

Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

Volume 24 No. 1

The Role of the USGS in Discovering the 3rd Largest Oil Field in the World

Or...The KGB is good for you if you need good body guards:

Field Expeditions Along the Great Silk Road of Kazakhstan and Kyrgyzstan During and After Communism

Abstract

Conducting field expeditions along the Great Silk Road of Kazakhstan and Kyrgyzstan, where the fierce red-headed Mongol conqueror Ghengis

Khan (1162-1227) once roamed, is a geologically and culturally unique experience. But for decades this region – and virtually all of the rest of the immense territory of the former Soviet Union – was closed to geologists from outside the Soviet bloc. The current USGS-Kazakhstan-Kyrgyzstan-Oil

February Dinner Meeting

Date: February 21, 2002

Time: 6:00 pm Social Hour

7:00 pm Dinner

8:00 pm Presentation

Location: Biltmore Hotel & Suites
2151 Laurelwood Road
Santa Clara, CA
(408) 988-8411

Speaker: Dr. Harry Cook
U.S. Geological Survey

Cost: \$25 with choice of
Chicken Asiago or
Soft Polenta with Grilled
Vegetables

Reservations: Shirley Radding
(408) 246-2564
(408) 296-8625 FAX

Reservations should be made by February 18th; stating your name, company affiliation, number of people in the party and the meal preference. Or, register using our web site:

www.scvacs.org



Dr. Cook (on right) and Colleague, Dr. Zhemchuzhnikov, with their field gear in the Kazakhstani Tian Shan Mountains.

Industry project is a consortium comprised of major U.S. and European oil companies (Eni/Agip, BG, BP, ExxonMobil, Inpex, Phillips, Royal Dutch Shell, Statoil, and TotalFinaElf) and several former Soviet Union research institutes in Russia, Kazakhstan and Kyrgyzstan. This project has focused on developing predictive exploration and reservoir models based on mountain-climbing studies in the Tian Shan Mountains of

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– Reminder –

Our annual Harry and Carol Mosher award presentation will be held this month on January 17th. It features an address on chiral synthesis from the award recipient Professor James Morrison. It is serendipitous that our recipient's address is on the same topic as the 2001 Nobel Prize in Chemistry (can we pick them or what!). Be sure to reserve your place if you have not done that already. We have a new venue this year – Scott's Seafood Bar and Grill in Palo Alto. For more information, go to our section web site: www.scvacs.org by January 13th.

Chair's Message

Hello, my name is Jonathan Touster, I am a Lecturer in the Chemistry Department at Stanford University and the new Chair of the Santa Clara Valley Section. This year, as usual, the executive committee has been hard at work planning a variety of events and activities.

The dinner meetings this year cut across many disciplines. This month, Dr. James D. Morrison, our Mosher Award winner, will speak on asymmetric organic reactions. February brings Dr. Harry Cook of the U.S. Geological Survey. Dr. Cook will address some of his adventures as a geologist in Russia and central Asia.

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Chair's Message, continued from front page

In March, Dr. David Rakestraw from Eksigent Technologies, formerly of Sandia National Laboratories, will give an overview of microchip sensor technology. The student affiliates of Santa Clara University will host our April meeting. They'll have talks on undergraduate research and student affiliate activities. Our very own wine connoisseur, Floyd Hobbs, is working on a wine tasting event for May and as usual our Awards Picnic will happen in June.

Again, we encourage your attendance at the dinner meetings. The lively conversations will insure a good time, and you may make a contact or two to boot. However, if you can't make the dinner, you are still more

than welcome to attend the talk for free. As always, our events are open to friends, family, guests, and interested members of the general public.

For the most current information about what's happening in the local section, check out our recently renovated web page: www.scvacs.org. Ean Warren did a fabulous job making it easier to navigate, and, as always, Karl Marhenke keeps its content up-to-date with our latest activities and announcements. We are lucky to have a great Web Committee.

Elsewhere in this issue you will find the newly drafted mission statement of the Strategic Planning committee. It will help guide our new committee while it considers new

directions for us to explore as a section.

The latest count, announced at our December executive committee meeting, is that we have 3641 section members. The last few digits of this number fluctuate throughout the year as members move in and out of the section. So, among our longtime members, we always have new faces. Regardless of how long you have been a member of the section, I urge you to participate in our programs and to give us input on what you would like from the section. I can be reached at (650) 723-4340. I wish you all a happy New Year, and look forward to meeting you at our events.

Jonathan Touster

USGS, continued from front page

Kazakhstan, Kyrgyzstan and Uzbekistan. Our predictive models were used in the recent 2000 discovery of the Kashagan Oil Field, the supergiant 50 billion-barrel oil field in the North Caspian Basin of Kazakhstan. Kashagan is the 3rd largest oil field ever discovered in the world out of about 75,000 oil fields. Kashagan's 50 billion barrels of oil represents about 60% of all the remaining oil in the US. Building on this success, Harry Cook and his colleagues from research institutes in Russia and Kyrgyzstan, as well as the US and European oil industry are developing a new 4-year project. This new multi-million dollar Cooperative Research and Development Agreement (CRADA) will undertake new field research expeditions in the high Tian Shan Mountains of Kyrgyzstan.

Because Islamic terrorists and kidnapers frequent this Central Asia region, where opium poppies and marijuana are grown, former KGB personnel, weapons, emergency evacuation procedures, and medical doctors are part of the field expeditions.

Biography:

Dr. Cook received his BA degree in Geology from the University of

California at Santa Barbara and his Ph.D. degree in Geology from the University of California at Berkeley. From 1965 through 1970, he was a Research Geologist with Marathon Oil Company's Denver Research Center in Littleton, Colorado. Here he conducted petroleum exploration research in the United States, Canada, Mexico, and numerous countries in Western Europe. In 1970, he left industrial research and became a Professor of Geology at the University of California at Riverside and the Institute of Geophysics and Planetary Physics. During the Arab oil embargo in 1975, he joined the U.S. Geological Survey in Menlo Park as part of the U.S. Geological Survey's World Energy Resources Program.

Since 1985, six years before the breakup of the former Soviet Union, Dr. Cook has been conducting bi-annual field expeditions in the mountains of Siberia, Kazakhstan, Kyrgyzstan, and Russia. In 1994, he developed a multimillion-dollar international collaborative project with eight U.S. and European oil companies and several Russian and Kazakhstan research institutes. This research focused on conducting field studies in the Tian Shan Mountains of

Kazakhstan where ancient 350 million old carbonate reefs are beautifully exposed. The petroleum exploration models developed during this project have assisted in the recent discovery of the new supergiant Kashagan oil field in the Caspian Basin of western Kazakhstan. Kashagan oil field contains up to 50 billion barrels of oil, making it the 3rd largest oil field ever discovered in the world.

Dr. Cook recently developed a new 4-year project with the U.S. and European oil industry and Russian and Kyrgyzstan research institutes. This new project will focus on ancient carbonate reefs in the Tian Shan Mountains of Kyrgyzstan and Uzbekistan near Afghanistan, and China, in an effort to better understand the potential distribution of oil and gas resources of Central Asia.



Chemistry Babble

—A Letter from Dr. Joseph F. Bunnett—

A new, liquid fenced-in enclosure, in alcohol answer to a problem, had remarkably high tendency to erupt into violent action.

Doesn't make much sense, does it? It's how a lay person understands a chemist's statement, "a new, liquid compound in alcohol solution had remarkably high volatility". Our lay friend's understanding is impaired because several of the simple terms used by chemists, every day in the lab or seminar room, are well-known to our fellow citizens with entirely different meanings.

In colloquial English, a compound is usually understood to be either a large fenced or walled-in area or a goo of practical utility, like a pipe joint compound. A solution is the answer to a problem, and volatility represents tendency to erupt into violent action. These words are so well known that folks don't bother to look them up. They just conclude that chemists are strange people.

Prominent other common chemical terms with double meaning are 'base', 'mole', 'aromatic', 'organic' and 'determine'. The confusion we engender when we try to explain

things in simple terms blocks understanding, and contributes to chemophobia.

We need to revise some of our familiar terminology, using the new terms regularly, to improve public understanding of what chemists say. We English-speaking chemists should agree that better terms are needed, and cooperate in a project to define better ones.

Dr. Joseph F. Bunnett
bunnett@chemistry.ucsc.edu



<http://www.scvacs.org>

Strategic Planning Committee Update

The Executive Committee of the local section has created a new committee: Strategic Planning. This committee will develop the long-range plan for the local section.

The first order of business was to develop a mission statement. The Committee presented their mission statement, a version modified from the national American Chemical Society's mission statement, to the Executive Committee and the following was adopted:

To encourage in the broadest and most liberal manner the advancement

of the chemical enterprise and its practitioners.

Toward that end, the Santa Clara Valley Section of the American Chemical Society advances scholarly knowledge; provides professional services and support; communicates with varied audiences; and is actively involved in the science, education, and public policy arenas relevant to the Santa Clara Valley local section.

If you are interested to be a deciding factor in the plan, please contact: Ean Warren
ewarren@scvacs.org

New Publications at www.chemistry.org/careers

Curious about the non-technical skills that many employers increasingly are asking for in today's chemical workplace? Need some tips about writing a curriculum vitae?

You can download new publications on each of these subjects as well as gain access to an entire library of career-development publications and other resources at ACS' Department of Career Services website: www.chemistry.org/careers.

Interested in sizing up an employment situation you may be considering? While at the above website, you may wish to use the Salary Comparator which allows members to evaluate their salaries with other members in their employment situation.

This new tool also allows members to examine any employment situation within the scope of the ACS surveys, including new graduates' starting salaries. The comparator is available only to ACS members. For further information, email: careers@acs.org or (voice) 1-800-227-5558.

The Silicon Valley Chemist is the ACS Santa Clara Valley local section newsletter which is published monthly. The submission deadline for each issue is the **10th** of the month preceding publication. Contact Laura Rasay at 650-859-4782 or editor@scvacs.org for more information.



WCC Celebrates Its 75th Anniversary in 2002

"Diversity in the 21st Century-Advancing Women in Science" is the theme of the WCC Diamond Jubilee planned for the 2002 ACS national and regional meetings in honor of the committee's 75th anniversary.

The celebration will be highlighted in a Presidential Plenary event and multiple symposia at the ACS Spring National Meeting in Orlando. The plenary event will feature high-profile speakers such as Marye Ann Fox, Chancellor, North Carolina State University; Stephen A. Di Biase, Vice President of PuriNOx™ and Emulsified Products, Lubrizol Corp.; and Fran Keith, CEO and President, Shell Chemical. Other symposia planned are: Women in Inorganic Chemistry; Collaborations: Networking; Collaborations: Professional Organizations; Early Careers of Chemists; Eli Lilly/WCC Travel Awards: Past and Present; Women Scientists of the Manhattan Project Era; In Memoriam: Nina Roscher – Teacher, Historian, Mentor & Role Model; Chemically Incorrect: Hitting the Glass Ceiling; and Mentoring: A Strategic Tool for Professional Development.

The Women in Industry Breakfast will consist of roundtable discussions on the topic of "Rules of the Game", followed by speakers who will address this subject at the Industry Pavilion. The Women Chemists Luncheon will feature Marion Thurnauer, Director of Chemistry,

Argonne National Lab, and recipient of the 2002 Garvan-Olin Medal, as their keynote speaker.

To bring the 75th anniversary celebration to the regional level, and in keeping with the Presidential theme of diversity, the WCC has created a regional award to recognize individuals who significantly foster diversity in the chemical enterprises. The award will be given without regard to age, gender, or nationality of the recipient at each ACS regional meeting in 2002.

Please join in with the celebration of the WCC's 75th anniversary! Each local section is invited to participate by incorporating the committee's theme "Diversity in the 21st Century-Advancing

Women in Science" into their meetings and special events during 2002. For further information and updates, please visit the WCC web site at <http://membership.acs.org/W/WCC>.



Local Section Members Support the California Academy of Sciences



Four local section members ran in the Run to the Far Side XVII. While they were not costume, they did have a good time and posted great times. *Pictured (left to right): Ean Warren, Baird Lloyd, Edward Pease, and Howard Peters.*



*Happy
New Year!*





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JANUARY 2002 NEWSLETTER TOPICS:

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CHEMPLOYMENT ABSTRACTS

— Visit our web site at www.scvacs.org —

To receive emails when newsletters are published on the web site,
send an email to scvacs-newsletter-request@lists.best.com with
the word "subscribe" in the body.

SANTA CLARA VALLEY SECTION

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Newsletter

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Chememployment Abstracts

Director: **Shirley B. Radding** 408-246-2564 sradding@att.net

FUTURE MEETINGS

Jan 10	Executive Committee Meeting
Jan 17	Mosher Award Dinner Meeting <i>James Morrison, Recipient</i>
Feb 21	SCV Dinner Meeting <i>Harry Cook, USGS</i>
Feb 24-27	Process Chemistry in the Pharmaceutical Industry Barcelona, Spain
Mar (TBD)	Chemistry Olympiad
Mar 21	SCV Dinner Meeting <i>David Rakestraw</i>
Apr 7-12	National Meeting Orlando, FL

For the latest information, please visit
SCV/ACS web site: www.scvacs.org



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