ALAN C. WEST

Department of Chemical Engineering
Columbia University
New York, NY 10027

Phone: (212) 854-4452
Fax: (212) 854-3054
E-mail: acw17@columbia.edu

EDUCATION

Ph. D. Chemical Engineering — University of California
(December, 1989) — Berkeley, California
Thesis Advisor: John Newman

B.S. Chemical Engineering — Case Western Reserve University
(May, 1985) — Cleveland, Ohio

PROFESSIONAL EXPERIENCE

Departmental Chair — Columbia University
Department of Chemical Engineering — New York, New York
(May, 2005 - present)

Samuel Ruben-Peter G. Viele Professor of Electrochemistry — Columbia University
Department of Chemical Engineering — New York, New York
(October, 2007 - present)

Professor — Columbia University
Department of Chemical Engineering — New York, New York
(July, 2002 – present)
(Associate Professor from July, 1995 – July, 2002)
(Assistant Professor from January, 1992 - July, 1995)

Co-Technica; Director, Center for Advanced Interconnect Science & Technology (CAIST) — State University of New York
(February, 2008 – present) — Albany, New York

Academic Visitor — IBM Corporation
(July, 2003-December, 2004) — TJ Watson Research Center

North American Editor — Journal of Applied Electrochemistry
(November, 2002-December 2005)

Visiting Professor — Ecole Polytechnique Fédérale de Lausanne
Materials Science Department — Lausanne, Switzerland
(February, 1999 – July, 1999)

Postdoctoral Assistant — Ecole Polytechnique Fédérale de Lausanne
Materials Science Department — Lausanne, Switzerland
(January, 1990 - December, 1991)

RECENT AWARDS AND FUNDING SOURCES

Samuel Ruben-Peter G. Viele Professor of Electrochemistry
NSF Young Investigator Award
1994 Norman Hackerman Young Author Award
1996 Norman Hackerman Young Author Award (co-author)
National Science Foundation, Department of Energy, Army Corps of Engineers
Industrial Funding: Novellus, Intel, Shipley Ronal, Faraday Technology, Semiconductor Research Corporation

INDUSTRIAL COLLABORATIONS AND/OR CONSULTING

International Fuel Cells (subsidiary of United Technology) (1994-1999)
Battelle Pacific Northwest Laboratories (1996-97)
Sandoz Pharmaceuticals (1992-93)
Alcoa Research Laboratories (1993-1996)
Enthone OMI(1998-2000)
Intel (1998-2001)
Novellus (2000-present)
Shipley Ronal (1997-2000)
Faraday Technology (2000-present)
ATMI (2002)
IBM (2003-2004)
ASM NuTool (2004-2005)

SPONSORED DOCTORAL THESES

1. Benoit DeBecker, *Mass-Transfer Rate and Current Distribution in Periodic Fluid Flow*, degree in mineral engineering (1995).
2. Roberto Vidal, *An Electrochemical Study of Mass Transfer in High-Rate Anodic Dissolution of Copper,* degree in chemical engineering (1995).
3. Taekhoon Kim, *An Analysis of Mixed Potential Theory in Electroless Copper Deposition,* degree in chemical engineering (1996).
4. J. Deliang Yang, *Experimental and Numerical Investigation of Mass Transfer in Electrochemical Systems*, degree in chemical engineering (1997).
5. Chin-Chang Cheng, *Application of Impedance Spectroscopy to Electrochemical Systems*, degree in chemical engineering (1998).

6. Brett C. Baker, *Interactions in Electrodeposition,* degree in chemical engineering (1998).

7. James J. Kelly, *Copper Deposition in the Presence of Mixed Surfactants,* degree in materials science (1998).

8. Scott A. Calabrese Barton, *Alternative Fuels for Mobile Fuel Cells*, degree in chemical engineering (1999).

9. Radek Chalupa, *Mass Transfer and Current Distribution in Metallization Processes for the Electronics Industry*, degree in chemical engineering (2001).

10. Premratn Taephaisitphongse, *Additives and Nucleation and Growth in Copper Electrodeposition*, degree in chemical engineering (2002).

11. Zhongliang Tang, *Microfluidics: Fluid Flow, Transport, Control, Characterization and Applications*, degree in chemical engineering (2003).

12. Jong-Min Lee, *Theoretical Analysis of Current Distributions in Electrochemical Systems,* degree in chemical engineering (2003).

13. Min Zheng, *The Role of Additives in Cu Electrodeposition on Barriers,* degree in chemical engineering (2005).

14. Mark Willey, *Microfluidic Studies of Copper Electroplating Additives*, degree in chemical engineering (2007).

COURSES TAUGHT

ChE 1040. Molecular Engineering and Product Design
ChE 3100. Material and Energy Balances
AC E3020. Principles of Applied Chemistry II
AC E4201. Engineering Applications of Electrochemistry
AC E6050. Advanced Electrochemistry
ChE E4010. Chemical Process Analysis
ChE E4520. Process Analysis and Simulation
ChE 4510. Process and Product Design. II

PROFESSIONAL SERVICE/SOCIETIES

North American Editor, Journal of Applied Electrochemistry (2002-2006)

Reviewer, NSF and DOE proposals and panel reviews, AICHE Journal, Journal of the Electrochemical Society, Electrochimica Acta, Journal of Applied Electrochemistry, Journal of Electroanalytical Chemistry

Instructor, “Electrochemical Deposition Processes for ULSI Copper Interconnect Fabrication,” UC Berkeley Extension, San Francisco (1998) and (1999).

Chair: (1995-96) Metropolitan New York Section of Electrochemical Society
Vice-Chair: (1994-95) Metropolitan New York Section of Electrochemical Society
Treasurer : (1993-94) Metropolitan New York Section of Electrochemical Society
Member: American Institute of Chemical Engineers, Electrochemical Society