys. Lett.* **90**, 043507, Jan. **2007**.
- J. A. Hagen, W. Li, H. Spaeth, D. Han and A. J. Steckl, "Molecular beam deposition of deoxyribonucleic acid (DNA) thin films", *Nano Letters*, **7**, 133-137, Jan. **2007**.
- Z. Yu, J. A. Hagen, Y. Zhou, D. Klotzkin, J. G. Grote and A. J. Steckl, "Photoluminescence and Stimulated Emission from Deoxyribonucleic Acid Thin Films Doped with Sulforhodamine", *Applied Optics*, **46**, 1507, March **2007**. *Paper featured on cover of journal*.
- J. A. Hagen, W. Li and A. J. Steckl, J. G. Grote, "Enhanced emission efficiency in organic light emitting diodes using deoxyribonucleic acid complex as electron blocking layer", *Applied Physics Letters*. **88** 171109, Apr. **2006**. *Paper featured on cover of journal*.

Selected Professional Activities

- Invited Presentation on "Paper-Based Microfluidics: Something Old + Something New", Lab-on-a-Chip European Congress, Barcelona Spain, March **2013**.
- Invited Presentation on "Using Renewable Materials for Electronic Devices - from Salmon DNA LEDs to Paper e-Paper", Mat. Res. Conference, San Francisco CA, Apr. **2012**.
- Invited Presentation on "Paper Inside? - New Thinking for Biochips and Other Applications", at American Physical Society March Meeting, Boston, Feb. **2012**.
- Keynote Presentation at the International Workshop on Nano- and Bio-Photonics on "DNA as an Optical Material", St. Germain au Mont d'Or, France, Oct. **2011**.
- Invited Presentation on "Electrowetting – A Flexible e-Paper Technology", SPIE Photonics West Conference, San Francisco CA, **2011**.
- Invited Presentation on "Flexible Electrowetting and Electrowetting on Flexible Substrates", International Conference on Electrowetting, Pohang, Korea, **2010**.
- Organizer of *Electrofluidics Symposium* for Mat. Res. Soc. Conf., San Francisco, **2009**.
- Optical Soc. of America Distinguished Lecture, "DNA Photonics", Clemson University, **2009**.
- Associate Editor of *IEEE Journal of Display Technology*, **2004-08**.

Supervised 42 PhD Students and 12 Post-Doctoral Fellows

Issued 14 US Patents