

Eliot A.F. Smith — Electroanalytical Lab Manager

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Skills Summary

Demonstrated proficiency in:

- *Scheduling and time management*
- *Capacity to motivate through leadership*
- *Customer and student interaction in technical education and problem resolution issues*
- *Mediation and conflict resolution*
- *Strengthening employee relations*
- *Effectively teaching complex subjects*
- *Disseminating policy and regulations as needed by employees*
- *Management of technology resources*
- *Task organization through delegation*
- *Goal oriented development, implementation and completion*
- *Basic accounting and inventory control*
- *Eagerness in developing new skills*
- *Equipment maintenance and*
- *Strong desire to exceed expectations within established boundaries*

Experience

SAN DIEGO STATE UNIVERSITY (SDSU), DEPT. OF CHEMISTRY, 8/1993 – 8/2002
SAN DIEGO, CALIFORNIA

Lead Research Associate

5/1997 – 8/2002

Assisted principal investigator by taking on the day-to-day functioning of research group. Directed, trained and supervised research team for electroanalytical research group that merged:

- *Chemical*
 - *Mathematical*
 - *Communication*
 - *Team Building and*
 - *Instrumental*
 - *Technological*
 - *Training*
 - *Managerial skills*
- while continuing personal research responsibilities.*

Managerial concerns included:

- *Training researchers with backgrounds varied from first year undergrad to doctoral candidates,*
- *Organizing, teaching and communicating collective information*
 - *Basics—Chemical hygiene, data taking, record keeping, inventory*
 - *Changes in hardware or software setups*
 - *Custom-made research materials*
 - *Specifics of instrumentation particular to this group*
- *Retaining research standards and GLP,*
- *Accounting and inventory control*
- *Maintaining equipment*

Personal research accomplishments include:

- *Developed more reliable analog internal resistance technique over digital process*
- *Increased sensitivity of infrared process by 50% through instrumentation & cell design*
- *More than doubled the number of types of experiments readily available*
- *Increased complexity of experiments to enhance scope and reproducibility*
- *Awarded a research internship, 8/1998–5/1999*

Areas of research included:

Electrochemistry—

- *Organic cyclophane/aromatic and organic hydrogen-bonding binder/receptor systems including construction of common and specialized electrodes*
- *Developed methodology for the determination of thermodynamic & kinetic information through digital simulation and statistical fitting of experimental results for binder/receptor systems*
- *Designed Fourier-Transform infrared (FTIR) optically transparent thin-layer electrode (OTTLE) spectroelectrochemistry cell for simultaneous infrared and electrochemical experimentation by cyclic voltammetry and chronoamperometry*

Experience (cont.)

SDSU DEPARTMENT OF CHEMISTRY, SAN DIEGO, CALIFORNIA (cont.) 8/1993 – 8/2002

Lead Research Associate (cont.) 5/1997 – 8/2002

Areas of research (cont.):

Computational Chemistry—

- *Explained, resolved or predicted results of electrochemistry research using ab initio, semi-empirical and customized configurations and techniques*
- *Designed and programmed electrochemistry software specific to research needs*

Analytical Techniques—

- *Effectively utilized predominantly Cyclic Voltammetry (CV), Fourier Transform Infrared (FTIR), and Nuclear Magnetic Resonance (NMR) techniques*

Organic Synthesis—

- *Applied standard and Schlenk techniques in the design and replication of large, organic electroactive molecules*

Director of Public Access Computers 8/1995 – 5/2001

- *Directed and assisted a staff that maintained public computer systems through the development of goals, structure, SOPs and trouble-shooting plans*
- *Software/OS familiarity: Word, Excel, Outlook, FrontPage, PowerPoint, Access, PhotoDraw, Publisher, Win2000, WinNT3.5/4.0, Win95/98, CAche, Spartan, Gaussian, Maple, MatLab, ...*
- *Instituted and maintained web site to provide basic instruction on all services and allow for communication between users & director and between faculty & students through Perl CGI scripts.*
- *Solved technology issues presented by faculty for their individual teaching and research concerns.*

Research Associate 8/1993 – 5/1997

- *Developed techniques and implemented plans to resolve research issues*
- *Refined research strategies to explain results to achieve short-term and long-term goals*
- *Developed new goals based on unexpected reproducible results*
- *Designed and constructed new equipment or adapted existing equipment to meet research needs*

UNIVERSITY OF SOUTHERN MAINE, DEPARTMENT OF CHEMISTRY, 9/1989 – 5/1992
Portland, Maine

Undergraduate Research Assistant

- *Analytical Research - Primary responsibilities included:*
 - *Standardizing acid, base and other solutions in large quantities*
 - *Determining the amount of Chromium that adhered to DNA in various conditions*
- *Synthesis of Carbon/Silicon chains*
 - *Chains are links between porphyrins to create a cage to align empty d-z² orbitals in Titanium*
 - *Developed synthesis technique under inert atmosphere with functional group protection*

BROOKHAVEN NATIONAL LABORATORY, 5/1991 – 9/1991
Upton, New York

Research Fellow

- *Nuclear Chemistry research involving*
 - *Isotopic abundances*
 - *Activation radiation*
 - *Nuclear Power production*
 - *Isotopic labeling*

Education

SDSU/UCSD Joint Program, SAN DIEGO, CALIFORNIA 8/1992 – 8/2002

Post-Master's Degree Research,

Master's Degree in Chemistry—*Electrochemistry, GPA: 3.56*

UNIVERSITY OF SOUTHERN MAINE, PORTLAND, MAINE 5/1989 – 8/1992

Bachelor's Degree in Chemistry—*Emphasis in Math and Computer Science, GPA: 3.60*

BROOKHAVEN NATIONAL LABORATORY, UPTON, NEW YORK 5/1991 – 9/1991

Nuclear Material Certifications—*Nuclear Chemistry*