

NGUYEN Q. MINH

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Center for Energy Research
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SUMMARY

An internationally known scientist with extensive research and development (R&D) experience on solid oxide fuel cells, solid oxide electrolysis cells and related technologies. Have developed multi-million dollar fuel cell programs, served as GE Chief Scientist and program Principal Investigator, led fuel cell research groups, directed/coordinated/conducted a broad spectrum of R&D activities, authored/co-authored 20 patents and more than 100 technical publications, demonstrated key scientific accomplishments and have given numerous lectures and invited presentations at international and national meetings.

PROFESSIONAL EXPERIENCE

UNIVERSITY OF CALIFORNIA, SAN DIEGO, La Jolla, CA 2010-present

Center for Energy Research

Develop and lead fuel cell programs at Center for Energy Research. Supervise postdoctoral scholars and graduate and undergraduate students to conduct research on designs, materials, manufacturing processes, and operation relating to solid oxide fuel cells (SOFCs), solid oxide electrolysis cells (SOECs) and reversible SOFCs.

CONSULTANT, Fountain Valley, CA 2008 -2009

Serve as expert/consultant/advisor to United Nations, the US Department of Energy and industries on fuel cells and energy technologies and give invited lectures/presentations at various universities, international and national meetings and workshops.

GE GLOBAL RESEARCH and GE ENERGY, Torrance, CA 2002-2007

Chief Scientist (2005-2007)

Manager, Fuel Cells (2002-2005)

As Chief Scientist, responsible for organization's overall technical objectives on fuel cell technology, oversaw technical roadmap and R&D direction, and served as program Principal Investigator and primary technical representative to industry and customers.

As Manager, Fuel Cells, led GE fuel cell group to perform a broad range of technical activities to develop solid oxide fuel cell (SOFC) technology for commercialization.

- Led teams to develop programs and prepared winning proposals (100% winning rate) with more than US\$200 million total funding
- Executed and completed programs on time and met/exceeded technology goals and other contractual milestones
- Guided teams to demonstrate several significant technology advancements: two-fold improvement in fuel cell performance, ten-fold in manufacturing scale-up, and a prototype SOFC power system with extraordinary efficiency (greater than 49%)
- Achieved significant scientific findings such as electrode microstructure performance relationship, reversible oxygen electrodes, degradation mechanisms
- Delighted Department of Energy (DOE) customers and maintained trust. Served as program/proposal reviewers and panelists for federal and state agencies and professional organizations. Invited and plenary speakers at various international conferences.

- Recruited talented staff (Ph.D., MS, BS levels and technicians) and mentored group members to support growth and doubled group size
- Developed technology roadmaps and strategic plans. Trained as GE Six Sigma black belt

HONEYWELL/ALLIEDSIGNAL, Torrance, CA

1987-2002

Senior Manager, Fuel Cells

Led fuel cell group to develop proton exchange membrane (PEM) and SOFC technologies aiming at commercial, military, and space applications. Responsible for group performance and provided technical direction, coordinated group activities, interfaced with internal and external customers (DOE, DOD, NASA), and participated in business development. Involved in R&D of ceramic heat exchangers and ceramic joining.

- Started fuel cell R&D activities at AlliedSignal and built it into a major fuel cell developing group in the world.
- Invented tape calendaring as a low-cost process for making thin-film SOFCs
- First proposed and demonstrated anode-supported cell configuration,
- Demonstrated many “technology firsts” such as first kW stacks incorporating metallic interconnects, first portable SOFC systems for DOD/DARPA
- Led the team to build and operate several PEM systems including 50 kW automobile and 5 kW forklift systems. Demonstrated operation of ceramic oxygen generators for commercial and space (NASA Mars mission) applications

ARGONNE NATIONAL LABORATORY, Argonne, IL

1981-1986

Staff Scientist/Group Leader and Associate Manager, Fuel Cell Program Office

Conducted material and electrochemical research on batteries and fuel cells and developed a new process for aluminium production. Supported DOE in program development and management of molten carbonate fuel cell (MCFC) projects.

EDUCATION AND TRAINING

B.S., Ph.D., Chemical Technology, University of New South Wales, Sydney, Australia

Post doctoral fellow, Massachusetts Institute of Technology, MA

PATENTS AND AWARDS

- 21 US patents
- AlliedSignal Recognition Award (1997)
- Nominated for International Italgas Award for Energy and Environment (2006)
- Francis T. Bacon Medal for Outstanding Contributions to the Technological Achievements and Commercialization of Fuel Cell Systems (2007)

AFFILIATIONS

Member, American Ceramic Society, The Electrochemical Society

Executive Member (2002-2005), US Fuel Cell Council

Editorial Board (2004-2007), ASME Journal of Fuel Cell Science and Technology

Member, Symposium Organizers (2005-present), ACerS International Symposium on Solid Oxide Fuel Cells

PUBLICATIONS

1 book (“*Science and Technology of Ceramic Fuel Cells*,” Elsevier, Amsterdam, 1995), 8 book chapters and more than 100 technical articles.