

Joseph Wang

Department of Nanoengineering
University California San Diego

e-mail: josephwang@ucsd.edu Web Page: <http://nanoengineering.ucsd.edu/~joewang/>

Phone: 858-246-0128 Fax: 858-534-9553

(i) PROFESSIONAL PREPARATION:

Technion, I.I.T., Israel,	Chemistry	B.Sc.	1972
Technion, I.I.T., Israel,	Chemistry,	M.Sc.	1974
Technion, I.I.T., Israel,	Chemistry,	D.Sc.	1978

(ii) POSITIONS AND HONORS

Professor of Nanoengineering, University California San Diego, 2008- Present
Professor and Center Director, Biodesign Institute, ASU, 2004-2008.
Regents Professor and Manasse Chair, NMSU, 2002-2004
Professor of Chemistry, New Mexico State University, 1988-2004
Assistant and Associate Professor of Chemistry, New Mexico State University,
1980-1988.

Heyrovsky Memorial Medal (Academy of Science of the Czech Republic), 1994.

Westhafer Award, Top Researcher (NMSU), 1990

Most Cited Electrochemist in the World – 1995

American Chemical Society (ACS) National Award - Analytical Instrumentation, 1999.

Sandia Recognition Award, Sandia's Microlab Challenge, 2000.

ISI Citation Laureate, Most Cited Scientist in Engineering in the world, 1991-2001

Honorary Professor, National University, Cordoba, Argentina, 2003

American Chemical Society (ACS) National Award - Electrochemistry, 2006

Honorary Professor, Complutense University, Madrid, Spain, 2007

Honorary Professor, National Institute of Chemistry, Slovenia, 2007

2007 ASU Faculty Achievement Award in defining-edge research in natural sciences/math.

2007 NSF Creativity Award.

(iii) SELECTED PUBLICATIONS (over 750 journal articles, 25 book chapters, 10 books)

1. "Magnetic Tuning of the Electrochemical Reactivity Through Controlled Surface Orientation of Catalytic Nanowires", J. Wang, M. Scampicchio, R. Laocharoensuk, F. Valentini, O. González-García and J. Burdick, J. Am. Chem. Soc., 128(2006)4562.
2. "CNT-Induced Acceleration of Catalytic Nanomotors", R. Laocharoensuk, J. Burdick and J. Wang, ACS Nano, 2(2008)1069.
3. "Synthetic Nanomotors in Microchannel Networks: Directional Microchip Motion and Cargo Manipulations", J. Burdick, R. Laocharoensuk, P. Wheat, J. Posner, and J. Wang, J. Am. Chem. Soc., 130(2008)8164.
4. "Shape-Tailored Porous Gold Nanowires: From Nano Bar-Bells to Nano Step-Cones", R. Laocharoensuk, S. Sattayasamitsathit, J. Burdick, P. Kanatharana, P. Thavarungkul, J. Wang, ACS Nano, 1(2007)403.

5. "Adaptive Nanowire-Nanotube Systems for On-Demand Bioelectrocatalytic Transformations", R. Laocharoensuk, A. Bulbarello, and S. Mannino, J. Wang, Chem. Commun. 2007, 3362.
6. "Electrochemical Coding Technology for Simultaneous Detection of Multiple DNA Targets", J. Wang, G. Liu, and A. Merkoçi, J. Am. Chem. Soc., 125 (2003) 3214.
7. "DNA-based Amplified Bioelectronic Detection and Coding of Proteins," J. Wang, G. Liu, B. Munge, L. Lin and Q. Zhu, Angew Chemie Int. Ed 43(2004)2158.
8. "Adaptive Orientation of Multifunctional Nanowires for Magnetic Control of Bioelectrocatalytic Processes", Ó. A. Loaiza, R. Laocharoensuk, J. Burdick, M. Rodriguez, J. Pingarron, M. Pedrero, J. Wang, Angew Chemie Int. Ed., 46(2007)1508.
9. "Ultrasensitive Electrical Biosensing of Proteins and DNA: Carbon-Nanotube Derived Amplification of the Recognition and Transduction Events", J. Wang, G. Liu, and M. Jan, J. Am. Chem. Soc. (2004)126, 3010.
10. "Electrochemical Glucose Biosensors", J. Wang, Chem. Reviews, 108(2008)814.

(iv) SELECTED SYNERGETIC ACTIVITIES

Chief-Editor, *Electroanalysis* (international journal; VCH Publishers); 1988-present.

Affiliate Scientist, Battelle PNL, 1994-present.

External Advisory Board, Sandia National Labs, 2002-2005.

Regular reviewer for many US and foreign funding agencies.

Editorial Advisory Board: *Analytica Chimica Acta*, 1992-present, *Electrochemistry Communications*, 1998-present; *Talanta*, 1990-present; *Analyst*, 1989-1996; *Encyclopedia of Analytical Sciences*, 1991-present; *Analytical Instrumentation*, 1991-present, *Anal. Letters*, 1991-present, *Anal. Communications*, 1995-2000, *Sensors*, 2001-present, *Sensor Lett.*, 2003-present, *Analysis Europa*, 1994-1998, *Quimica Analitica*, 1997-present; *Current Topics in Analytical Chemistry*, 1996-present, *General Physiology and Biophysics*, 1998-present, *Croatia Chemica Acta*, 1992-present

Proposal Reviewer. Regular reviewer for many US and foreign funding agencies.

Course Development. Development and integration of undergraduate and graduate level courses within the newly established Nanoengineering department at UCSD.

(v) COLLABORATORS & OTHER AFFILIATIONS

(a) Collaborators

Dr. Ashok Mulchandani (UC-Riverside); Dr. Gregg Collins (NRL); Dr. W. Sadik (SUNY-B.), Dr. D. Haake (UCLA), Dr. N.J. Tao (ASU), Dr. Neal W. Woodbury (ASU), Dr. Lokesh Joshi (Galway, Ireland), Cheryl Nicholson (ASU).

(b) Advisors

D.Sc. Advisor: M. Ariel - IIT (Israel)

Post-doc Advisor: W. Blaedel - UW (Madison)

(c) Former graduate students, post-doctoral fellows, and visiting professors (past 5 yrs)

Dr. E. Palecek (Brno, Czech Republic), Dr. M. Mushama (University Michigan), Dr. S. Daniele (Venice-Italy), Dr. M. Chatrathi (NRL-DC), Dr. R. Deo (ASU-Biodesign), Dr. A. Muck (Jena, Germany), Dr. N. Kawde (Egypt), Dr. N. Lawrence (Cambridge, UK), Dr. B. Munge (WNM Univ.), M.Sc. A. Kagie (ASU, Tempe), Dr. M. Pumera (Tsukuba, Japan).

From a total of 18 graduate students and 40 post-docs (over 2 decades).

Earlier graduate students: 1. H. Dewald (OH University); 2. L. Hutchins-Kumar (Pfizer Inc, NJ), 3. J. Mahmoud (UT El Paso), 4. T. Golden (University N. Texas, Denton, TX), 5. M. S. Lin (Taiwan); 6. R. Setiaji (Indonesia), 7. P. Pamidi (IL Inc., MA); 8. Z. Taha (WPI Inc.), 8. T. Martinez (deseased); 9. Q. Chen (Cygnus Inc. CA). 10. J. Burdick (Intel Inc. Portland).