ADAM CLAYTON POWELL, IV

11 Michigan Dr., Natick, MA 01760-1334 (781) 898-3430 apowell@moxst.com

Professional Interest: Commercialization of low-cost clean technologies which advance sustainability, energy efficiency, and renewable energy.

EXPERIENCE

METAL OXYGEN SEPARATION TECHNOLOGIES, INC. Needham, MA
Principal 2008–Present
Leading technology development in a startup company scaling up SOM Electrolysis as the lowest-cost method for making magnesium, solar-grade silicon and other metals.

OPENNOVATION Newton, MA
Principal 2007–Present
Engineering consulting in transport phenomena, modeling, and materials selection; specialist in electrochemical processes, polymer membrane fabrication, evaporation processes, and high-performance computing.

VERYST ENGINEERING LLC Needham, MA
Managing Engineer 2006–2007
Technical consulting in failure analysis, phase inversion processes used to make polymer membranes, medical devices, primary metal production, electrochemistry, and use of advanced materials in product design.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA
Professor of Materials Engineering 1999–2006
Authored 41 publications and gave 37 invited presentations (four in Japanese). Raised $750,000 to conduct research in computational materials science, particularly simulating structure formation, fluid-structure interactions and electrochemistry, applied to semisolid metals, polymer membranes, electrolysis processes. Thesis advisor for 3 Ph.D. and 2 S.M. students, thesis committee for six Ph.D, students, research advisor to twelve undergraduates, academic advisor to 53 undergraduates. Taught materials processing, transport phenomena, phase transformation kinetics, modeling and simulation. Organized ten TMS conference symposia.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY Gaithersburg, MD
Metallurgist 1997–1999
Research in free surface dynamics and microstructure evolution at the Center for Theoretical and Computational Materials Science. Modeled solder droplet dynamics for optical fiber alignment and flip-chip package design.

SANDIA NATIONAL LABORATORIES Albuquercque, NM
OSSP Summer Intern Summers 1992–1996
Pilot-scale experimentation in electron beam melting and refining, focused on characterization of alloy element evaporative losses and melt velocities, in conjunction with MIT doctoral thesis.

CURRENT AFFILIATIONS: Co-author of National Academies report on Integrated Computational Materials Engineering (in progress); MIT (Visiting Assistant Professor), Boston University (Visiting Scholar), University of Tokyo (Foreign Collaborative Researcher); Debian GNU/Linux (maintain scientific computing packages).

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA
Ph.D. in Materials Engineering 1992–1997
Cumulative GPA: 4.9/5.0. Thesis title: *Transport Phenomena in Electron Beam Melting and Evaporation*. Advisors: Professor Julian Szekely, Professor Uday Pal. Conducted pilot-scale experimentation at Sandia National Laboratories, CFD, DSMC modeling of EB evaporation, thermal/kinetics model of alloy evaporation.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY Cambridge, MA
S.B. in Materials Science and Engineering, S.B. in Economics 1988–1992
Cumulative GPA: 4.7/5.0. Economics thesis title: *A Model of the Automobile Recycling System*. Courses in: Materials core, metallurgy and polymers electives; Economics core, government regulation and environment electives; various programming; analysis and topology; Political Science concentration.

SKILLS: Programming in C, Java, Scheme, Fortran and Postscript; HTML website authoring; Japanese language (fluent speaker, moderate reading and writing), French language (moderate).