History of Chemistry and the Joseph Priestley Bicentennial

Howard and Sally Peters

2004 marks the 200th anniversary of the death of Joseph Priestley, one of the discoverers of oxygen.

The Priestley Medal is the highest award for service made by the American Chemical Society and is awarded by the ACS Board of Directors. In the past it has been awarded to pioneering chemists, ACS presidents, Nobel Prize winners and even a non-chemist lawyer - Francis Garvan in 1929 (and for whom the ACS Garvan-Olin Award is named).

Priestley in addition to oxygen is credited with the discovery of 7 other gasses - including carbon dioxide. He created carbonated water and reported it tasted refreshing - but alas never patented it. He also discovered that India rubber removed graphite pencil marks - the first rubber eraser - and didn't patent that either.

Priestley's life was filled with controversy - he was always talking politics and religion. His lab and home were burned by a mob in England about 1792, and he and his wife were on a ship to Philadelphia when Lavoisier was beheaded in Paris. He learned of this tragedy much later. In the 10 years he lived in Northumberland PA, he criticized the US Government in violation of the recently passed Sedition Acts. He never became a US citizen and would not have been for his long-time friendship with Thomas Jefferson.

The ACS Division of the History of Chemistry is sponsoring a Priestley Symposium at the upcoming ACS Meeting in Philadelphia. The authors will present the following two papers before the Division of the History of Chemistry on August 25. For more information (and 21,000 hits) on Priestley, search GOOGLE for "Joseph Priestley".

Joseph Priestley - His Life and Times

Joseph Priestley, (1743-1804) scientist, politician and clergyman, lived in turbulent times. His early life has been documented. As a scientist, his observations and discovery of oxygen stirred up controversy. His religious views as a Unitarian minister were not popular. His outspoken support of the colonies in the Revolutionary War from 1776 to 1783 and later of people in the French Revolutionary War from 1776 to 1783 and later of people in the French

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Revolution caused popular opinion to turn against him to a point that his home and lab were destroyed by a mob in 1793. He and his wife fled to the U.S. and she died shortly thereafter. His death in 1804 caused not great stir beyond Pennsylvania. He and members of his family are buried in Riverview Cemetery in Northumberland PA. It was recently learned that Nicholas and Barbara Paul, the first author's 5X - great grandparents are also buried in the same Riverview Cemetery. A portion of this talk will include excerpts of a fictionalized account describing the recently discovered personal diaries of Nicholas Paul, earlier a Revolutionary War soldier in Northampton (later Lehigh) Co. PA, while he was a contemporary of Priestley in Northumberland, PA.

Patriots and Patentees

The Revolutionary War (RW) patriots (1776-1783) were comprised mainly of white, male residents as is found in the DAR Index www.dar.org or in the records of the SAR www.sar.org. The early U.S. patentees (1790 - 1890) were also predominately educated, white, male residents as is found in the U.S. Patent Digests www.uspto.gov. This paper reports on the initial findings of matching names (and their stories) from the DAR Patriot Index with the early U.S. patentees. (Also see www.invent.org). The first U.S. patentee Samuel Hopkins (a chemical process for the making of potash) of Philadelphia was a Quaker and apparently is not reported in the DAR or SAR lists. Robert Fulton (steamboat) was a teenager and is reported to be involved with the RW. Jedediah Morse, the grandfather of Samuel F. B. Morse (inventor of the telegraph), is listed in the DAR Index. Other patentees investigated and discussed will include Charles Goodyear (rubber vulcanization), Eli Whitney (cotton gin), Samuel Colt (revolver), Abraham Lincoln (the only U.S. President and patentee-whose grandfather also Abraham Lincoln was in a Virginia militia and is listed in the DAR Index), Mary Kies, the first U.S. woman patentee, etc. Should the genealogical societies add “industry” to the virtues of their patriot ancestors?

Happy July 4th

CHEMISTRY ABSTRACTS JULY 2004

CHEMISTRY ABSTRACTS 3738
Position Title: Chemistry Scientist
Job Description: The Chemistry Scientist is responsible for optimization of chemical leads for potency, selectivity, pharmacokinetic profile, etc. Independently designs & synthesizes novel molecules with the required physicochemical properties to become candidates for clinical development.
QUALIFICATIONS DESIRED
Education: Ph.D. in Org Chem & 0-2 years of academic postdoctoral training
Experience: 0 to 5 years of prior pharmaceutical experience. Prior track record of academic accomplishments required in org synthesis. Sound understanding of bio & pharmaceutical principles. Knowledge of structure-based or other computer-aided drug design tools. Knowledge of applying parallel-synthesis techniques to med chem.
LOCATION, SALARY, MAIL ADDRESS
Location: South San Francisco, CA
Salary: DOE
Description of Employer: Tularik Inc., Human Resources, 1120 Veterans Boulevard, South San Francisco, CA 94080
Application Instructions: e-mail or fax your resume with job code [Sci-Chem] to: resume@tularik.com Fax: 650.825.7303

CHEMISTRY ABSTRACTS 3739
Position Title: Chem Research Associate
Job Description: As multi-disciplinary research team, the Chemistry Research Associate is responsible for the synthesis of novel molecules and working closely with senior members of the department, identifying drug candidates suitable for clinical development.
QUALIFICATIONS DESIRED
Education: B.S. or M.S. in Chem & 2+ years of laboratory experience in organic synthesis
Experience: Demonstrated ability to work productively and independently in a quality research environment. Willingness to set and achieve aggressive research goals
LOCATION, SALARY, MAIL ADDRESS
Location: South San Francisco, CA
Salary: DOE
Description of Employer: Tularik Inc., Human Resources, 1120 Veterans Boulevard, South San Francisco, CA 94080
Application Instructions: e-mail or fax your resume with job code [RA-Chem] to: resume@tularik.com Fax: 650.825.7303

CHEMISTRY ABSTRACTS 3740
Position Title: Scientist - Drug Metabolism & Metabolite Identification
Job Description: As a key member in the Drug Metabolism & Reanalysis Group, you’ll be responsible for in vitro & in vivo studies of SAR compounds & development candidates.
QUALIFICATIONS DESIRED
Education: PhD in org chem, natural products chem, med chem, biochem or a related field
Experience: good knowledge of org chem; drug metabolism; chromatography, expertise in metabolite identification using MS/MS & NMR, and strong hands-on skills with sample prep, automation techniques such as column switching, and LC/MS/MS. Adequate understanding of pharmacokinetics is a plus.
LOCATION, SALARY, MAIL ADDRESS
Location: South San Francisco, CA
Salary: DOE
Description of Employer: Tularik Inc., Human Resources, 1120 Veterans Boulevard, South San Francisco, CA 94080
Application Instructions: With job code [Sci-DM-SM] to: resume@tularik.com Fax: 650.825.7303

CHEMISTRY ABSTRACTS 3741
Position Title: Research Assistant/Associate
Job Description: We seek a creative and productive contributor to join a dynamic and team-oriented research environment. Primary job duties include probe array synthesis and characterization using prototype equipment.
QUALIFICATIONS DESIRED
Education: Familiarity w/ basic molecular biological and microarray hybridization & data analysis techniques beneficial.
Experience: organic chemistry & phosphoramidite DNA chemistry; and experience with instrumentation and analytical methods (HPLC, NMR, UV-VIS spectroscopy, fluorescence spectroscopy)
LOCATION, SALARY, MAIL ADDRESS
Location: Santa Clara, CA
Salary: Attractive compensation & benefits & a stimulating, state-of-the-art research environment
Description of Employer: Headquartered in Santa Clara, CA, Affymetrix (NASDAQ: AFFX) is dedicated to stimulating, state-of-the-art research environment
Application Instructions: info@affymetrix.com; Please reference the position title in the subject line of your email.
CHEMOPLOYMENT ABSTRACTS JULY 2004

CHEMOPLOYMENT ABSTRACT 3742
Position Title: PK Bioanalysis Scientist
Job Description: As a key member in the Bioanalysis group of the PKDM dept, you’ll be responsible for conducting analysis of drug targets in complex biological matrices such as plasma, tissues, and bile supporting our PK/PD/TK studies.

QUALIFICATIONS DESIRED
Education: PhD in anal. chem, org, biochem, pharmacol or related field required
Experience: 3+ yrs of relevant exp in an active bioanalytical group supporting drug discovery development. Expertise in high throughputs LCM/MS bioanalysis through automation tools is essential. Adequate understanding of pharmacokinetics is a plus.

LOCATION, SALARY, MAIL ADDRESS
Location: South San Francisco, CA
Salary: DOE
Description of Employer: Talisian is engaged in the discovery of a broad range of novel and superor orally available medicines that act through the regula tion of growth factors.

Application Instructions: For consideration for this job opening please mail, e-mail or fax your resume with job code (Sci-PBA 040) to
Talisian Inc., Human Resources
1120 Veterans Boulevard
South San Francisco, CA 94080
e-mail: resume@tularik.com
Fax: 650-621-7305

CHEMOPLOYMENT ABSTRACT 3743
Position Title: Product Development Chem/Engineer
Job Description: Development work in following areas: 1. Epoxy Asphalt paving materials and mixes and methods of improving adhesion and high temperature performance 2. Gold core polymeric paving materials. 3. Bond coating materials to improve adhesion to steel and concrete.

QUALIFICATIONS DESIRED
Education: Advanced degree in material science (chemistry)
Experience: Ability to conduct physical testing. Prefer background in pavement technology.

LOCATION, SALARY, MAIL ADDRESS
Location: Redwood City
Salary and work schedule: To be negotiated.
Application Instructions - Contact
Dr. Wolfgang Eisenbichler
Chemco Systems
2800 Bay Boulevard
Redwood City, CA 94065
408-201-3790
email: wisenbichler@chemcosystems.com

CHEMOPLOYMENT ABSTRACT 3744
Position Title: Bench Chemist
Job Description: Long Term Temp Position. Working in the pharmaceutical industry.

QUALIFICATIONS DESIRED
Education: B.S. in Chemistry
Experience: 2-5 yrs Experience, GPA, GMP, HPLC (no soil sampling). Must have pharmaceutical experience.

LOCATION, SALARY, MAIL ADDRESS
Location: Petaluma, CA
Salary: $17-19 DOE
Description of Employer: Temporary assignment through our staffing agency for a client in the pharmace utical industry.

Application Instructions: Please email resume to elena@reconsultedemplymentgroup.com or fax to (707) 521-2374.
All inquiries contact Elena Herdman at (707) 521-2140
email: eisenhut@chemcosystems.com

CHEMOPLOYMENT ABSTRACT 3745
Position Title: Scientific Analytical Biochemist
Job Description: Will be responsible for assay development to support directed evolution of enzymes and strains for pharmaceutical and industrial chemistries and will also develop and implement creative quantitative solutions at the interface between chemistry, microbiology, molecular biology and process development.

QUALIFICATIONS DESIRED
Education: Ph.D. or equivalent in Biochemistry or Chemistry required
Experience: Experience with a broad spectrum of analytical methods, in particular chiral analysis required. Bioanalysis and/or enzymology background highly desirable. statistical design a plus.

LOCATION, SALARY, MAIL ADDRESS
Location: Redwood City, CA
Salary: Depends on experience
Description of Company: Goodness, a majority-owned subsidiary of Maxxgen, Inc., is a leader in biocatalysis and fermentation processes and products to the global pharmaceutical and fine chemicals industry.

Application Instructions: Email resumes to jobs@kodexsys.com referencing Job No: GDX-322

CHEMOPLOYMENT ABSTRACT 3746
Position Title: Organic Chemist
Job Description: Responsible for working with engi neering to develop highly reliable instrumentation for pharmaceutical synthesis & purification. Serve on product development teams & conduct testing & validation of products in process. Provide feedback & contribute to product design & specifications. Develop applications using equipment instrumentation & participate in the publication/presentation of scientific results. Track trends in industry & interface with customers base as required.

QUALIFICATIONS DESIRED
Education: BS, eng chem, anal chem or Chem Engr
Experience: Min 2-5 yrs in chem process research & development, preferably in pharmaceutical industry. Hands on lab exp utilizing automated instrumentation for synthesis, purification or chem anal. Maintenance & troubleshooting of instrumentation in support of product research & development. Excellent verbal & written communication skills as shown through reports or publications & presentations.

LOCATION, SALARY, MAIL ADDRESS
Location: Foster City, CA (Moving to Redwood City this summer)
Salary: Negotiable
Application Instructions: Send resume via e-mail, fax, or mail to
Human Resources, Argonaut Technologies, Inc.
1101 Chess Drive, Foster City, CA 94404
Fax: 650-655-1400, email: hsend@argotech.com

CHEMOPLOYMENT ABSTRACT 3747
Position Title: Staff Scientist
Job Description: Synthesis and Development of processes used in the manufacturing of electro and photoactive materials. Physical and chemical character ization of organic and inorganic nanomaterials.

QUALIFICATIONS DESIRED
Education: MS or PhD in polymer or inorganic chemistry or related discipline, with strong interdisciplinary skills.
Experience: At least 2-3 yrs of hands-on bench synthesis experience. Good knowledge of principles of modern synthetic chemistry, lead optimization & structure activity relationships is essential. Knowledge & Experience with organometallic reagents. Experience performing electrochemistry and photophysics. Knowledge of absorption spectroscopy, emission spectroscopy, thermal analysis, X-ray diffraction, electron microscopy & modern chromatographic techniques.

LOCATION, MAIL ADDRESS
Location: Fremont
Description of Employer: UltraDots, Inc. is a nano material/technology based company
Application Instructions: Please email your resume to jobs@ultradots.com

CHEMOPLOYMENT ABSTRACT 3748
Position Title: R&D Scientist
Job Description: Needs in-depth knowledge and hands-on exp with IC as applied to sample prep, method development & maintenance for several ion Chromatography systems. Duties will include planning similar functions for GC-MS & GC-FID systems as required.

QUALIFICATIONS DESIRED
Education: BS Chem or related field
Experience: Minimum of 5 yrs industrial exp. Or an equivalent combination of education & exp. Problem solving skills & innovative approaches to complex analytical questions strongly desired. Good communication skills & ability to work under minimal supervision.

LOCATION, SALARY, MAIL ADDRESS
Location: San Jose
Salary: Highly competitive salary & benefits
Description of Employer: World’s largest independent supplier of thin-film media for computer hard disk drives.

Application Instructions: Send resume, including position to
Komag, Inc., Staffing Dept.
1710 Automation Parkway
San Jose, CA 95134 or
FAX: 408-944-9454
E-Mail: jobs@komag.com

CHEMOPLOYMENT ABSTRACT 3750
Position Title: R&D Chemist
Job Description: The Chemist is responsible for performing chemical, pharmaceutical testing, validation, routine analysis of raw materials, drug stability, release testing, and product development support. Mastery of the day to day function of the R&D laboratory environment, which means maintaining and keeping current the SOP’s and calibration of equipment & instruments.

QUALIFICATIONS REQUIRED
Education: B.S. or M.S. in Biochemistry, Chemistry or related area
Experience: Ideal candidate will have experience working in a research environment and has expertise in handling lab chemicals, operation of analytical instruments such as HPLC/MS, GC/MS, UV-Vis FTIR

QUALIFICATIONS DESIRED
Education: M.S. required, but Ph.D. strongly preferred
Experience: Previous teaching experience is desired.

LOCATION, MAIL ADDRESS
Location: Mountain View
Salary: $2-52k per section (maximum of 5 sections)
Description of Employer: Santa Clara University is an equal opportunity/affirmative action employer and welcomes applications from women, persons of color, members of other historically under-represented U.S. ethnic groups, persons with disabilities, veter ans, and fossils.

Application Instructions: Send CV, copies of undergraduate and graduate transcripts, and have three letters of recommendation sent to
Dr. Steven Fedder
Department of Chemistry, Santa Clara University
500 El Camino Real
Santa Clara, CA 95053

CHEMOPLOYMENT ABSTRACT 3751
Position Title: Lecturer (part-time)
Job Description: Part-time instructors are required to teach laboratory sections in lower-division organic and general chemistry courses at Santa Clara University for the fall quarter, 2004. For additional information, visit www.scu.edu/chemistry.

QUALIFICATIONS DESIRED
Education: M.S. required, but Ph.D. strongly preferred
Experience: Previous teaching experience is desired.

LOCATION, MAIL ADDRESS
Location: Santa Clara
Salary: $2-52k per section (maximum of 5 sections)
Description of Employer: Santa Clara University is an equal opportunity/affirmative action employer and welcomes applications from women, persons of color, members of other historically under-represented U.S. ethnic groups, persons with disabilities, veterans, and fossils.

Application Instructions: Send CV, copies of undergraduate and graduate transcripts, and have three letters of recommendation sent to
Dr. Steven Fedder
Department of Chemistry, Santa Clara University
500 El Camino Real
Santa Clara, CA 95053

CHEMOPLOYMENT ABSTRACT 3752
Position Title: Clinical Study Planner
Job Description: Manage entire proc of clinical study from inception to completion. Ability to bring multiple viewpoints to positions to final agreement. Good organizational skills with determined focus on team goals. Must be flexible to face ever changing priorities. Excellent communication skills.

QUALIFICATIONS DESIRED
Education: B.A/B.S science related major-MAJOR-CERTIFIED MEDICAL RECORDIST
Experience: 2-5 yrs in clinical setting working with clinical specimens. CLIA certified laboratory and/or other clinical exp a plus. Understanding of collection, processing, storage of various human clinical specimens.

LOCATION, MAIL ADDRESS
Location: Redwood City
Salary: $65-75K
Description of Employer: Investments have been made to assure we continue as a world-class biotechnology organization serving several markets.

Application Instructions: Send resume to bipska@nelsonstaffing.com or bipska@mholo.com
JULY 2004 NEWSLETTER TOPICS:

History of Chemistry and the Joseph Priestley Bicentennial
Jobs! Jobs! Jobs!

CHEMPLOYMENT ABSTRACTS

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Treasurer: Hong Gao    650-564-5197    igao@atlsus.jnj.com
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