

Biographical Sketch: DAVID L. COCKE

JACK M. GILL PROFESSOR OF CHEMISTRY AND CHEMICAL ENGINEERING LAMAR UNIVERSITY,
Beaumont, Texas

A. Professional Preparation.

Institution	Degrees	Dates
Temple Junior College	AS Science	1963-64
University of Texas, Austin	BS Chemistry/Math	1964-66
Lamar University, Beaumont	MS Chemistry/Math	1967-69
Texas A&M University, CS	PhD Chemistry/Phys.-Inorg.	1969-72
Texas A&M University, CS	Postdoctoral	1972-74
Max Planck Institute, Metals	Visiting Scientist	1974-74
Fritz Haber Institute, Berlin	Visiting Scientist	1974-77

B. Appointments.

2003-present Director of Fuel Cell and Energy Systems Center

2001-Present Director of TEES Statewide Materials Initiative

2000-Present Director of Science and Technology Development, College of Engineering, Lamar University

1989-Present Adjunct Professor, Physics, TAMU (Surface Science Laboratory)

1997-Present Jack M. Gill Professor of Chemistry and Chemical Engineering, Lamar University

1989-1997 Jack M. Gill Professor in Analytical Chemistry, Lamar University

1980-1995 Visiting Professor, University of Messina, Italy (Fuel Cell Catalysis Research)

1983-1989 Associate Professor of Chemistry, Texas A&M University

1986-1989 Director Amorphous Materials Research Group, TAMU

1983-1988 Director Surface Science Facility at TAMU

1983-1987 Materials Science Director for College of Science, TAMU 1977-1983

1977-1983 Group Leader UOP Inc. Materials Characterization and Design

1980-1982 Adjunct Professor, Loyola University, Chicago, IL

1974-1977 Guest Scientist, Fritz-Haber Institute, Berlin, BRD

1973-1974 Guest Scientist, Max-Planck Institute, Stuttgart, BRD

C. PUBLICATIONS: 10 of >400

C. Wang, A. J. Appleby, **D.L. Cocke**, "Alkaline Fuel Cell with Intrinsic Energy Storage" *J. Electrochem. Soc., J. Electrochem. Soc.*, **151**, A260-264 (2004).

X. Zhang, P. K. Patil, C. Wang, A. J. Appleby, F. E. Little, and **D. L. Cocke**, "Electrochemical Performance of a Nano-silicon Based Disordered Carbon Composite Anodes with Different Microstructures in Lithium Ion Battery," *J. Power Sources*, **125**, 206-213 (2003)

Mamum, A., Schennach, R., Parga, J. R., Mollah, M. Y. A., Hossain, M. A. and **Cocke, D. L.**, "Passive film breakdown during anodic oxidation of zirconium in pH 8 buffer containing chloride and sulfate" *Electrochimica Acta* **46**, 3343-3350 (2001).

Block, J. H., **Cocke, D. L.** and Kruse, N., "Heterogeneous Catalysis and High Electric Fields", in: *Handbook of Heterogeneous Catalysis*, Eds. G. Ertl, H. Knözinger and J. Weitkamp, (VCH-Verlag, Weinheim), pp. 1104-1123 (1997).

Mollah, M. Y. A., Schennach, R., Patscheider, J., Promreuk, S. and **Cocke, D. L.**, "Plasma chemistry as a tool for green chemistry, environmental analysis and waste management", *Journal of Hazardous Materials*, **B79**, 301-320 (2000).

Cocke, D. L., Naugle, D. G. and Schennach, R., "Film formation on metals and alloys by thermal, electrochemical and plasma oxidation", *Surface Engineering: In Materials Science I*, Editors: S. Seal,

N. B. Dahotre, J. J. Moore and B. Mishra, A Publication of The Minerals, Metals & Materials Society, 184 Thorn Hill Road, Warrendale, PA page 23 - 36 (2000)

Other Publications:

Mollah, M. Y. A., Promreuk, S., Schennach, R. and **Cocke, D. L.**, “Cristobalite formation from thermal treatment of Texas lignite fly ash”, Fuel, **78**, 1277-1282 (1999).

Schennach, R., Naugle, D. G., **Cocke, D. L.**, Dembinski, R., and Gladysz, J. A., “Surface reactivity studies of bimetallic complexes, $(h^5-C_5Me_5)Re(NO)(PPh_3)(C[C]_n)(Ph_3P)(ON)Re(h^5-C_5Me_5)$ (n=2,4,6), candidates for molecular wires”, Vacuum, **56**, 115-121 (2000).

Mollah, M. Y. A., Yu, W., Schennach, R. and **Cocke, D. L.**, “A Fourier transform infrared spectroscopic (FT-IR) investigation of the early hydration of Portland cement and the influence of Sodium Lignosulfonate (LS), Cement And Concrete Research, **30**, 267- 273 (2000).

Schennach, R., Promreuk, S., Naugle, D. G. and **Cocke, D. L.**, “Thermal, electrochemical and plasma oxidation of $Ti_{50}Zr_{50}$, $Cu_{50}Zr_{50}$, $Cu_{50}Ti_{50}$ and $Cu_{33}Ti_{33}Zr_{33}$ ”, Oxidation of Metals, **55**, 525-543 (2001).

D. Synergistic Activities:

1) Director of US-Mexico Water Resource Management Initiative for Lamar University; 2002-

2) **Deputy Director Center for Electrochemical Systems and Hydrogen Research; 2003-present**

3) **Director of the Lamar Fuel Cell and Energy Systems Center; 2003-present.**

4) Established Shared XRD Laboratory with NSF MRI Funding; 2001-03

5) Major TEES materials research effort with 15 Universities in Texas and New Mexico; 2001-

6) Active program to bring persons with disabilities into science and engineering. Employing and working with disabled deaf students in science and math education 1998-present.

7) Active in bringing high school teachers to Lamar research laboratories for summer research

i. Collaborators & Other Affiliations:

Collaborators: John Gossage, Chemical Engineering; Daniel Chen, Chemical Engineering; T. C. Ho, Chemical Engineering; Kuyen Li, Chemical Engineering; Carl Yaws, Chemical Engineering; Jack Hopper, Chemical Engineering; Jerry Lin, Civil Engineering, Hsing-wei Chu, Industrial Engineering; Malur Srinivasan, Mechanical Engineering; Cliff Spiegelman, Statistics; Donald Naugle, Physics; Jose Parga, Saltillo, Mexico; Donald Mencer, Chemistry, Josuf Mollah, Chemistry, Bangladesh; Robert Schennach, Chemistry, Austria; Hylton McWhinney, Chemistry, R. Dembinski, Chemistry; J. A. Gladysz, Chemistry; J. Patscheider, Chemistry, N. Kruse, Chemistry.

ii. Graduate and Postdoctoral Advisors:

Kenneth Dorris, Department of Chemistry, Lamar University, Beaumont, TX 77710

Karl Gingerich, Department of Chemistry, TAMU, College Station, TX 77844

Jochen Block, Deceased, Fritz Haber Institute, Berlin Germany

iii. Graduate and Postdoctoral Advisees: 28 Graduate Students and one Postdoctoral Fellow

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| 1. Rana Chowdhury (Banla) | 2. N. Kunanmneni(India) | 3. Haijun Wang (China) |
| 4. Jinjiang Chen (China) | 5. Zhang Zhang (China) | 6. G. Liang (China) |
| 7. A. Rao (India) | 8. Alam Manjupul(Banla). | 9. J. Liang (China) |
| 10.Y.-N. Tsai (Taiwan) | 11. Amir Taiyabi (India). | 12. T.-C. Lin(Taiwan) |
| 13. J. Yang (China) | 14. Bill Adams (USA) | 15 .H-X Liu (China)Wenhong |
| 16. Z. Lu (China) | 17. Wenhong Yu (China) | 18. C. Yoon (S. Korea) |
| 19. H. G. McWhinney (Jam.) | 20. Mike Owens (USA) | 21. A. Mamun (Banla.) |
| 22. T. Promreuk (Thai) | 23. Emrah Alicli (Turkey) | 24. Kadir Dede (Turkey) |
| 25. Suraj Deore (India) | 26. AktarHossain (Banla) | 27. Maya Sehic (Boshnia) |
| 28. O.Kucukosman | 29. Robert Schennach (Post Doctoral) Schrödinger Fellow from Austria (three years) | |

Other Personnel: 20+ Undergraduate researchers and scholars employed over last five years