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I. EDUCATION

1999 Ph.D., Physical Chemistry, University of California at Berkeley and Materials Science Division, Lawrence Berkeley National Laboratory, Advisor: Gabor A. Somorjai

1994 5 year Integrated M.S., Indian Institute of Technology (IIT) Kharagpur, India.

II. PROFESSIONAL EXPERIENCE

- Dec 2004 –Present: Joint Appointment, Department of Chemistry, Johns Hopkins University
- Sept. 2003 – Present: Assistant Professor, Department of Chemical & Biomolecular Engineering, Johns Hopkins University.
- Sept 2001 - Aug 2003: Senior Engineer, (Process Integration), Research and Development, Intel Corporation, Hillsboro, Oregon. *Responsible for integrating new processes for fabricating logic (digital) processors and mixed signal (analog+digital) communication chips at the 45nm-90nm nodes.*
- June 1999 - Aug 2001: Postdoctoral Fellow (Advisor: Professor George Whitesides) Department of Chemistry and Chemical Biology, Harvard University. *Demonstrated biomimetic strategies for forming functional electronic devices using surface modification and self-assembly.*

III. AWARDS

2007 Maryland Outstanding Young Engineer Award; Allan Davis Medal (Maryland Acad. of Sciences)

2007 Maryland State Official Citation for Supporting Gifted Education

2006 Camille Dreyfus Teacher-Scholar Award

2006 Beckman Young Investigator Award

2005 National Science Foundation Career Award

2003 Team Quality Award, Intel Corporation

IV. PUBLICATIONS

SELECTED PAPERS (out of 30 Journal Papers)

- D.Gracias, "On the Tracks of Carrier Transport", Nature Photonics (2007) [Invited News and Views Article], in press
- C. L. Randall, T. G. Leong, N. Bassik and D. H. Gracias, "3D Lithographically Fabricated Nanoliter Containers for Drug Delivery", Advanced Drug Delivery Reviews (2007), in press.
- H. Ye, C. Randall, T. Leong, D. Slanac, E. Call and D. H. Gracias, "Remote Radio Frequency Controlled Nanoliter Chemistry and Chemical Delivery on Substrates", Angewandte Chemie-International Edition (2007) 46, 4991-4994. [Research Highlight: "Loaded Dice", Nature Physics (2007) 3, 443].
- T. Leong, P. Lester, T. Koh, E. Call and D. H. Gracias, "Surface Tension Driven Self-Folding Polyhedra", Langmuir (2007) 23(17), 8747-8751 [Cover Article].
- T. Leong, Z. Gu, T. Koh and D. H. Gracias, "Spatially Controlled Chemistry Using Remotely Guided Nanoliter Scale Containers", Journal of the American Chemical Society (JACS) (2006) 128 (35) 11336-11337. [Research Highlight: "Self-folding delivery boxes", Science (2006) 313, 1032-1033 Editors Choice, "Microscale Origami", Science, 313, 5791, 1205].
- S. Papadakis, Z. Gu and D. H. Gracias, "Dielectrophoretic assembly of reversible and irreversible metal nanowire networks and vertically aligned arrays", Applied Physics Letters (2006), 88(23),

233118/1-233118/3.

- H. Ye, A. Abu-Akeel, J. Huang, H. E. Katz and D. H. Gracias, "Probing Organic Field Effect Transistors In-Situ During Operation Using SFG", Journal of the American Chemical Society (JACS) (2006), 128(20), 6528-6529.
- M. Boncheva, D. H. Gracias, H. O. Jacobs and G. M. Whitesides, "Biomimetic self-assembly of a functional asymmetrical electronic device", Proc. Nat. Acad. Sci. (2002) 99, 4937-4940.
- H. O. Jacobs, A. R. Tao, A. Schwartz, D. H. Gracias and G. M. Whitesides, "Fabrication of a cylindrical display by patterned assembly", Science (2002) 296, 323-325.
- D. H. Gracias, J. Tien, T. L. Breen, C. Hsu and G. M. Whitesides, "Forming electrical networks in three dimensions by self-assembly", Science (2000) 289, 1170-1172.
- D. H. Gracias, Z. Chen, Y. R. Shen and G. A. Somorjai, "Molecular Characterization of Polymer and Polymer Blend Surfaces. Combined Sum Frequency Generation Surface Vibrational Spectroscopy and Scanning Force Microscopy Studies", Accounts of Chemical Research (1999) 32, 930-940. [Ph.D. Thesis Summary]

SELECTED PATENTS (out of 17 issued patents and 4 pending patents)

- D. H. Gracias, "Fabricating stacked chips using fluidic templated-assembly", U.S. Patent No. 7,018,867 Granted March 28, 2006.
- D. H. Gracias, J. Tien and G. M. Whitesides, "Self-assembled electrical networks", U.S. Patent No. 7,007,370 Granted March 07, 2006.
- B. Gimi, Z. M. Bhujwalla and D. H. Gracias, "Self-Assembled, Micropatterned, and Radio Frequency (RF) Shielded BioContainers", Patent Application 20070020310, Jan 25, 2007.

V. MISCELLANEOUS HIGHLIGHTS

- Research funded by the National Science Foundation (NSF), National Institutes of Health (NIH), American Chemical Society (ACS), Beckman Foundation, Dreyfus Foundation, Goldman Philanthropic Foundation, Defense Threat Reduction Agency (DTRA) and Defense Intelligence Agency (DIA).
- Given 30 Invited talks at Government, Academic and Industrial Centers including NASA, NIST, MITRE, MIT, Caltech, UC Berkeley, UT Austin, Xerox-PARC, Intel and HP and conferences including the American Chemical Society and the Gordon conference.
- Reviewer for Science, Nature Photonics, Proceedings of the National Academy of Sciences (PNAS), Journal of the American Chemical Society (JACS), Angewandte Chemie, Langmuir, Journal of Physical Chemistry, Journal of Polymer Science, Biomembranes, Biomedical Microdevices, IEEE Transactions on Nanotechnology, Nanotechnology, Advanced Materials, Physical Chemistry Chemical Physics, Applied Physics Letters, Journal of the Electrochemical Society, Advanced Functional Materials, Analytical Chemistry, Nano, Lab on a Chip, Small, Journal of Electronic Materials, ISCAS 2007, NSF-DMI grants, NSF-ECE MRI grants, ACS-PRF grants, NSF-DMI-NIRT grants, US-CRDF grants.
- Scientific advisory board of Lifeboat foundation (<http://lifeboat.com/ex/>).
- Member of the American Chemical Society (ACS), American Institute of Chemical Engineers (AIChE), American Physical Society (APS), Biomedical Engineering Society (BMES), Materials Research Society (MRS), Institute of Electrical and Electronics Engineers (IEEE).
- Have organized outreach workshops and mentored Baltimore Public School (K-12) teachers and students in research and educational projects.