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GORDON RESEARCH CONFERENCES *frontiers of science*

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Nancy Ryan Gray, Ph.D.
Director

**2011 GORDON RESEARCH CONFERENCE
on X-RAY SCIENCE**

**FINAL PROGRESS REPORT
DEPARTMENT OF ENERGY
GRANT NO. DE-SC0006570**

The Gordon Research Conference on X-RAY SCIENCE was held at Colby College, Waterville, Maine, August 7 – 12, 2011. The Conference was well-attended with 134 participants (attendees list attached). The attendees represented the spectrum of endeavor in this field coming from academia, industry, and government laboratories, both U.S. and foreign scientists, senior researchers, young investigators, and students. Of the 134 attendees, 55 voluntarily responded to a general inquiry regarding ethnicity which appears on our registration forms. Of the 55 respondents, 25% were Minorities – 2% Hispanic, 22% Asian and 2% African American. Approximately 18% of the participants at the 2011 meeting were women.

In designing the formal speakers program, emphasis was placed on current unpublished research and discussion of the future target areas in this field. There was a conscious effort to stimulate lively discussion about the key issues in the field today. Time for formal presentations was limited in the interest of group discussions. In order that more scientists could communicate their most recent results, poster presentation time was scheduled. Attached is a copy of the formal schedule and speaker program and the poster program. In addition to these formal interactions, "free time" was scheduled to allow informal discussions. Such discussions are fostering new collaborations and joint efforts in the field.

Thank you for your support of this Conference. As you know, in the interest of promoting the presentation of unpublished and frontier-breaking research, Gordon Research Conferences does not permit publication of meeting proceedings. If you wish any further details, please feel free to contact me. Thank you.

Sincerely,
G. Brian Stephenson, Conference Chairperson
ARGONNE NATIONAL LABORATORY

X-Ray Science
August 7-12, 2011
Colby College
Waterville, ME

Chair: G. Brian Stephenson
Vice Chair: Harald Reichert

Related Meeting Information

The X-Ray Science Gordon Research Conference was held in conjunction with the **X-Ray Science Gordon-Kenan Research Seminar**. Please refer to the X-Ray Science GKRS web page for more information.

The 2011 Gordon Research Conference on X-ray Science will feature forefront x-ray-based science enabled by the rapid improvements in synchrotron and x-ray laser sources. Across the world, x-ray sources are playing an increasingly important role in physics, materials, chemistry, and biology, expanding into ever broadening areas of science and engineering. With the first hard x-ray free electron laser source beginning operation and with other advanced x-ray sources operational and planned, it is a very exciting and pivotal time for exchange ideas about the future of x-ray science and applications. The Conference will provide the forum for this interaction. An international cast of speakers will illuminate sessions on ultrafast science, coherence, imaging, *in situ* studies, extreme conditions, new developments in optics, sources, and detectors, inelastic scattering, nanoscience, life science, and energy sciences. The Conference will bring together investigators at the forefront of these areas, and will provide a venue for young scientists entering a career in x-ray research to present their research in poster format, hold discussions in a friendly setting, and exchange ideas with leaders in the field. Some poster presenters will be selected for short talks. The collegial atmosphere of this Conference, with ample time for discussion as well as opportunities for informal gatherings in the afternoons and evenings, will provide an avenue for scientists from different disciplines to exchange ideas about forefront x-ray techniques and will promote cross-fertilization between the various research areas represented.

Contributors





SUNDAY

- 2:00 pm - 9:00 pm Arrival and Check-in (Office Closed 6:00 pm - 7:00 pm)
- 6:00 pm Dinner
- 7:30 pm - 7:40 pm Welcome / Introductory Comments by GRC Site Staff
- 7:40 pm - 9:30 pm **Resonant Inelastic Scattering**
- 7:40 pm - 7:50 pm Discussion Leader: **Michel van Veenendaal** (Argonne National Laboratory)
- 7:50 pm - 8:30 pm **Lucio Braicovich** (Polytechnic University of Milan)
"Exploring the Low-energy Scale of Cuprates with Resonant Inelastic X-ray Scattering (RIXS)"
- 8:30 pm - 8:40 pm Discussion
- 8:40 pm - 9:20 pm **Zhi-Xun Shen** (Stanford University)
"Time and Frequency Domain Soft X-ray Probe of Complex Oxides"
- 9:20 pm - 9:30 pm Discussion

MONDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm **Ultrafast Science**
- 9:00 am - 9:10 am Discussion Leader: **Anne-Marie March** (Argonne National Laboratory)
- 9:10 am - 9:50 am **Nora Berrah** (Western Michigan University)
"Probing the Evolution of the Interaction of Molecules with the LCLS X-ray FEL"
- 9:50 am - 10:05 am Discussion
- 10:05 am - 10:35 am Coffee Break / Group Photo
- 10:35 am - 11:15 am **David Fritz** (Stanford University)
"First Hard X-ray Ultrafast Studies at LCLS"
- 11:15 am - 11:30 am Discussion
- 11:30 am - 12:10 pm **David Reis** (Stanford University)
"Time and Momentum Resolved Imaging of Phonons"
- 12:10 pm - 12:30 pm Discussion

12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	<u>Poster Session - First Half of List (Posters #1-44)</u>
6:00 pm	Dinner
7:30 pm - 9:30 pm	Imaging: Coherent Diffraction and Ptychography
7:30 pm - 7:40 pm	Discussion Leader: Massimo Altarelli (European XFEL BmbH)
7:40 pm - 8:20 pm	Pierre Thibault (Technical University Munich) "Recent Developments and Future Prospect of X-ray Ptychography"
8:20 pm - 8:35 pm	Discussion
8:35 pm - 9:15 pm	Oleg Shpyrko (University of California-San Diego) "Lens-less X-ray Imaging of Magnetic Nanostructures"
9:15 pm - 9:30 pm	Discussion

TUESDAY

7:30 am - 8:30 am	Breakfast
9:00 am - 12:30 pm	Imaging: Nanocrystallography and Bragg Holography
9:00 am - 9:10 am	Discussion Leader: Keith Nugent (University of Melbourne)
9:10 am - 9:50 am	John Spence (Arizona State University) "Time-resolved Protein Nanocrystallography at the LCLS X-ray Laser"
9:50 am - 10:05 am	Discussion
10:05 am - 10:35 am	Coffee Break
10:35 am - 11:15 am	Anton Barty (Centre for Free Electron Laser Science) "Femtosecond X-ray Imaging using Free Electron Lasers"
11:15 am - 11:30 am	Discussion
11:30 am - 12:10 pm	Virginie Chamard (Fresnel Institut, CNRS, Aix-Marseille University) "X-ray Bragg Holography and Ptychography: a 3D Look into Nanocrystals"
12:10 pm - 12:30 pm	Discussion
12:30 pm	Lunch
1:30 pm - 4:00 pm	Free Time
4:00 pm - 6:00 pm	<u>Poster Session - First Half of List (Posters #1-44)</u>
6:00 pm	Dinner
7:30 pm - 9:30 pm	Speckle and Correlation Spectroscopy
7:30 pm - 7:40 pm	Discussion Leader: Karl Ludwig (Boston University)
7:40 pm - 8:20 pm	Gerhard Grübel (German Electron Synchrotron - DESY HASYLAB) "Local Structures in Liquids and Glasses"
8:20 pm - 8:35 pm	Discussion
8:35 pm - 9:15 pm	Hyunjung Kim (Sogang University)

"Structure and Dynamics of Blockcopolymer Films"

WEDNESDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am - 12:30 pm ***In Situ Studies***
- 9:00 am - 9:10 am Discussion Leader: **Carol Thompson** (Northern Illinois University)
- 9:10 am - 9:50 am **Joel Brock** (Cornell University)
"Time-resolved X-ray Scattering Studies of Pulsed Laser Deposition"
- 9:50 am - 10:05 am Discussion
- 10:05 am - 10:35 am Coffee Break
- 10:35 am - 11:15 am **Mizuki Tada** (Institute for Molecular Science)
"*In-situ* XAFS Study for Heterogeneous Catalysts"
- 11:15 am - 11:30 am Discussion
- 11:30 am - 12:10 pm **Peter Chupas** (Argonne National Laboratory)
"Using *In-situ* Studies to Understand the Formation and Reactivity of Nano-scale Catalysts"
- 12:10 pm - 12:30 pm Discussion
- 12:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session - Second Half of List (Posters #45-88)
- 6:00 pm Dinner
- 7:30 pm - 9:30 pm **Materials and Nanosciences**
- 7:30 pm - 7:40 pm Discussion Leader: **Mike Toney** (SLAC National Accelerator Laboratory)
- 7:40 pm - 8:20 pm **Laura Heyderman** (Paul Scherrer Institute)
"Emergent Magnetic Monopoles and Associated Dirac Strings in Artificial Kagome Spin Ice"
- 8:20 pm - 8:35 pm Discussion
- 8:35 pm - 9:15 pm **Cecilia Sanchez-Hanke** (Brookhaven National Laboratory)
"Studying magnetic interfaces with elliptically polarized soft x-rays"
- 9:15 pm - 9:30 pm Discussion

THURSDAY

- 7:30 am - 8:30 am Breakfast
- 8:30 am - 9:00 am Business Meeting
Nominations for the next Vice Chair; Fill out Conference Evaluation Forms; Discuss future Site & Scheduling preferences; Election of the next Vice Chair
- 9:00 am - 12:30 pm **Optics and Sources**
- 9:00 am - 9:10 am Discussion Leader: **Dennis Mills** (Argonne National Laboratory)
- 9:10 am - 9:50 am **Sarvjit Shastri** (Argonne National Laboratory)

"Crystal Optics and Short X-Ray Pulses"

- 9:50 am - 10:05 am Discussion
- 10:05 am - 10:35 am Coffee Break
- 10:35 am - 11:15 am **Gianluca Geloni** (European XFEL GmbH)
"Self-seeding at XFEL facilities: A path towards single-mode X-ray laser beams"
- 11:15 am - 11:30 am Discussion
- 11:30 am - 12:10 pm **Ken Evans-Lutterodt** (Brookhaven National Laboratory)
"Fabricating Phase Profile Modifying X-ray Optics such as Lenses and Prisms using Electron Beam and other Lithographies"
- 12:10 pm - 12:30 pm Discussion
- 12:30 pm Lunch
- 1:30 pm - 4:00 pm Free Time
- 4:00 pm - 6:00 pm Poster Session - Second Half of List (Posters #45-88)
- 6:00 pm Lobster Banquet Dinner
- 8:00 pm - 8:30 pm **Poster Award Talk**
Discussion Leader: **Harald Reichert** (ESRF)
- 8:00 pm - 8:20 pm Poster Award Talk
- 8:20 pm - 8:30 pm Discussion
- 8:30 pm - 9:30 pm **Hot Topics**
Discussion Leader: **Harald Reichert** (ESRF)
- 8:30 pm - 8:35 pm Discussion Leader: **Harald Reichert** (ESRF)
- 8:35 pm - 9:15 pm **Ken Finkelstein** (Cornell University)
"New Developments at Non-FEL Based X-ray Sources"
- 9:15 pm - 9:30 pm Discussion

FRIDAY

- 7:30 am - 8:30 am Breakfast
- 9:00 am Departure

Name	Organization	Participation	Status
ALTARELLI, MASSIMO	EUROPEAN XFEL	Discussion Leader	Registered
BABAKOL, TIMUR E	CORNELL UNIVERSITY	Poster Presenter	Registered
BARABASH, ROZALIYA I	OAK RIDGE NATIONAL LABORATORY	Poster Presenter	Registered
BARTY, ANTON	CENTRE FOR FREE ELECTRON LASER SCIENCE	Speaker	Registered
BEAN, RICHARD J	UNIVERSITY COLLEGE LONDON	Poster Presenter	Registered
BEDZYK, MICHAEL J	NORTHWESTERN UNIVERSITY	Attendee	Registered
BEERLINK, ANDRE	DEUTSCHES ELEKTRONEN-SYNCHROTRON DESY	Poster Presenter	Registered
BERRAH, NORA	WESTERN MICHIGAN UNIVERSITY	Speaker	Registered
BRAICOVICH, LUCIO	POLITECNICO OF MILAN	Speaker	Registered
BROCK, JOEL D	CORNELL UNIVERSITY	Speaker	Registered
CALIEBE, WOLFGANG A	HASYLAB AT DESY	Poster Presenter	Registered
CASTRO-COLIN, MIGUEL	MAX-PLANCK-INSTITUT FUER INTELLIGENTE SYSTEME	Poster Presenter	Registered
CHA, WONSUK	SOGANG UNIVERSITY	Poster Presenter	Registered
CHAMARD, VIRGINIE	PAUL CEZANNE UNIVERSITY	Speaker	Registered
CHANG, WEI-HAU	ACADEMIA SINICA INST. OF CHEMISTRY	Poster Presenter	Registered
CHEN, JIAN	PULSE@SLAC	Poster Presenter	Registered
CHEN, SI	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
CHODANKAR, SHIRISH N	PAUL SCHERRER INSTITUT	Poster Presenter	Registered
CHUPAS, PETER J	ARGONNE NATIONAL LABORATORY	Speaker	Registered
CLARK, JESSE N	LONDON CENTRE FOR NANOTECHNOLOGY	Poster Presenter	Registered
COATI, ALESSANDRO	SYNCHROTRON SOLEIL	Poster Presenter	Registered
COFFEE, RYAN N	LCLS-SLAC	Poster Presenter	Registered
DAKOVSKI, GEORGI L	LOS ALAMOS NATIONAL LABORATORY	Poster Presenter	Registered
DAS, RITESH K	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
DOSCH, HELMUT	DESY	Attendee	Registered
DURBIN, STEPHEN M	PURDUE UNIVERSITY	Poster Presenter	Registered
ELSEN, ANNIKA	UNIVERSITY OF KIEL	Poster	Registered

		Presenter	
EVANS, PAUL	UNIVERSITY OF WISCONSIN, MADISON	Poster Presenter	Registered
EVANS-LUTTERODT, KEN	BROOKHAVEN NATIONAL LABORATORY	Speaker	Registered
FEIDENHANSL, ROBERT	UNIVERSITY OF COPENHAGEN	Poster Presenter	Registered
FENG, ZHENXING	NORTHWESTERN UNIVERSITY	Poster Presenter	Registered
FERRARA, JOSEPH	RIGAKU AMERICAS CORP	Poster Presenter	Registered
FINKELSTEIN, KENNETH	CORNELL UNIVERSITY	Speaker	Registered
FISCHER, BIRGIT	DESY	Poster Presenter	Registered
FOLKMAN, CHAD M	ARGONNE NATIONAL LABS	Poster Presenter	Registered
FRITZ, DAVID M	STANFORD LINEAR ACCELERATOR CENTER	Speaker	Registered
FUOSS, PAUL H	ARGONNE NATIONAL LABORATORY	Attendee	Registered
GELONI, GIANLUCA	EUROPEAM XFEL GMBH	Speaker	Registered
GLOVER, ERNEST	LAWRENCE BERKELEY NATIONAL LABORATORY	Poster Presenter	Registered
GRUEBEL, GERHARD	HASYLAB AT DESY	Speaker	Registered
HALDRUP, KRISTOFFER	CENTRE FOR MOLECULAR MOVIES	Poster Presenter	Registered
HASTINGS, JEROME B	SLAC NATIONAL ACCELERATOR LAB	Attendee	Registered
HAYAMA, SHUSAKU	DIAMOND LIGHT SOURCE LTD	Poster Presenter	Registered
HEYDERMAN, LAURA	PAUL SCHERRER INSTITUT	Speaker	Registered
HIGHLAND, MATTHEW J	ARGONNE NATIONAL LAB	Poster Presenter	Registered
HRUSZKEWYCZ, STEPHAN O	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
HUANG, XIN	CORNELL UNIVERSITY	Poster Presenter	Registered
HULBERT, STEVEN L	BROOKHAVEN NATIONAL LABORATORY	Attendee	Registered
HUNG, LIWEI	LOS ALAMOS NATIONAL LABORATORY	Poster Presenter	Registered
ISHII, KENJI	JAPAN ATOMIC ENERGY AGENCY	Poster Presenter	Registered
JACH, TERRENCE J	NATIONAL INSTITUTE OF STANDARDS & TECHNOLOGY	Poster Presenter	Registered
JANG, WOO-SIK	YALE UNIVERSITY	Poster Presenter	Registered
JOUBERT, LYDIA-MARIE L	STANFORD UNIVERSITY	Poster Presenter	Registered
KAO, CHI-CHANG	STANFORD SYNCHROTRON RADIATION	Attendee	Registered

LIGHTSOURCE			
KIM, YONGSAM	CORNELL UNIVERSITY	Attendee	Registered
KIM, HYUNJUNG	SOGANG UNIVERSITY	Speaker	Registered
KO, JUN YOUNG PETER	CORNELL UNIVERSITY	Poster Presenter	Registered
KURTA, RUSLAN	DESY	Poster Presenter	Registered
LAL, JYOTSANA	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
LARSON, BENNETT C	ORNL	Attendee	Registered
LEAKE, STEVEN	PAUL SCHERRER INSTITUT	Poster Presenter	Registered
LEE, JUN-SIK	STANFORD SYNCHROTRON RADIATION LIGHTSOURCE (SSRL)	Poster Presenter	Registered
LEE, JAMES J	STANFORD UNIVERSITY	Poster Presenter	Registered
LI, LUXI	BROOKHAVEN NATIONAL LABORATORY	Poster Presenter	Registered
LIANG, MENGNING	CENTER FOR FREE ELECTRON SCIENCE	Poster Presenter	Registered
LU, WEI	UNIVERSITAET DUISBURG-ESSEN	Poster Presenter	Registered
LUDWIG, KARL	BOSTON UNIVERSITY	Discussion Leader	Registered
MACRANDER, ALBERT T	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
MAK, RACHEL	NORTHWESTERN UNIVERSITY	Poster Presenter	Registered
MARCH, ANNE MARIE	ARGONNE NATIONAL LAB	Discussion Leader	Registered
MARCUS, MATTHEW A	ADVANCED LIGHT SOURCE, LAWRENCE BERKELEY LAB	Attendee	Registered
MARGULIES, LAWRENCE	BROOKHAVEN NATIONAL LABORATORY	Poster Presenter	Registered
MENTZER, MARK A.	U.S. ARMY RESEARCH LABORATORY	Poster Presenter	Registered
MEZGER, MARKUS M	MAX PLANCK INSTITUTE FOR POLYMER RESEARCH	Poster Presenter	Registered
MIEDEMA, PITER	UTRECHT UNIVERSITY	Poster Presenter	Registered
MILLS, DENNIS M	ARGONNE NATIONAL LABORATORY	Discussion Leader	Registered
MIZUKI, JUN'ICHIRO	KWANSEI GAKUIN UNIVERSITY	Attendee	Registered
MUELLER, CHRISTINA	UNIVERSITY OF TORONTO	Poster Presenter	Registered
NAMIKAWA, KAZUMICHI	TOKYO UNIVERSITY OF SCIENCE	Poster Presenter	Registered

NATAN, ADI	PULSE INSTITUTE FOR ULTRAFAST ENERGY SCIENCE	Poster Presenter	Registered
NUGENT, KEITH A	UNIVERSITY OF MELBOURNE	Discussion Leader	Registered
OLIVO, ALESSANDRO	UNIVERSITY COLLEGE LONDON	Poster Presenter	Registered
PERRET, EDITH	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
PETROVIC, VLADIMIR S	STANFORD UNIVERSITY	Poster Presenter	Registered
PLAZA, MANUEL	CORNELL UNIVERSITY	Attendee	Registered
PUROHIT, GHANSHYAM	SIR PADAMPAT SINGHANIA UNIVERSITY	Poster Presenter	Registered
RAOLA, ORLANDO E	SANTA ROSA JUNIOR COLLEGE	Attendee	Registered
REICHERT, HARALD	E.S.R.F.	Vice Chair	Registered
REIS, DAVID A	STANFORD UNIVERSITY	Speaker	Registered
RELAIX, SABRINA	MCGILL UNIVERSITY	Poster Presenter	Registered
ROBERT, AYMERIC	LINAC COHERENT LIGHT SOURCE	Poster Presenter	Registered
ROBINSON, IAN	UCL	Attendee	Registered
ROGERS, MICHAEL C	MCGILL UNIVERSITY	Poster Presenter	Registered
SANCHEZ-HANKE, CECILIA	BROOKHAVEN NATIONAL LABORATORY	Speaker	Registered
SCHNEIDER, JOCHEN R	DESY	Attendee	Registered
SEECK, OLIVER H	DESY	Poster Presenter	Registered
SETTE, FRANCESCO	EUROPEAN SYNCHROTRON RADIATION FACILITY	Attendee	Registered
SHASTRI, SARVJIT D	ARGONNE NATIONAL LABORATORY	Speaker	Registered
SHEMILT, LAURA A	UNIVERSITY COLLEGE LONDON	Poster Presenter	Registered
SHEN, ZHI-XUN	STANFORD UNIVERSITY	Speaker	Registered
SHI, XIAOWEN X	UNIVERSITY COLLEGE LONDON	Poster Presenter	Registered
SHINOHARA, YUYA	UNIVERSITY OF TOKYO	Poster Presenter	Registered
SHPYRKO, OLEG	UNIVERSITY OF CALIFORNIA, SAN DIEGO	Speaker	Registered
SONG, SANGHOON	SOGANG UNIVERSITY	Poster Presenter	Registered
SPENCE, JOHN	ARIZONA STATE UNIVERSITY	Speaker	Registered
STARODUB, DMITRI	SLAC NATIONAL ACCELERATOR LABORATORY	Poster Presenter	Registered
STEPHENSON, G. BRIAN	ARGONNE NATIONAL LABORATORY	Chair	Registered

STERBINSKY, GEORGE E	NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY	Poster Presenter	Registered
STREMPFER, JORG	DESY	Poster Presenter	Registered
SUTTON, MARK	MCGILL UNIVERSITY	Poster Presenter	Registered
TADA, MIZUKI	INSTITUTE FOR MOLECULAR SCIENCE	Speaker	Registered
TALMAN, RICHARD M	CORNELL UNIVERSITY	Poster Presenter	Registered
TAMASAKU, KENJI	RIKEN	Poster Presenter	Registered
THIBAUT, PIERRE	TECHNICAL UNIVERSITY MUNICH	Speaker	Registered
THOMPSON, CAROL	NORTHERN ILLINOIS UNIVERSITY	Discussion Leader	Registered
TISCHLER, JON	OAK RIDGE NATIONAL LABORATORY	Poster Presenter	Registered
TONEY, MICHAEL F	STANFORD SYNCHROTRON RADIATION LIGHTSOURCE	Discussion Leader	Registered
UPTON, MARY H	ARGONNE NATIONAL LABORATORY	Attendee	Registered
VAN DRIEL, TIM B	RISOE - TECHNICAL UNIVERSITY OF DENMARK	Poster Presenter	Registered
VAN SCHOONEVELD, MATTI M	UTRECHT UNIVERSITY	Poster Presenter	Registered
VAN VEENENDAAL, MICHEL	ARGONNE NATIONAL LABORATORY/NORTHERN ILLINOIS UNIV	Discussion Leader	Registered
VERMAN, BORIS	RIGAKU INNOVATIVE TECHNOLOGIES, INC.	Attendee	Registered
VINSON, JOHN T	UNIVERSITY OF WASHINGTON	Poster Presenter	Registered
WANG, SHENGYU	BROOKHAVEN NATIONAL LABORATORY	Poster Presenter	Registered
WANG, FENGLIN	CFEL	Poster Presenter	Registered
WECKERT, EDGAR	DESY	Attendee	Registered
WEN, HAN H	NATIONAL INSTITUTES OF HEALTH	Poster Presenter	Registered
WILSON, LANE	U.S. DEPT. OF ENERGY, BASIC ENERGY SCIENCES	Attendee	Registered
WOCHNER, PETER	MAX-PLANCK-INSTITUTE FOR INTELLIGENT SYSTEMS	Poster Presenter	Registered
YAVAS, HASAN	DESY	Poster Presenter	Registered
YOU, HOYDOO	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
YOUNG, LINDA	ARGONNE NATIONAL LABORATORY	Attendee	Registered
ZHOU, HUA	ARGONNE NATIONAL LABORATORY	Poster Presenter	Registered
ZHU, DILING	SLAC NATIONAL ACCELERATOR	Poster	Registered

LABORATORY

Presenter

134 Attendees