

Jun Liu, Ph.D.

Chemist

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Professional Experience

More than 24 years experience in research and development of lithium battery, solid electrolyte materials, solid oxide fuel cell, chemical sensors and lithium ion battery

- 1998-present: Argonne National Laboratory, Chemist, Supervisor, Lab-Supervisor
 - Research and development of advanced high-power lithium ion batteries for application in hybrid electric vehicles (HEV) for DOE's ATD program
 - Development and screening of advanced materials for high power battery application in ATD program
 - Diagnostics of fresh and abuse batteries after cycle life or calendar life tests.
- 1993-1998: University of Kiel, Technical Faculty, Germany, Senior Researcher
 - Development of new functional materials for application in chemical sensors and solid-oxide fuel cells.
 - Researcher of BMFT (German Ministry of Research and Technology) and Siemens AG "solid-oxide fuel cell" join project. Development and investigation of new oxygen ionic conductors, interface effects, and cathode materials for their applications in solid-oxide fuel cells at lower operating temperatures.
- 1992-1999: Ionic Systems Company, Ltd., Stuttgart, Germany, Co-founder
 - Development of new oxygen sensors and production of new oxygen and other chemical gas sensors for laboratory use and industry monitoring and controlling processes.

- 1989-1993: Max-Planck Institute of Solid State Research, Stuttgart, Germany
 - 1991-1993: Researcher of German government BMFT sensor and electro-chromic project. Development of advanced materials, chemical gas sensors and their applications.
 - 1989-1991: Postdoctoral Fellowship Appointee, Development and investigation of chemical gas sensors based on solid electrolytes.
- 1987-1989: Laboratory of Solid-State Chemistry, National Center for Scientific Research, University of Bordeaux, Bordeaux, France
 - Ph.D. Degree Student, Research Associate and Teaching Assistant, Investigation of silver ionic conducting glasses and their applications in chemical sensors, all solid-state batteries, and Ion Selected Field Effect Transistor (ISFET).
- 1985-1987: Institute of Physics, Chinese Academy of Sciences, Beijing, China
 - Research Associate, Development and investigation of fast ionic conductor materials, including solid solution and sol-gel prepared thin film lithium ionic conductors and polymer materials for application in high-energy lithium batteries and lithium thermal batteries.
- 1982-1984: Department of Chemistry, Peking University, Beijing, China
 - Research and Teaching Assistant, Study of the electrochemical mechanisms and safety of high-energy Lithium / Thionyl Chloride (Li/SOCl₂) batteries.

Knowledge, Skills, and Capabilities

Comprehensive knowledge in materials science, chemistry, and electrochemistry experimental technique and mathematics and computer applications for data acquisition and analyses; exceptional skills in materials science, chemical, and electrochemical instrumentation and computer applications; considerable skills in devising, performing, and evaluating experiments. Good written and oral communication skills; excellent work capabilities with backgrounds in both academy and industry.

Publications

- 43 peer-reviewed publications
- 43 extended abstracts publications
- 50 technical presentations
- 14 research project/program reports

Awards:

Argonne National Laboratory Pacesetter Award (September, 2005)

Max-Planck Society Postdoctoral Fellowship Award (September 1989 through August 1991)

French National Center for Scientific Research Fellowship Award (January 1987 through August 1989)

Institute of Physics, Chinese Academy of Sciences, Outstanding Researcher Award (June 1985 to July 1986)

Patent:

3 Patents

5 Invention Reports and Patent Application and pending

Professional Society activities:

- Electrochemical Society
- Materials Research Society
- International Society of Solid-State Ionics
- Former Member, the Great Lake Chinese American Chemical Society (GLCACS), had served as Member of the Executive Committee of the GLCACS.
- Reviewer of manuscripts for "Electrochemistry Communications" Journal.

EDUCATION

Ph.D., Materials Science, June 1989, Laboratory of Solid-State Chemistry, National Center for Scientific Research, University of Bordeaux, Bordeaux, France

M.S., Chemistry, January 1985, Peking University, Beijing, People's Republic of China

B.S., Chemistry, April 1982, Peking University, Beijing, People's Republic of China
