Michael S. Isaacson
University of California at Santa Cruz
School of Engineering
Department of Electrical Engineering
Santa Cruz, California

A. ***Professional Preparation***

University of Illinois at Urbana-Champaign	Engineering Physics	B.S.	1965
University of Chicago	Physics	S.M.	1966
University of Chicago	Physics	Ph.D.	1971

B. ***Appointments and Honors***

Appointments:

Narinder Kapany Professor of Electrical Engineering, UCSC	2003
Assoc. Dean of Research and Graduate Studies, School of Engineering, UCSC	2003
Assoc. Dean, Research, Graduate Studies and Prof. Education, College of Engineering, Cornell University	2000-2002
Visiting Professor, Department of Anatomy, School of Medicine, UCSF	1998-1999
Associate Dean, Research and Graduate Studies, College of Engineering, Cornell University	1993-1999
Professor of Applied and Engineering Physics, Cornell University	1989-2002
Associate Professor of Applied and Engineering Physics, Cornell University	1980-1988
Assistant Professor of Physics, University of Chicago	1973-1979
Assistant Staff Scientist, Division of Biology, Brookhaven National Laboratory	1971-1972

Elected National Office (professional societies):

Physical Sciences Director, Electron Microscopy Society of America	1988-1991
President, Microscopy Society of America	1993
Member Executive Board, Engineering Research Council of the ASEE	1997-2003
Secretary/Treasurer, Engineering Research Council of the ASEE	2001-2003

Honors:

Sloan Foundation Faculty Fellow	1973-1976
Burton Medal, Microscopy Society of America	1976
Senior Scientist Award, Alexander von Humboldt Foundation	1992
Fellow, American Association for the Advancement of Science	1993
Co-recipient Rank Prize for Optoelectronics	1996

C. *Publications (i) 5 Selected Publications last five years*

P.M. St. John, L. Kam, S.W. Turner, J. Turner, B. Shain, H.G. Craighead and M. Isaacson, "Preferential Glial Cell Attachment to Microcontact Printed Surfaces", *J. Neurosci. Meth. 75, 171-178 (1997).*

H.G. Craighead, S.W. Turner, R.C. Davis, C. James, A.M. Perez, M. Isaacson, L. Kam, W. Shain, J.N. Turner and G. Banker, "Chemical and Topographical Surface Modification for Control of Central Nervous System Cell Adhesion", *J. Biomedical Microbiodevices, 1:1, 49-64 (1998).*

C.D. James, R.C. Davis, L. Kam, H.G. Craighead, M. Isaacson, J.N. Turner and W. Shain, "Patterned Protein Layers on Solid Substrates by Thin Stamp Microcontact Printing", *Langmuir 14, 741-744 (1998).*

C.D. James, R. Davis, M. Meyer, S. Turner, G. Withers, L. Kam, G. Banker, H. Craighead, M. Isaacson, J. Turner, and W. Shain, "Aligned Microcontact Printing of Micrometer-Scale Poly-L-Lysine Structures for Controlled Growth of Cultured Neurons on Planar Microelectrode Arrays", *IEEE Transaction on Biomedical Engineering 47(1), 17-21 (2000).*

A.M.P. Turner, N. Dowell, S.W.P. Turner, L. Kam, M. Isaacson, J.N. Turner, H.G. Craighead and W. Shain, "Attachment of Astroglial Cells to Microfabricated Pillar Arrays of Different Geometrics", *J. Biomed. Mater. Res., 51, 430-441 (2000).*

(ii) 5 Other Significant publications:

A.V. Crewe, M.S. Isaacson and D. Johnson. "Electron Energy Loss Spectra for the Nuclei Acid Bases", *Nature 231, 262 (1971).*

M.S. Isaacson and D. Johnson. "The Microanalysis of Light Elements Using Transmitted Energy Loss Electrons", *Ultramicroscopy.1.33-42 (1975).*

"Direct Observations of Atomic Diffusion Using the STEM", M. Isaacson, D. Kopf, M. Utlant, N.W. Parker and A.V. Crewe, *PNAS(USA),74, 1802.(1977).*

M. Isaacson, A. Muray, M. Scheinfien, I. Adesida and E. Kratschmer, "Nanometer Structure Fabrication Using Electron Beam Lithography", *Microelectronic Engineering 2, 58-68(1984).*

Betzig, M. Isaacson and A. Lewis, "Collection Mode Near-Field Scanning Optical Microscopy", *Appl. Phys. Lett 51 (25, 2088-2090 (Dec. 1987).*

D. *5 Examples of Synergistic Activities*

PI, Microscopy Society of America, Project MICRO (National Outreach Program to the Middle Schools)" initial funding from NSF, Hertz Foundation, HP Foundation, Glaxo -Wellcome Foundation), 1993-1996 *(This is now a nation wide program with over two dozen sites. It served as the initial template for the NSF funded Cornell Center for Materials Research Outreach program.)*

Editorial Board, J. Vac. Sci. Technol (B), 2002-present

Co-organizer — NSF/CNRS Workshop on "Electron Beam Induced Spectroscopes at High Spatial Resolution", Aussois, France,1988

Fellowship Selection Committee, Hertz Foundation for the Advancement of Applied Physical Science, 1993-present

External Advisory Committee — NIH Center for Microscopy and Imaging Research, University of California at San Diego, 1999-present

E. *Professional Service*

Reviewer: selected journals; Applied Optics, Biomaterials, J.Vac. Sci. Technol.B, Microscopy and Microanalysis, Nature, Rev. Sci. Instr., Scanning, Ultramicroscopy

Member Editorial Advisory Boards (present): J.Vac.Sci.Technol.B, Scanning

Reviewer: agencies; DOE, NIH, NSF, Keck Foundation, Whittaker Foundation, Glaxo -Wellcome Foundation, Connaught Foundation, Research Corporation, Canada Foundation for Innovation

Member external Advisory Board: Univ. Calif. At San Diego, National Center for Imaging and Microscopy Research, Univ. Colorado at Boulder, Lab. For Three Dimensioanl Fine Structure, Trellis Biosciences

Member: Board of Reviewers, Hertz Foundation, Canada Foundation for Innovation

Collaboration and Other Affiliations

i) Recent Collaborators: Prof. G. Banker (Oregon Health Sciences University), Dr. J. Turner, Dr. W. Shain (Wadsworth Laboratories), Prof. J.Spence (Arizona State University), Prof. R. Hoy (Cornell University)

ii) Graduate Advisor: Prof. A.V. Crewe, University of Chicago

iii) Thesis advisor, post-doctoral and visiting scientist sponsor (last five years):

Ph.D. (completed)	Andrew Spence (Cornell University)
	Miri Park (Lucent Technologies)
	Jerold Cline (General Electric)
Postdoctoral Scholars:	Robert Davis (Brigham Young University)
	William Lo (Schlumberger)
Visiting Scientists:	Moto Furuki (SONY), Shunji Nagatsuka (Hitachi)
	Harold Rose (Technische Universitat Darmstadt)

Total no. PhD students advised: 21; Total no. postdoctoral scholars advised: 8