

Format

The Annual Meeting of the American Crystallographic Association will be held July 22-27, 2000, in St. Paul, Minnesota. The meeting will begin on Saturday, July 22, with three workshops, followed by lectures and poster sessions from Sunday, July 23 through Thursday, July 27. An exhibit show is planned for Sunday through Wednesday. All technical sessions, poster presentations and the exhibit show will be held in the RiverCentre, 175 West Kellogg Blvd., St. Paul, Minnesota. (www.rivercentre.org). Dr. Purnell W. Chopin, President, Howard Hughes Medical Institute, will be presented with the ACA Public Service Award for 2000. A special session recognizing the activities of the HHMI in biomedical research and crystallography is being planned for Wednesday, July 26.

Hotel

Two blocks of rooms have been reserved at the Radisson Hotel St. Paul, 11 East Kellogg Blvd., and the Radisson Inn St. Paul, 411 Minnesota St. Both hotels are within easy walking distance of the RiverCentre. Rates are \$98/single or double; triple \$108; quad \$118, plus taxes, at either hotel. The deadline for reserving a hotel room is June 20, 2000. After this date, the conference room rate and availability cannot be guaranteed. Please make your hotel reservations early using the reservation request form on page 17.

Registration

All attendees, including invited speakers, must register. All registered participants will receive a conference bag and materials, including a conference badge securing admission to the Opening Reception, Young Scientist Mixer and the Exhibit Show. Conference badges for scientific registrants will also secure admission to the scientific sessions. General registration will begin on Saturday, July 22, at the Radisson Hotel. However, registered workshop participants should pick up their materials on Friday, July 21, in the Radisson between 6:00pm and 9:00pm. Participants with special needs arising from disabilities are invited to contact the Registrar to discuss appropriate accommodations.

Fees

	Before June 1	After June 1	
Regular Member	\$225.00	\$300.00	
Retired Member	\$ 90.00	\$ 90.00	*Increment charged to non-member registration may be credited toward new member dues for 2000 by submitting the membership application form on page 19.
Student Member	\$ 90.00	\$ 90.00	
Non-member*	\$300.00	\$375.00	
Student Non-member*	\$114.00	\$138.00	
One-day Member	\$150.00	\$225.00	
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One-day Non-member	\$195.00	\$270.00	
__S __M __T __W __T			

Payment

All prices listed are in U.S. dollars and must be submitted in U.S. dollars. Registration forms must be postmarked or received on or before June 1, 2000, to be eligible for the advance registration fees. After June 1, registrations will be accepted at the higher rate. On-site registration will be available at the higher rate. Fees for workshops and the banquet are separate from the registration fee but should be included in the total payment. Purchase orders **will not** be accepted. Only U.S. checks will be accepted. Please make checks payable to ACA and mail to:

**ACA Meeting Registration
P.O. Box 96 Ellicott Station
Buffalo, NY 14205-0096 USA**

Forms submitted via fax **must** include VISA or MasterCard payment information. Fax to (716) 852-4846.

Cancellation Policy

Cancellation and requests for refunds should be made in writing to ACA Headquarters. For cancellations received before June 1, 2000, 20% of the total remittance will be deducted. Requests received between June 2 and June 30, 2000, will be honored minus 50% of the total remittance. Fees will not be refunded after July 1, 2000.

Travel Grants

Limited funds will be available to help students and young scientist in attending the 2000 meeting by contributing toward travel and related expenses. Preference will be given to those presenting a paper. Interested parties should return the application form on page 15 to ACA Headquarters no later than March 1, 2000. Awardees will be notified about 6 weeks before the meeting.

Accompanying Guests

There will no registration fee for Accompanying Guests. However, tickets for the Opening Reception, YSSIG Mixer, Annual Banquet and Cruise are available for Accompanying Guests: Opening Reception-\$30.00, YSSIG Mixer-\$10.00, Annual Banquet-\$40.00, Cruise \$30.00. Those wishing to attend the scientific sessions must register at the "regular" rate.

Social Program

The **Opening Reception** will be held on Saturday, July 22, from 6:30pm until 10:00pm, at the Science Museum of Minnesota. The museum is located at 120 West Kellogg Street, a short walk from the Radisson. The **Annual Mentee/Mentor Dinner** will be on Sunday, July 23. The **Annual Young Scientists Mixer** will be held on Monday, July 24, at the Great Waters Brewery, within walking distance of the RiverCentre and the Radisson Hotel. Because attendance is limited to 250, please indicate on the Registration Form on page 13 if you wish to attend. The **Annual Banquet and Award Presentations** is scheduled for Wednesday, July 26. A cash bar will be open from 6:00pm-7:00pm. A glass of wine will be included with your choice of New York Sirloin Steak, Boneless Chicken Breast or Vegetarian dinner. Banquet tickets for registered students are \$20.00; all others are \$40.00.

ACA 50th Anniversary Cruise

On Tuesday, July 25, spend an evening with your friends cruising on the mighty Mississippi! Enjoy a three hour paddle boat excursion aboard the Harriet Bishop which has been reserved for the evening for the exclusive use of meeting

participants. The Harriet Bishop has three decks, including enclosed and air-conditioned sections for the infinitesimally small possibility of inclement weather. You will depart from the landing area on Harriet Island and quickly disappear into an island of nature in the midst of this major metropolitan area. Traveling through the heart of the Mississippi National River and Recreation Area, you may spot great blue herons, cormorants, hawks, peregrine falcons, and even a bald eagle. The park area is also rich in the early history of Minnesota. You will pass the site of Pig's Eye Parrant's cave where the city of St. Paul began and get a river view of historic Fort Snelling (constructed ca. 1820) where just about everything in Minnesota originated. The cruise will include a complete dinner with your choice of walleye, prime rib, Cornish game hen, or a vegetarian entrée, as well as an ACA 50th anniversary cake, for \$30 per ticket. A cash bar will be available throughout the cruise serving soft drinks as well as alcoholic beverages, including the now infamous local brew, Pig's Eye. The cruise and dinner will be an excellent opportunity to renew old friendships and celebrate the past and future of the ACA. Due to the maximum safe capacity of the boat, the dinner excursion will be limited to the first 300 participants registering.



Exhibition Show

An exhibition of the latest instruments and techniques for sample isolation, purifications and preparation; crystal growth and data collection, of computer software for data storage, retrieval analysis, of graphics systems and databases; and book, journal, and other materials essential to the conduct of modern crystallographers is tentatively scheduled to being on the afternoon of Sunday, July 23 and run through Wednesday, July 26. The show will be held in Exhibit Hall A in the RiverCentre.

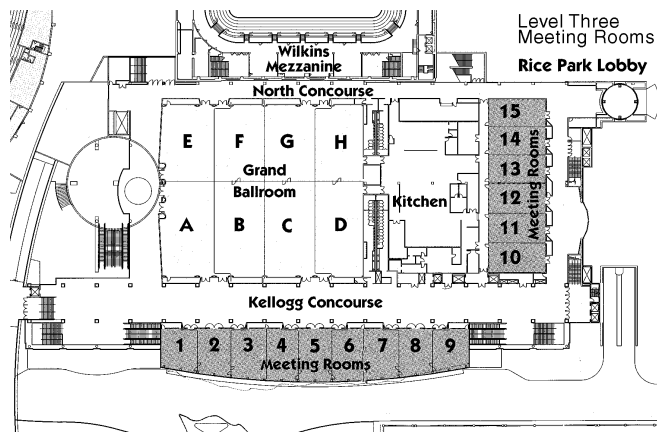
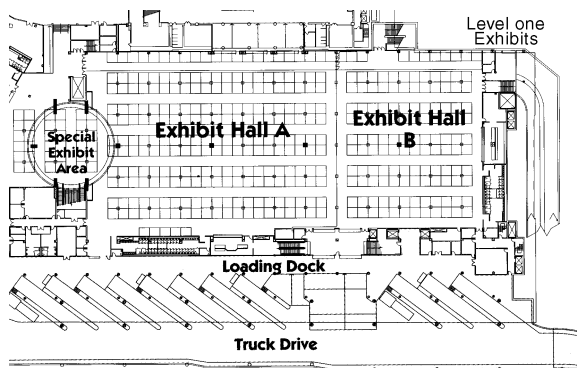
The exhibition show is being managed by the Advertising and exhibits Division of the American Institute of Physics. For further information, contact Bob Finnegan, Advertising and Exhibits, AIP, 500 Sunnyside Blvd, Woodbury, NY 11797, Fax: (516) 576 2481, rgf@aip.org

Past exhibitors have included:

Area Detector Systems Corp.
 Bede Scientific Inc.
 Biospace International, Inc.
 Biosym Technologies
 Blake Industries
 Bruker AXS, Inc.
 Charles Supper Company
 Compaq Computer Corp.
 Cryo Industries of America
 Cyberlab, Inc.
 Diversified Scientific, Inc.
 ESM Software
 FYS/Kinetics
 B.A. Frenz & Associates
 Fuji Medcial Systems USA
 Hampton Research
 ICDD
 IUCr

INEL
 J. Schneider Elektrotechnik GmbH
 MAR USA
 Microsource Div. Of Bede
 Molecular Structure Corp.
 Nonius Company
 NASA Biotechnology Program
 Osmic, Inc.
 Oxford Cryosystems
 Oxford Instruments, AM, Inc.
 PE Biosystems
 Precision Detectors
 Protein Data Bank
 Protein Solutions, Inc.
 Silicon Graphics
 Charles Supper Company
 Vivasciene, Inc.
 Wyatt Technology

The RiverCentre



WORKSHOPS**SHELX for Twins and Macromolecular Structures**

Organizer: George Sheldrick - gsheldr@shelx.uni-ac.gwdg.de

This is a full day workshop to be held in the Radisson Hotel. The fee of \$60.00 includes lunch.

This workshop is intended for both macromolecular and small moiety crystallographers. Although focussed on the SHELX programs for crystal structure determination, the workshop is intended to be generally educational; previous experience of SHELX is not essential. It is not out of the question that the release of new SHELX programs (e.g. for MAD phasing and/or the solution of larger structures by direct methods) will coincide with the workshop.

The invited talks will concentrate on crystallographic problems such as twinning, disorder, high-resolution refinement, location of heavy atoms and anomalous scatterers in macromolecules and ab initio structure solution. There will be a generous allocation of time for discussion (more difficult questions may be submitted in advance!) and a few slots have been held open for short contributions by SHELX users on interesting applications of SHELX, successful or otherwise. Volunteers for such contributions should contact gsheldr@shelx.uni-ac.gwdg.de

For further details of SHELX see <http://shelx.uni-ac.gwdg.de/SHELX/>

Use and Applications of the Cambridge Structural Database

Organizer: Steve Maginn - maginn@ccdc.cam.ac.uk

Half day workshop to be held in the Radisson Hotel. The fee is \$25.00 for all participants.

This workshop is aimed at any researchers who use the Cambridge Structural Database (CSD) in their work, or indeed at anyone wishing to learn about the CSD. Infrequent users will gain an insight into the full range and power of applications of the CSD, and even more experienced users will discover new ways to approach problems. Presentations on the content and use of the database will be mixed in with demonstrations of the new CSD search software ConQuest and the knowledge-based library IsoStar.

How to Make Technical Presentations

Organizer: Eric Chen - eric.chen.b@bayer.com

Half day workshop to be held in the Radisson Hotel. The fee is \$25.00 for all participants.

Making good technical oral presentations is vital. Why?—the answer is simple: whenever you are making an oral presentation, you are also presenting yourself. To the audience, intuitively, the person who makes a good presentation has the better potential to do a good job. Not surprisingly, the audience associates the quality of your oral presentation to the quality of your research. Given the importance of oral presentations, this workshop is designed to introduce the art behind a successful technical oral presentation.

The objectives of this workshop are to teach students to:

- Conceive the theme of an oral presentation
- Gauge the audience before the presentation
- Fit the presentation into an allotted time
- Interact with the audience during the presentation
- Answer questions from the audience at the end

This workshop is intended for graduate students in physics and materials science, for scientists and engineers in crystallography, for technical supervisors and managers in corporate America.

Opening Reception
Science Muesum of Minnesota
120 West Kellogg Street
6:30pm-10:00pm

Hot New Structures - 02.01

Chair: Cele Abad-Zapatero - cele.abad@abbott.com

Candidates should submit a copy of their abstracts directly to the chair.

Ultra-high Resolution Macromolecular Crystallography - 02.02

Chair: Paula Fitzgerald - paula_fitzgerald@merck.com

The session will focus on the biology and chemistry that is learned when it is possible to determine macromolecular structures at extremely high resolution. Invited speakers will provide a framework for the session, and we request the submission of abstracts for the remaining talks. The abstracts that will be selected for oral presentations will be ones that provide good examples of knowledge that is gained at very high resolution that is not simply a more precise version of what was known at a lower resolution. The framing presentations:

Paula Fitzgerald, Merck Research Labs

Introduction and a Gallery of Examples

Peter Kuhn, SSRL

Strategies for Collecting and Processing Extremely High Resolution Macromolecular Diffraction Data

Rick Bott, Genecor

Resolving Mechanistic Issues in Serine Proteases Using <1.0 Å Crystallographic Data

Battery Materials: Amorphous Carbons and Polymer Electrolytes I - 01.01

Chair: Jackie Johnson - jaj@anl.gov

Speakers:

Austin Angell, Arizona State

Design and Evaluation of Solvent-free Alkali Cation Conducting Electrolytes for Battery Electrolytes

Peter Bruce, Univ. of St. Andrews

Using Crystallography to Understand Battery Materials

Rex Gerald, Argonne National laboratory

Fundamental NMR Investigations of Conduction Ions in Anode and Electrolyte Materials Using the Near Electrode Imager

Advances in Small Angle Scattering Instrumentation and Data Analysis - 08.01

Chair: Harry Brumberger - hbrumber@mailbox.syr.edu

Speakers:

Andrew Allen, NIST - Gaithersburg

Anisotropic USAXS and SANS Studies of Microcracking in Textured Ceramic Materials

Paul Butler, NIST - Gaithersburg

Near Surface Small Angle Neutron Scattering: Technique and Applications

Otto Glatter, Univ. of Graz, Austria

Evaluation of Small Angle Scattering Data from Interacting Systems

Peter Jemian, Univ. of Illinois, Champagne-Urbana

Quantitative Measurements with Anomalous Small Angle X-Ray Scattering

Dmitri Svergun, HASYLAB

Small Angle Scattering Data Analysis: State of the Art

Poster Preview I

Chair: Jeff Habel - jhabel@earthlink.net

Each presentation will be approximately 5 minutes. Please indicate your willingness to participate in this session with your abstract submission.

Drug Design - 02.03

Chairs: William Stallings - william.c.stallings@monsanto.com

Bruce Jacobson - jacobson@bms.com

This session will highlight state-of-the-art drug design using crystallography and look forward to the future potential of the field. We are particularly interested in presentations of work that demonstrates the growing bridge between structure-based approaches and combinatorial chemistry methods including the design of focused libraries. We will also be interested in any good examples of structure-based drug design that has solid crystallography as its basis. Other areas that would be of high priority for consideration are: optimization of leads from high throughput screening approaches (include NMR and virtual screening) and de novo ligand design. Speakers are now being identified from industry and from academia. We will leave open one or more slots for the selection of speakers from submitted abstracts.

Speakers:

Patricia Weber, Schering-Plough

Retrospective and Prospective Views of Structure -Based Drug Design:

Application of the Method to Inhibitors of Farnesyl Protein Transferase

James Hogle, Harvard Univ.

Structurally-biased Combinatorial Design of Antivirals

Vicki Nienaber, Abbott Laboratories

CrystaLEAD™: A Method for Discovering Novel Lead Compounds Using X-ray Crystallography as a Screening Tool

General Interest I - 04.01

Chair: I. David Brown - idbrown@mcmaster.ca

Presentations will be selected from submitted abstracts.

Battery Materials: Amorphous Carbons and Polymer Electrolytes II - 01.01

Chair: Jackie Johnson - jaj@anl.gov

Speakers:

Peter Papanek, NIST

Neutron Scattering Studies of the Structure and Dynamics of Carbon Anode Materials for Li-ion Batteries

Joop Schoonman, Univ. of Technology, Delft, Netherlands

Thin Film Techniques for All-Ceramic Battery Components

Priya Vashista, Louisiana State Univ.

Molecular Dynamics Simulations of Materials on Parallel Computers

Materials Structure at Long Length Scales: Recent Discoveries - 08.02

Chair: Thomas Rieker - rieker@umn.edu

Speakers:

Sanat Kumar, Pennsylvania State Univ.

Polymer Structure and Phase Transitions in Ultrathin Films as Probed by Small Angle Neutron Scattering

J. David Londono, DuPont

In-situ Scattering Studies of Polymer Deformation

Steven Kline, NIST - Gaithersburg

Polymerization of Rodlike Micelles

Thomas Zemb, Comm. de Energie Atomique, Saclay, France

Self-assembly of Flat Nanodisks in Salt-free Catanionic Surfactant Solutions

Poster Session I

SOCIAL EVENT

Mentor/Mentee Dinner

**Transaction Symposium I:
Using Crystallography to Understand Enzyme
Mechanism - TR**

Chair: Douglas Ohlendorf - ohlen@dcdiff.med.umn.edu

Speakers:

Larry Que, Univ. of Minnesota

Steve Ealick, Cornell Univ.

Dagmar Ringe, Brandeis Univ.

Jack Baldwin, Oxford Univ.

Chen Mao, Hughes Institute

**Transaction Symposium II:
Using Crystallography to Understand Enzyme
Mechanism - TR**

Chair: Dagmar Ringe - ringe@binah.cc.brandeis.edu

Speakers:

Douglas Ohlendorf, Univ. of Minnesota

Karl Hardmann, Dupont-Merck Pharmaceuticals

Dave Christianson, Univ. of Pennsylvania

Hazel Holden, Univ. of Wisconsin

John Perona, Univ. of California at Santa Barbara

Osnat Herzberg, CARB

**New Science from Neutron Sources and
Instrumentation I - 05.01**

Chair: Brian Toby - brian.toby@nist.gov

Speakers:

Chuck Marjczak, NIST

Reflectometry Introduction and Survey

Kent Blasie, Univ. of Pennsylvania

Neutrons and X-Rays for Study of Cell Membranes

Jill Trehwella, Los Alamos National Lab

Biological SANS

Dan Newmann, NIST

New Instrumentation and Opportunities for Inelastic Scattering

Taner Yildirim

*Combining Theory, Modeling and Experiments for Study of
Dynamics***New Science from Neutron Sources and
Instrumentation II - 05.01**

Chair: To be advised

Speakers:

Simon Bilinge, Michigan State Univ.

Local Order

Collin Broholm, Johns Hopkins

Magnetism

Pat Woodward, Ohio State Univ.

*Characterizing Oxides***Cool Structures - 09.01**

Chair: Curt Haltiwanger - r_curtis_haltiwanger@sbphrd.com

Poster Preview II - Jeff Habel - jhabel@earthlink.net

Each presentation will be approximately 5 minutes. Please indicate your willingness to participate in this session with your abstract submission.

Buerger Award Presentation and Lecture**General Interest II - 04.01**

Chair: I. David Brown - idbrown@mcmaster.ca

Presentations will be selected from submitted abstracts.

Poster Session II**SOCIAL EVENT****Young Scientist SIG Mixer****Great Waters Brewery**

Protein-Nucleic Acid Interactions - 02.04

Chair: Cynthia Wolberger -
cynthia.wolberger@gmail.bs.jhu.edu

Speakers:

Alfonso Mondragon, Northwestern Univ.
Structural Studies of Type I DNA Topoisomerases
Robert Batey, Yale Univ.
Crystal Structure of a Universally Conserved RNA-Protein Interaction within the Signal Recognition Particle
Tom Ellenberger, Harvard Medical School
Crystallographic Insights into DNA Replication
Wei Yang, NIH
Protein-DNA Interactions in DNA Mismatch Repair Machinery

Service Crystallography at Synchrotrons - 07.01

Speakers:

Phil Coppens, SUNY Buffalo
Tom Koetzel, Brookhaven National Laboratory
Jim Vicarro, Univ. of Chicato
William Clegg, Univ. of Newcastle
Robert Sweet, National Synchrotron Light Source
Richard Harlow, Dupont
David Cookson, Argonne National Laboratory

Fibers 2K:

Twist and Turns for the New Millennium I - 03.01

Chairs: Dan Kirschner - kirschnd@bc.edu
Barry Farmer - farmerbl@ml.upafhaf.mil

Speakers:

Theresia Kraft, Medizinische Hochschule Hannover
Fiber XRD on Single Muscle Fibers
Chris Dobson, Oxford Univ.
Amyloid Fiber Diffraction
Chris Riek, ESRF
Synchrotron Fiber XRD on Single Spider Silk Fibers
Rick Millane, Purdue Univ.
E.D. (Ted) Atkins, Univ. of Bristol

Poster Preview III - Jeff Habel - jhabel@earthlink.net

Each presentation will be approximately 5 minutes.
Please indicate your willingness to participate in this session with your abstract submission.

Warren Award Presentation and Lecture

High Throughput Crystallization -02.05

Chair: Gary Gilliland - gary.gilliland@nist.gov

Speakers:

George DeTitta, Hauptman-Woodward Med Res. Inst.
Gearing up for 40K Crystallization Experiments a Day
Alexander McPherson, Univ. of California, Irvine
Growth and Handling of Crystals in High-throughput Production
Lance Stewart, Emerald Biostructures, Inc.
Crystal Monitor: The Relational Database Application for Crystal Growth
Aled Edwards, Univ. of Toronto
Molecular Biology Approaches for Improving Crystallizability
Gary L. Gilliland, CARB
Strategies for Dealing with Crystallization Problems Encountered in High-throughput Screening

Synchrotron Radiation at the Cutting Edge - 10.01

Chair: Andrzej Joachimiak - andrzejj@nal.gov

Speakers:

Thomas Earnest, Lawrence Berkeley National Laboratory
Wladek Minor, Univ. of Virginia

Fibers 2K:

Twist and Turns for the New Millennium II - 03.01

Chairs: Dan Kirschner - kirschnd@bc.edu
Barry Farmer - farmerbl@ml.upafhaf.mil

Speakers:

Richard Denny, CCLRC Daresbury Lab
CCP13: Analysis Software for Fiber Diffraction
Dave Kaplan, Tufts Univ.
Recombinant Silk
Douglas Dorset, Hauptman-Woodward Med. Research Inst.
Electron Diffraction from Synthetic Polymers
John Blackwell, Case Western Reserve Univ.
Kenn Gardner, DuPont

Poster Session III

EVENING SESSION

Employment Outlook

Chair: Jeff Habel - habel@earthlink.net

SOCIAL EVENT

ACA 50th Anniversary Celebration Cruise

Wednesday, July 26**HHMI Contributions to Macromolecular Science I - HH**

(Dedicated to Paul Sigler)

Chair: Max Cowan, Howard Hughes Medical Institute

Speakers:

Axel Brünger, Yale Univ.

Steven Sprang, Univ. of Texas SW Medical Center

John Kuriyan, Rockefeller Univ.

Steven Burley, Rockefeller Univ.

Nikola Pavletich, Memorial Sloan-Kettering Cancer Center

Cynthia Wolberger, Johns Hopkins

Wim Hol, Univ. of Washington

Pamela Bjorkman, California Institute of Technology

Daniel Leahy, Johns Hopkins Univ.

Florante Quiocho, Baylor College of Medicine

Steven Harrison, Harvard Univ.

Thomas Steitz, Yale Univ.

Crystal Engineering I - 09.02

(Dedicated to Peggy Etter)

Chair: Carol Brock, cpbrock@ukcc.uky.edu

Speakers:

Christer Aakeroy, Kansas State Univ.

Intermolecular Assembly of Coordination Compounds

James Loehlin, Wellesley College

Unnatural Crystals - Designed Using a Hydrogen-Bonded Template

John MacDonald, Northern Arizona Univ.

A Supramolecular Approach to the Design of Solids

Kraig Wheeler, Delaware State Univ.

Organized Molecular Assemblies by Shape Mimicry

Susan Reutzler-Edens, Eli Lilly

Engineering Crystals of Pharmaceutical Solids

Additional presentations will be selected from submitted abstracts.

Nuclear Industry Materials I:**Crystal Nucleation in Waste-Storage Glasses - 01.02**

Chair: John Kieffer, johnk@uiuc.edu

Speakers:

Rene Corrales, Pacific Northwest National Labs

Dominique Ghaleb, French Atomic Energy Commission

Nancy Li, Pacific Northwest National Labs

Andrew C. Buechele, Catholic Univ. of America

Nuclear Industry Materials II:**Bombardment-Induced Amorphization in Crystalline Materials - 01.03**

Chair: John Kieffer - johnk@uiuc.edu

Speakers:

Davor Balzar, NIST

Robert Averback, Univ. of Illinois

SOCIAL EVENT**Reception and Banquet**

Radisson Hotel St. Paul

Cash Bar 6:00pm-7:00pm

Dinner and Awards 7:00pm - 10:00pm

Thursday, July 27**Problem Structure Determination - 02.06**

Chair: Wim Hol - hol@gouda.bchem.washington.edu

Speakers:

Steve Price, MRC Cambridge

Gabby Rudenko, UT Southwest Medical Center

Celia Chen, CARB, Univ. of Maryland

Paul Nissen, Yale Univ.

General Interest III - 04.01

I. David Brown - idbrown@mcmaster.ca

Presentations will be selected from submitted abstracts.

Network Glasses - 01.04

Chair: Ron Cappelletti - ronald.cappelletti@nist.gov

Speakers:

P. Craig Taylor, Univ. of Utah

Punit Boolchand, Univ. of Cincinnati

P.B. Allen, SUNY at Stony Brook

Birgit Schwickert, Univ. of California at Berkeley

General Instructions for All Abstract Submissions

Abstract Submission

On-line submission will be available January 1, 2000, at <http://www.hwi.buffalo.edu/ACA/>

Abstracts from members

ACA Members who have paid dues for 2000 should follow the instructions herein; no fee or deposit is required.

Abstracts from non-members

The Advance Registration Form and payment must accompany abstract submissions in any format from non-members. You may submit the abstract electronically and fax the registration form with payment information to (716) 852-4846.

Preparation of Text

The entire abstract, including title, authors and their affiliations, footnotes, references, diagrams, tables, equations, etc., must fit into a rectangle 13 cm (5.1") wide by 17 cm (6.7") high and should contain no more than 40 single-spaced typed lines. Times font with 12 point size must be used. Abstracts not conforming to these dimensions will be returned to the author for revision and should be resubmitted before the deadline. Late fees will apply to these revisions. Wording the title and first sentence of your abstract deserves a special effort. Make your main point there in the first sentence. Multiple parallel sessions and the large number of posters force meeting attendees to scan the Program and Abstract book selectively. Help them decide whether yours is a "must-see" presentation by stating your main point at the beginning of your abstract. The **title** should be in upper and lower case letters and should contain no more than 100 characters. Titles with more than 100 characters will truncated. A one-inch indentation must be left in the first line for insertion of the abstract number. The authors' names and institutions should be in upper and lower case.

Authors

The author named first in the abstract must present the paper. No one may be first author on more than one paper - invited or contributed.

Invited Abstracts

Abstracts for invited papers must be submitted in the same manner as those for contributed papers and are subject to the same abstract fees as stated above.

Abstracts on the Web

Abstracts will be posted to the ACA web site before the meeting **only if** the presenting author's permission is given with the abstract submission. A list of titles and authors will appear on the web about one month after the abstract deadline. Each abstract will be assigned a temporary abstract number at this time. Presenting authors will be notified by post-card of their final abstract number, session name, and date, time and room assignment approximately 4 weeks prior to the meeting. This information will also be posted on the web site.

Submission

Do not send the abstract in more than one format. If you e-mail it, do not send a hard copy. If you send it via postal mail, do not e-mail it.

Revisions

The abstract processing office will not accept revisions. You will have to withdraw the original submission and submit a new one. The same abstract submission fee rules will apply.

Late Abstracts

Abstracts with a postmark or e-mail date after March 1, 2000 will be considered LATE. Any abstract submission tagged "late" will be included in the program only if a \$100 Late Abstract Fee is submitted. This rule will apply to ACA members, non-members, and invited and contributed abstracts. You may wish to fax your credit card information to (716) 852-4846 or e-mail it with your abstract. Acceptable forms of payment: VISA or MasterCard, and checks drawn on U.S. banks in U.S. funds. No purchase orders. Abstracts received without the appropriate fee(s) will be returned to the submitting author and will not be processed until the fee is received.

Required Abstract Information

All abstract submissions must contain the following information in the order presented below:

- Presenting author's name, address, fax, and e-mail.
- If this is an invited lecture, please indicate the topic number and session title from the Program Topics List.
- If this is a contributed paper to a specific session, please indicate the topic number and session title from the Program Topics List.
- If you are unsure of which topic number/session please choose the appropriate SIG and the ".00 Other" topic.
- May we place your abstract on the WWW?
- May we place your fax and e-mail on the WWW?
- List three key words for index, not more than 30 characters each.
- Is this a poster for consideration for the Oxford Cryosystems Award?
- Is this a student poster for consideration for the Pauling Prize?
- If this is a student poster, would you be willing to give a 5 minute talk in a poster highlight session?
- A/V requests: _____

Program Topics List

01 Amorphous Materials

- 01.00 _____
- 01.01 Battery Materials: Amorphous Carbons & Polymer Electrolytes
- 01.02 Nuclear Industry Materials I - Crystal Nucleation in Waste-Storage Glasses
- 01.03 Nuclear Industry Materials II - Bombardment Induced Amorphization in Crystalline Materials
- 01.04 Network Glasses

02 Biological Macromolecules

- 02.00 _____
- 02.01 Hot New Structures
- 02.02 Ultra-high Resolution Macromolecular Crystallography
- 02.03 Drug Design
- 02.04 Protein Nucleic Acid Interactions
- 02.05 High Throughout Crystallization
- 02.06 Problem Structure Determination

03 Fiber Diffraction

- 03.00 _____
- 03.01 Fibers 2K: Twist and Turns for the New Millennium

04 General Interest

- 04.00 _____
- 04.01 General Interest

05 Materials Science

- 05.00 _____
- 05.01 New Science Using New Neutron Sources and Instrumentation

06 Neutron Scattering

- 06.00 _____

07 Service Crystallography

- 07.00 _____
- 07.01 Service Crystallography at Synchrotrons

08 Small Angle Scattering

- 08.00 _____
- 08.01 Advances in Small Angle Scattering Instrumentation and Data Analysis
- 08.02 Materials Structure at Long Length Scales: Recent Discoveries

09 Small Molecules

- 09.00 _____
- 09.01 Cool Structures
- 09.02 Crystal Engineering

10 Synchrotron Radiation

- 10.00 _____
- 10.01 Synchrotron Radiation at the Cutting Edge

TR Transactions Symposium

- TR Using Crystallography to Understand Enzyme Mechanism

HH Howard Hughes Session

- HH HHMI Contributions

Instructions for Electronic Submission

Submission via Web Site

The ACA is accepting abstract submissions via a Web form through the ACA Web Site. This is the recommended method for all submissions. Follow the instructions available at: <http://www.hwi.buffalo.edu/ACA/>

Submission via E-mail

1. The "Subject" line of the electronic message should include submitting author's name, fax number, kind and version of word processor. Example: J. Doe, (613) 555-1234, WP Windows 6.0.
2. MicroSoft Word and WordPerfect files are binary files. They have to be e-mailed with UUencode, Binhex or "attached" to the message at transmission time. Abstracts made of just ASCII characters (this includes ASCII and html files containing no figure) can be e-mailed without this precaution.
3. Special characters, tables, mathematical formulae and figures are allowed in the word processor file, but please try to keep to a minimum. Mathematical formulae are to be written on a single line with sub and superscripts only. No big fractions.
4. Special symbols and Greek characters should be confined to the set of fonts that come with the standard distribution of MicroSoft Word or WordPerfect. Add-on fonts, such as those for mathematical formulae, must be avoided as these may not be available at the abstract processing office.
5. E-mail an ASCII (plain text or html) file or a uuencoded or binhex file of Microsoft Word to: **aca-abstracts@hwi.buffalo.edu** Do not send any other messages to this address. For questions send messages to: **aca-inquiries@hwi.buffalo.edu** If an abstract or a question is not acknowledged within 3 working days, please assume that it was not received. Please frequently check the e-mail account from which the abstract was sent. Acknowledgement of receipt, and later correspondence about the program, will be sent there using the reply feature in order to avoid typos in the e-mail address.
6. Receipt of each file will be acknowledged via a machine generated reply within 24 hours. This means the file has been received but no implication of "readability" is to be assumed. If the file cannot be decoded or has other problems, the sender will be contacted for corrective action.
7. Late fees and/or nonmember registration form and payment must accompany submission.

Instructions for Disk Submission

1. Include required information as listed at top of page 10.
2. Only one MicroSoft Word file on Macintosh or DOS disk.
4. Send one hardcopy of the abstract with the disk. Disks will not be returned.
5. Late fees and/or nonmember registration form and payment must accompany disk.

Instructions for Hard Copy Submission

1. Include required information as listed at top of page 10.
2. Due to the extra time required to convert hard copy abstracts into electronic form, there will be a \$50.00 fee (U.S. funds) for any abstract submitted in hard copy by a member or nonmember. The \$50.00 fee is not deductible from the registration fee and is nonrefundable.
3. Use a laser printer to print the abstract. You must reproduce your abstract within the specified dimensions.
4. Send original and one good photocopy.
5. Hard copy, late fees and/or nonmember registration form and payment must accompany hard copy.

Slides

Slide and overhead projectors will be available. When preparing slides please remember the following points:

- Be realistic. One slide per minute is probably too many.
- Make the lettering large so the viewers will be able to read it.
- Lettering should not be smaller than 5% of the height of the slide.
- Test your slides in a large auditorium and stand in the back.
- Slide trays will be available in the Speaker Ready Room. It is the responsibility of the lecturer to prepare the tray and bring it to the session room.

Posters

Each presentation will be assigned a board 4' (1.22m) high x 8' (2.44m) wide. Push pins will be available. Poster session chairs will be available to answer questions and provide help during the setup times. The number of poster sessions is dependent upon the number of poster submissions received. Authors will be assigned dates and times to be present at their board. This notification will be sent by postal mail and posted to the meeting web site.

Poster Prizes

Pauling Poster Prize

Eligibility: Graduate and undergraduate student only - no post-docs. Awarded to not more than five of the best student (poster) presentations at the Annual Meeting. Each award consists of \$200, a complimentary banquet ticket at the Annual Meeting, and a copy of Linus Pauling's "General Chemistry". Honorable mentions may also be awarded a complimentary banquet ticket. Please indicate that you wish to be considered with your abstract submission. Winners will be announced at the Banquet on Wednesday, July 26.

Oxford Cryosystems Poster Prize

Eligibility: Any poster describing work in low temperature crystallography. Prize is two hundred pounds sterling donated by Oxford Cryosystems. Please indicate that you wish to be considered with your abstract submission. Winner will be announced at the Banquet on Wednesday, July 26.

**Please watch the Meeting Page on the
ACA Web Site for frequent updates and
further information**

<http://www.hwi.buffalo.edu/ACA/>



ADVANCE REGISTRATION FORM 2000

Family Name _____

First Name _____

Dept. _____

Inst. _____

St. _____

Box/Apt.# _____

City _____

St./Prov. _____ Zip/Postal Code _____

Country _____

Telephone _____

Fax _____

E-mail _____

Registration Fees	Before June 1	After June 1
<input type="checkbox"/> Regular Member	\$225.00	\$300.00
<input type="checkbox"/> Retired Member	\$ 90.00	\$ 90.00
<input type="checkbox"/> Student Member	\$ 90.00	\$ 90.00
<input type="checkbox"/> Non-member*	\$300.00	\$375.00
<input type="checkbox"/> Student Non-member*	\$114.00	\$138.00
<input type="checkbox"/> One-day Member	\$150.00	\$225.00
__S __M __T __W __T		
<input type="checkbox"/> One-day Non-member	\$195.00	\$270.00
__S __M __T __W __T		

Registration Total	
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Workshops <input type="checkbox"/> WK01: SHELX \$60.00 <input type="checkbox"/> WK02: Making Technical Presentations \$25.00 <input type="checkbox"/> WK03: Cambridge Database - \$25.00	
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Workshop Total	
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Social Program <table border="0"> <tr> <td></td> <td style="text-align: center;">Will Attend</td> <td style="text-align: center;">Will not Attend</td> </tr> <tr> <td>Opening Reception</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>YSSIG Mentor/Mentee Dinner</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>YSSIG Mixer</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table> <p>Banquet #__ \$40.00 ticket #__ \$20.00 student ticket Entree: __Prime Rib __Chicken Breast __Vegetarian</p> <p>Anniversary Cruise #__ \$30.00 ticket(s) Entree: __ Walleye __Prime Rib __Cornish Hen __Vegetarian</p>		Will Attend	Will not Attend	Opening Reception	<input type="checkbox"/>	<input type="checkbox"/>	YSSIG Mentor/Mentee Dinner	<input type="checkbox"/>	<input type="checkbox"/>	YSSIG Mixer	<input type="checkbox"/>	<input type="checkbox"/>	
	Will Attend	Will not Attend											
Opening Reception	<input type="checkbox"/>	<input type="checkbox"/>											
YSSIG Mentor/Mentee Dinner	<input type="checkbox"/>	<input type="checkbox"/>											
YSSIG Mixer	<input type="checkbox"/>	<input type="checkbox"/>											

Social Total	
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Payment Method <input type="checkbox"/> Check (U.S. only) <input type="checkbox"/> VISA <input type="checkbox"/> MasterCard Card Number ____/____/____ - ____/____/____ - ____/____/____ - ____/____/____ Good thru/expiration date ____/____/____ Authorized Signature of Card Holder _____	
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TOTAL REMITTANCE	
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Registration

Registration forms must be postmarked or received on or before June 1, 2000, to be eligible for the advance registration fees. After June 1, 2000, registrations will be accepted at the higher rate. On-site registration will be available at the higher rate. Cancellation and requests for refunds should be made in writing to ACA Headquarters. For cancellations received before June 1, 2000, 20% of the total remittance will be deducted. Requests received between June 2 and June 30, 2000, will be honored minus 50% of the total remittance. Fees will not be refunded after July 1, 2000. *Increment charged to non-member registration may be credited toward new member dues for 2000 by submitting a membership application form.

All prices listed are in U.S. dollars and must be submitted in U.S. dollars. Purchase orders **will not** be accepted. Only U.S. checks will be accepted. Please make checks payable to ACA and mail to:

**ACA Meeting Registration
 P.O. Box 96 Ellicott Station
 Buffalo, NY 14205-0096 USA**

Forms submitted via fax **must** include VISA or MasterCard payment information. **Fax to (716) 852-4846**



TRAVEL GRANT APPLICATION FOR STUDENTS AND YOUNG SCIENTISTS

Limited funds are available to help students and young scientists in attending the **2000 Annual Meeting** by contributing toward travel and related costs. Preference will be given to those presenting a paper. To apply for assistance, send this completed form, a **copy** of the submitted abstract and certification of student status by **March 1, 2000**.

Family Name _____

First Name _____

Dept. _____

Inst. _____

St. _____

Box/Apt.# _____

City _____

St/Prov. _____ Zip/Postal Code _____

Country _____

Phone _____

Fax _____

E-mail _____

Have you ever applied for an ACA travel assistance grant?
 No Yes in 19____

Received a travel assistance grant?
 No Yes in 19____

Are you an ACA Member?
 No Yes

Estimated cost of transportation: _____

Estimated cost of meals: _____

Estimated cost of lodging: _____

Total amount requested: _____

Endorsement of Professor or Research Director
 (attach separate sheet if necessary)

Signature of Professor or Research Director

Attach copy of abstract to this application

Attach verification of student status

Signature of Applicant **Date**

SUBMIT APPLICATION WITH A COPY OF ABSTRACT TO

Mail
 Travel Grant Fund
 American Crystallographic Association
 P.O. Box 96, Ellicott Station
 Buffalo, NY 14205-0096

Fax
 (716) 852-4846

Overnight mail
 Travel Grant Fund
 American Crystallographic Association
 c/o Hauptman Woodward Medical Research Inst.
 73 High St., Buffalo, NY 14203

E-mail
 aca@hwi.buffalo.edu

HOTEL RESERVATION FORM

The Radisson Hotel Saint Paul is proud to welcome

AMERICAN CRYSTALLOGRAPHIC ASSOCIATION

July 21 - 28, 2000

Radisson Hotel and Radisson Inn Saint Paul Reservation Form

To place your reservation, call one of the following numbers or return the form

**Call Radisson Reservations Toll Free:
1-800-333-3333**

Radisson Hotel Directly:
Phone: (651) 292-1900
Fax: (651) 605-6966

Mail to: Radisson Reservation Office
11 East Kellogg Blvd.
St. Paul, MN 55101

Rooms at the Radisson Hotel will be filled first, with overflow to the Radisson Inn. Deadline for making reservations is **June 20, 2000**. Reservations made after this date will be confirmed on a space available basis. Rates are \$98/single or double, plus tax at the Radisson Hotel Saint Paul or at the Radisson Inn Saint Paul. Check in time is after 3:00pm; check out time is Noon.

Arrival _____

Time: _____

Departure _____

# of Adults:	Smoking	King Size Bed	Sharing with:
# of Children Under 17:	Non-Smoking	2 Double Beds	

NOTE: Requests are based on availability

Name : _____

Company : _____

Address: _____

City: _____ **St/Prov:** _____ **Zip/Postal:** _____

Country: _____ **Phone:** _____

Fax: _____

To guarantee your reservation, one night advance deposit is required (\$98 + 13% = \$110.74).

Payment by: VISA MasterCard Amex Discover Diners Club

Card Number: _____ Exp. Date: _____

Card Holder Signature: _____



AMERICAN CRYSTALLOGRAPHIC ASSOCIATION

Application for Membership 2000

Family Name _____

First Name _____

Dept _____

Inst _____

Street _____ Box/Apt/MS _____

City _____ State/Prov. _____

Zip/Postal Code _____ Country _____

Telephone _____ Fax _____

E-mail: _____

Date of Birth _____

Highest Degree _____ Field of Degree _____ Year Received _____

Can we list the above information on our web site? Yes No

Home Mailing Address:

Street _____

City _____ State/Prov. _____

Zip/Postal Code _____ Country _____

Preferred mailing address: Business Home

Membership Category

- Regular - \$75.00
- Student* - \$24.00
- Retired - \$39.00
- Corporate - \$700.00

Have you previously been a member?

- Yes No

If yes, what year? _____

Special Interest Group(s)

- Amorphous Materials
- Biological Macromolecules
- Fiber Diffraction
- General Interest Group
- Materials Science
- Neutron Scattering
- Service Crystallography
- Small Angle Scattering
- Small Molecules
- Synchrotron Radiation
- Young Scientist

Signatures *Regular members seconding the application*

(1) _____ (2) _____

**Member of teaching staff certifying that the applicant is a student, please sign below*

Signature _____ Title _____

Optional Airmail Fees

Outside North America only

- ACA Newsletter \$25.00
- 2000 Program & Abstract Book \$20.00

Publications

ACA Transactions \$20.00 each plus shipping & handling

- Vol. 30 Likelihood Bayesian Inference-Solutions of New Structures
- Vol. 31 Structural Tools in Organometallic and Coordination Chemistry
- Vol. 32 Structural Informatics
- Vol. 33 Crystal Engineering

Payment

- Check (U.S. only) VISA MasterCard

Card Number

____/____/____ - ____/____/____ - ____/____/____ - ____/____/____

Good thru/expiration date ____/____/____

Signature of Card Holder _____

Membership Fee _____

Airmail Fee(s) \$ _____

Publications \$ _____

TOTAL

ENCLOSED \$ _____

*Send application with payment
in U.S. funds to*

American Crystallographic Association

P.O. Box 96 Ellicott Station

Buffalo NY 14205-0096 U.S.A.

Phone: (716) 856-9600 ext. 379

Fax: (716) 852-4846

E-mail: aca@hwi.buffalo.edu