

Silicon Valley Chemist

Santa Clara Valley Section

American Chemical Society

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HST Images of Saturn's Rings

Jack J. Lissauer, NASA Ames

Abstract

Saturn's beautiful rings have fascinated astronomers since they were first observed by Galileo in 1610. The main rings consist of solid particles mostly in the 1 cm - 10 m range, composed primarily of water ice. The ring disk is exceptionally thin – the typical local thickness of the bright rings is tens of meters, whereas the diameter of the main rings is 250,000 km! The main rings exhibit substantial radial variations “ringlets”, many of which are actively maintained via gravitational perturbations from Saturn's moons. Exterior to the main rings lie tenuous dust rings, which have little mass but occupy a very large volume of space. This talk will emphasize results obtained by the Hubble Space Telescope (HST) during the past half dozen years. These include images taken during 1995 when the rings appeared edge-on to the Earth and then to the Sun, and a particularly beautiful set of photos taken by HST in subsequent years as



the rings opened up and appeared in their full glory to Earth.

Biography

Jack Lissauer is a research scientist who has been at NASA's Ames Research Center

<http://www.arc.nasa.gov/>

since 1996. His primary research interests are the formation of planetary systems, planetary dynamics and chaos, planetary ring systems, and circumstellar/protoplanetary disks. Dr. Lissauer has used the Hubble Space Telescope for imaging studies of Saturn's rings <http://heritage.stsci.edu/public/2001jun/display.html> and spectroscopic investigations of comets orbiting the star Beta Pictoris and hydrogen orbiting young stars.

Dr. Lissauer has worked on a wide variety of theoretical projects related to the formation and evolution of planetary systems. These include modeling the growth of giant planets, the origin of planetary rotation, and the stability of planetary systems.

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September Dinner Meeting

Date: September 20, 2001

Time: 6:00 pm Social Hour

7:00 pm Dinner

8:00 pm Presentation

Location: Biltmore Hotel & Suites
2151 Laurelwood Road
Santa Clara, CA
North of 101 off the
Montague Expressway
(408) 988-8411

Speaker: Dr. Jack Lissauer
NASA Ames

Cost: \$25 with the choice of
Grilled Salmon, or Pasta
Primavera

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

Reservations should be made by September 17; stating your name, company affiliation, number of people in the party and the meal preference. People may also register using our web site: www.scvacs.org.

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 (650-859-4782, laura.rasay@sri.com) for more information.

Chair's Message

This year the 2001 Wine Tasting and Awards Dinner was as enjoyable as ever; the Roudon Smith wines that were served were especially good. Each year several attendees ask for a more descriptive approach to wine tasting; this year was no exception. So for those of you who are interested in an educational, as well as, flavorful wine experience, then look forward to our May 2002 monthly meeting when Bob Roudon will actually have time to explain to us the finer points of wine tasting. A special thanks to our own 50 year member, Floyd Hobbs, for arranging for this special event and all of our previous tastings.

Special congratulations to Dr. George Fohlen, who reached his 60th year of ACS membership this year. This information took us by surprise as national did

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HST Images, continued from front page

Additionally, he is searching for extra-solar planetary systems, both from the ground and, hopefully, in the future with the proposed Kepler spacecraft <http://www.kepler.arc.nasa.gov/>. In addition to HST imaging projects, his work worked on the studies of planetary ring systems has included analysis of the interactions between rings and moons and their implications for the ages of ring systems.

Dr. Lissauer was on the Astronomy faculty at the State University of New York at Stony Brook from 1987 to 1996. He is the co-author (with Imke de Pater) of the graduate level textbook Planetary Sciences (Cambridge University Press, 2001).



Chair's Message, continued from front page

not provide us with a certificate for him. But we will have the opportunity to honor George at a local section dinner meeting of his choice. The executive committee recently asked me to remind the section of a little known fact in our section. Do our past and present 50 year members know that they can attend our section dinner meetings for half price? This 'perk' has apparently been overlooked in the recent years! So Floyd, Cam Ainsworth, Gus Kohn, Charles Allman, and several others can attend the dinner meetings for \$12.50! Keep your membership current and you too can benefit from 50 years!

The Ottenberg award has always been kept as a surprise and is not revealed before the summer meeting and this year was no exception. So I



At the July wine tasting and picnic meeting, the local members and guests were able to taste a variety of Roudon-Smith's red and white wines. Floyd Hobbs (right) is seen here opening a bottle of wine with Bob Roudon (left).

Service Above and Beyond the Call of Duty

That is what Steve Colby gave to the local section. Steve was one of those invisible volunteers that make this section function so well. As editor of the Silicon Valley Chemist for almost four years, Steve made us look good to the members and the outside world. He edited poorly written columns, corrected incorrect data, nudged us to submit information even after the deadline passed, combed the web for pertinent 'filler' information, and regaled us with bits of scientific humor. And he did this all as a volunteer.



I remember meeting Steve at a Spring meeting at the University of Santa Clara. He was new to California and our section. Bonnie Charpentier, the chair of the section, announced that we needed someone to take over the editorship of the newsletter. Steve volunteered and the rest is history, as they say.

In addition to working full time this Fall, he is taking on the commitment of going back to school – law school – so beginning this month his time will be in short supply and therefore very valuable. Steve had to resign from the editorship of the Silicon Valley Chemist.

From all of your readers – thank you Steve for your dedication and work.

Sally Peters



was extremely surprised to learn with everyone else that I was the recipient! Thank you to everyone who thought of me for this award. The previous winners form an illustrious and dedicated group and include the section's hardworking past chairs, councilors, and secretaries. I am honored to be considered with them! Thank you, Lois and the committee.

The California section is planning its 100th anniversary celebration on October 27th and we have been invited to attend. Marinda Wu, the section's chair, has planned a luncheon and program at the Dean Leshner Regional Center for the Arts in Walnut Creek. We will post the program information as it becomes known. Many of us are planning to attend.

The past few months the section's post office box has been fuller than normal. Several copies of the Silicon Valley Chemist have been returned because of incorrect addresses. When you change jobs or home addresses you think of contacting C&EN for an address change, but you should also think of contacting the local section with the changes. National eventually filters the changes down to our level, but it may take 3 or more months.

By then you have not received a newsletter, meeting announcement, Chememployment, or read my titillating column for several issues! So call one of the officers (numbers listed in the newsletter and on the website), send Shirley Radding a fax (408-296-8625, also usually in the newsletter) or contact the webmasters via email at the bottom of the web page, <http://www.scvacs.org>. That will help us and ultimately help you.

Sally Peters

ACS-SCVS NOMINATIONS FOR 2002

Chair-elect	Maureen Scharberg
Secretary	Karl Marhenke
Treasurer	Hong Gao
Councilors	Bonnie Charpentier Herb Silber
Alternate Councilors	Peter Rusch Jon Touster Carol Mosher

Volunteers Needed for Planned National Historic Chemical Landmark

In the March 2000 issue of the Silicon Valley Chemist (SVC), a volunteer search was conducted for the first planned landmark event in biotechnology/biochemistry. Unfortunately, the volunteer response was low and the section was unable to follow through as planned.

On September 15, 2001, Dr. Stanley Cohen of Stanford and Dr. Herbert Boyer of University of California at San Francisco (UCSF) will be inducted into the National Inventors Hall of Fame for their gene splicing research. Their patent rights generated about \$330 million in license fees for Stanford and UCSF combined. The SCV-ACS is planning to establish a National Historic Chemical Landmark (NHCL) in 2002 – the first of it's kind in biochemistry or biotechnology! This NHCL event will be held at both Stanford University's Medical Center and UCSF on the same day.

We need about 10 volunteers and corporations NOW to serve as the organizing committee to finalize the existing pre-proposed application, raise funds (about \$30,000), and to set the dates to program, organize, and run the NHCL event. Both inventors are still active today and are expected to participate

with invaluable personal history accounts of those early days - if we act quickly!

Please contact Dr. Peters as soon

as possible for more information:

Dr. Howard Peters
Acting Chair – NHCL Organizing
Committee
(650) 324-1677 Ext. 20
email: peters4pa@aol.com



California Section's 100th Anniversary Celebration

Come join fellow chemists to hear speakers on the future of our profession, enjoy some musical entertainment, and have lunch with other California Section members!

DATE: Saturday, October 27, 2001

PLACE: Dean Leshner Regional Center
for the Arts

1601 Civic Drive, Walnut Creek, CA
Parking available in adjacent garage
one block to BART

TIME: 10:30 am to 3:00 pm

PRICE: \$15.00

Includes Buffet Lunch at Massimo Ristorante

For reservations please call the California Section Office at (925) 287-8055 or email: office@calacs.org by October 19.

Photo (top): National President Attila Pavlath and past-California section Chair Mary Singeton at the California Section Centennial Celebration at the 2001 Spring Meeting in San Diego.
Photo (bottom): California section Chair, Marinda Wu, poses with Sally Peters and the California Centennial t-shirt at the in San Diego.





SANTA CLARA VALLEY SECTION
AMERICAN CHEMICAL SOCIETY
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SEPTEMBER 2001 NEWSLETTER TOPICS:

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Chemical Landmark

CHEMPLOYMENT ABSTRACTS



<http://www.scvacs.org>

SANTA CLARA VALLEY SECTION

2001 SECTION OFFICERS

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Chair-Elect	Jon Touster	650-723-4340
Secretary	Karl Marhenke	831-479-6263
Treasurer	Hong Gao	650-564-5197
Past-Chair	Ean Warren	650-329-4554

Councilors

1999-01	Bonnie Charpentier	650-354-2344
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2000-02	Maureen Scharberg	408-924-4966
2000-02	John F. Riley	650-328-4036
2000-02	Ean Warren	650-329-4554
2001-03	Linda Brunauer	408-554-6947
2001-03	Sally Peters	650-812-4994

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2000-02	Donna Drogos	408-265-2600
2000-02	Lance Wong	650-829-1148
2001-03	George Lechner	408-226-7262
2001-03	Howard Peters	650-324-1677

Newsletter Editor

Laura Rasay 650-859-4782
e-mail: laura.rasay@sri.com

FUTURE MEETINGS

Sep 6	Biodegradation of MTBE under Methanogenic Conditions <i>N. Calif. MTBE Committee</i>
Sep 12	Executive Committee Meeting
Sep 20	SCV Dinner Meeting Hubble Space Telescope <i>Dr. Jack Lissauer</i>
Oct 7-10	Defining the Proteomics Agenda Leesburg, VA
Oct 18	SCV Dinner Meeting Fizzics of Beer <i>Dr. Dick Zare</i>
Oct 27	California Section's Centennial Celebration Walnut Creek, CA
Oct 28-31	Western Regional Meeting Santa Barbara, CA
Nov 4-10	National Chemistry Week

CHEMPLOYMENT ABSTRACTS

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