

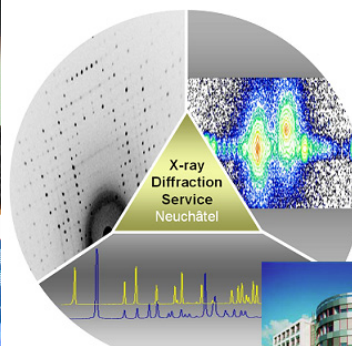


Schweizerische Gesellschaft für Kristallographie
Société Suisse de Cristallographie
Swiss Society for Crystallography

Sektion für Kristallwachstum und Kristalltechnologie
Section de Croissance et Technologie des Cristaux

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et de microtechnique
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SGK/SSCr NEWSLETTER

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April 2008

In this issue: 10th anniversary of the BENEFRI – small molecule crystallography service
Uranyl mediated photocleavage in proteins
Annual meeting of the SGK/SSCr in Zurich: **Call for Abstracts**
Annual membership fee 2008

On the Cover:

10th anniversary of the BENEFRI – small molecule crystallography service
Contribution of Helen Stoeckli-Evans (Helen.Stoeckli-Evans@unine.ch) on page 7

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Letter from the president

I am really happy that I do not have to write a daily column in a newspaper, it's hard enough to squeeze the quarterly *Letter from the President* out of my brain.

Let's start with telling you that I am really excited with the novel pixel detector Pilatus 6M (<http://pilatus.web.psi.ch/>), which is installed at the protein beamline at PSI. If you need a large dynamic range for measuring very weak beside very strong reflections, if you want to suppress unwanted fluorescence radiation or perform high-speed data collection, then this is the detector of choice. It opens the door to new science. The only but serious problem you will face is that it is strongly overbooked.

What else? On the shelf in front of my desk I see the green spines of all the volumes of the *International Tables for Crystallography* beside its predecessor *International Tables for the Determination of Crystal Structures* (ed. W.H. Bragg, M. von Laue, C. Hermann, Gebr. Borntraeger Berlin 1935). It is amazing to see how these two slim volumes of the first edition slowly transformed into the eight volume monster available nowadays. This quite disparate collection of everything that may be useful for crystallographic work is written in the characteristic styles of the different scientific disciplines the authors belong to, reflecting the heterogeneity of crystallography. From mathematical proofs to endless lists of parameters, from symmetry tables to tensors for physical properties, from methods to technical details of apparatuses, there is everything represented which might be useful for crystallography but one central topic of crystallography – structures.

Of course, there is no need anymore for a mere description of new structures like in the *Structure Report/Strukturbericht*. This can be much better done with structural data bases.

I see a need for a systematic classification and presentation of the fundamental structure types and structure building principles in a very formalized and schematized way. For intermetallics, this is to some extent done in the *Atlas of Crystal Structure Types for Intermetallic Phases* (Daams, Villars and van Vucht, ASM 1991) and *Pearson's Handbook of Crystallographic Data for Intermetallic Phases* (Villars and Calvert, ASM 1991). A similar compilation, less descriptive and more focusing on building principles for all kinds of structures should make up a few additional volumes of the *International Tables*.



Walter Steurer
President of the SGK/SSCr

The BENEFRI – small molecule crystallography service

Contribution of Helen Stoeckli-Evans (Helen.Stoeckli-Evans@unine.ch)

BENEFRI, a convention involving the universities of Bern, Neuchâtel and Fribourg, was established in 1993, and the branch convention in Chemistry was signed in 1994. The objective has been to promote cooperation between the Institutes of Chemistry of the three universities, to economize on heavy equipment and to establish joint teaching and research projects. The **BENEFRI - small molecule crystallography service** was established in June 1997 with this aim in mind.

Over the last 10 years we have acquired two Stoe Image Plate Diffraction Systems, both equipped with Oxford Cryosystems cryostreamers, and a Stoe high resolution powder diffractometer equipped with a variable temperature cryostreamer. Collaborators involved in the service have included: *Dr. Antonia Neels*, who is now responsible for the new X-ray Diffraction Service created in Oct. 2006, and post-docs: *Dr. Eduard Rusanov* (now in Kiev); *Dr. Gael Labat* (now in Bern); and *Dr. Lydia Karmazin Brelot* (now in Strasbourg).

Over the last 10 years we have examined over 3000 crystals and measured at least 2500 of them. This has led to approximately 250 successful structure analyses per year, and 20 to 25 publications per year in which a member of the service has been involved.

Approximately 40 people gathered in Neuchâtel to celebrate the 10th anniversary and to listen to three speakers on very different subjects involving crystallography. They included: *Prof. Silvio Decurtins*, Department of Chemistry and Biochemistry of the University of Bern who talked to us about "*Structural Aspects and Properties of Molecular Assemblies*" and how important the choice of anion is to crystallize some very interesting compounds with intriguing physical properties; *Prof. Martin Albrecht*, Department of Chemistry of the University of Fribourg, who showed how crystal structures analyses contributed to "*Pushing the Basicity of Carbene Ligands: New Opportunities in Catalyst Development*"; and *Prof. Alex Dommann* of the Swiss Center for Electronics and Microelectronics (CSEM), who discussed "*Crystallography of Perfect Crystals*" and how important diffuse scattering is to examine lattice strain and texture



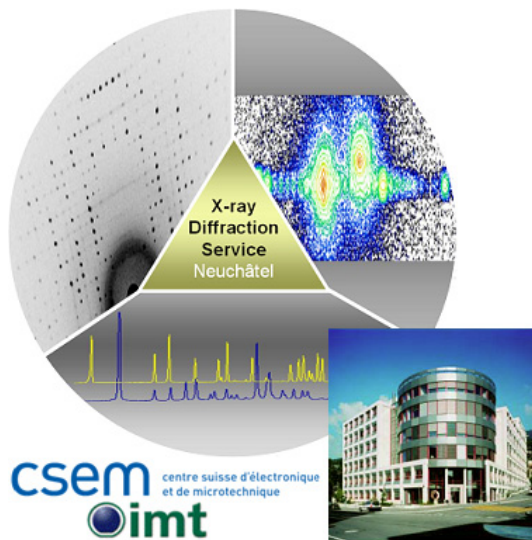
Satisfied customers:

In the foreground on the left Prof. Peter Belser, Institute of Chemistry, University of Fribourg, and to the right Prof. Silvio Decurtins, Department of Chemistry and Biochemistry, University of Bern.

during the process development of devices in microtechnology.

In October 2006 a new X-ray Diffraction Service was created in collaboration with the Institute of Microtechnology of the University of Neuchâtel and the Swiss Center for Electronics and Microelectronics (CSEM).

The service continues to cater for the needs of the BENEFRI community and is also open to other University and Industrial customers. More information can be found on the web site <http://www2.unine.ch/XRD>



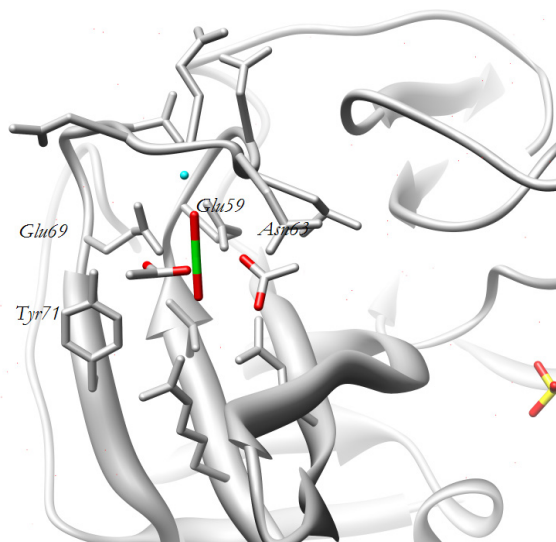
Uranyl mediated photocleavage in proteins

Contribution of Annasara Dahlström and Marc Schiltz

Laboratoire de Cristallographie, École Polytechnique Fédérale de Lausanne
CH-1015 Lausanne, Switzerland (annasara.dahlstrom@epfl.ch)

Uranyl ions absorb light in the UV-visible region and have been found to bind to and cause photo-cleavage in biomolecules such as proteins and nucleic acids. In DNA, the uranyl ion binds to the phosphate backbone of the molecule and can potentially cleave the molecule between any base pair along the chain. In proteins, this binding and thereby the induced structural changes, are much more specific. One of many uranyl-binding proteins is porcine pancreatic elastase (PPE).

In this study, elastase-crystals have been soaked in a uranyl-containing buffer and several data sets have been collected in house and at the synchrotron at both room temperature and at 100 K. The uranyl binds with high occupancy in a single position close to the well-known calcium/sodium binding-site (Figure). Only small conformational changes compared to the native structure are seen upon ligand binding. These changes originate from amino acids moving either to accommodate space for (Tyr71) or to co-ordinate the ligand (Glu59, Glu69). The most significant change is found in the backbone conformation of Leu62 and Asn63, where the torsion angles go from typical α -helix to the less favourable left-handed helix. In addition, two acetates bind to the uranyl. However, the sodium ion is not moving from its native site.



After irradiation (400nm, 2h), the overall structure is still that of the un-irradiated structure. Observed changes are seen in the direct proximity of the uranyl ion. The density of the backbone carbon for Asn63 has completely disappeared and the side chain has degraded significantly. The densities of the acetates have also degraded and only the positions of the coordinating oxygens are visible.

References:

- Duff Jr, M. R., Kumar, C.V., Site-selective photocleavage of proteins by uranyl ions. *Angewandte Chemie –International Edition* **2006**, 45, 137-139.
Nielsen, P.E., Jeppesen, C., Buchardt, O., Uranyl salts as photochemical agents for cleavage of DNA and probing of protein-DNA contacts. *FEBS Letters* **1988**, 235, 122-124.

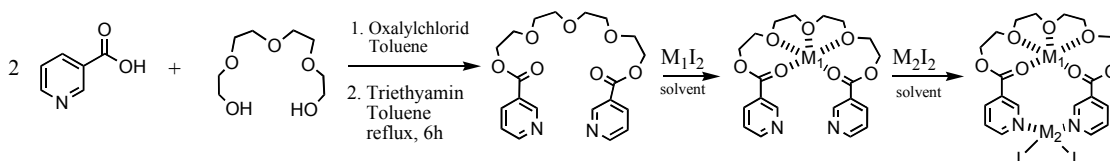
Mixed metal compounds for oxide materials

Contribution of Fabienne Gschwind and Katharina M. Fromm
University of Fribourg, Chemin du Musée 9, CH-1700 Fribourg, Switzerland

Introduction:

Complexes of alkaline and earth alkaline metal ions may provide precursors for the synthesis of high- T_c superconductors. Previous work has dealt with the synthesis of alkali and alkaline earth metal compounds, aiming among other properties also at the volatility of the products and their capacity of forming oxides [1]. We propose i) to make single source precursors with functional open polyether molecules, as well as ii) to use such compounds in new optical applications in nanotechnologies.

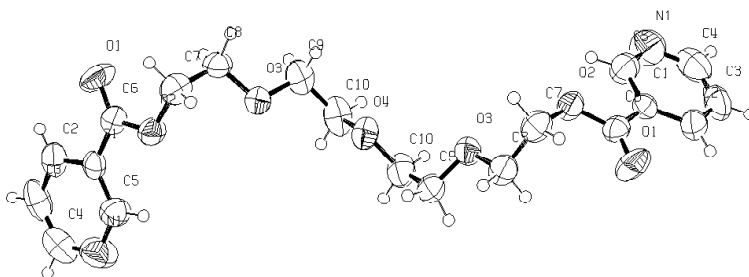
We developed a ligand system which allows the coordination to different metal ion types by different ligating atoms. With alkaline earth metal ions such as Ca^{2+} , the ligand wraps around the metal ion, yielding a complex in which the nitrogen atoms are oriented such as to accommodate very likely another, e.g. transition metal, ion.



Results:

1) Ligand (L) [$\text{C}_{20}\text{H}_{24}\text{O}_7\text{N}_2$]

We chose the ligand tetraethylene glycol bis nicotinic acid (L) for its potential to coordinate to two different metal ions for the generation of bimetallic species (Scheme1). Due to its quite long polyether chain, L can adopt different conformations and adapts therefore easily to any proposed metal ion. This ligand can be synthesized in two steps.



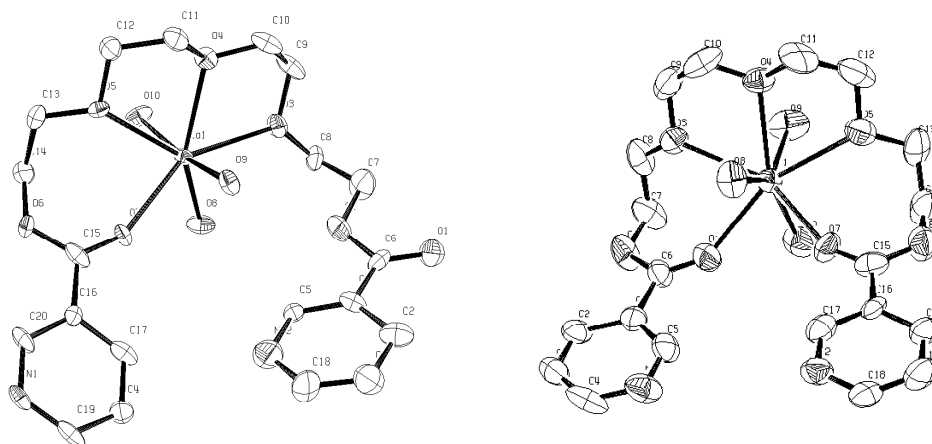
2) Monometallic complexes: Two isomers of $[\text{Ca}(\text{L})(\text{H}_2\text{O})_3]\text{I}_2$, **1** and **2**

We started to investigate the ligand L by studying its coordination behaviour to one metal ion type alone, M_1 or M_2 . In the first case, we analyzed the complexation behaviour of the ligand L with Ca^{2+} -ions.

With CaI_2 , the ligand forms two different complexes under identical synthetic conditions. The first complex **1** crystallises in the monoclinic space group $\text{P}2_1/\text{c}$. The calcium ion is seven-coordinated, due to an "asymmetric" coordination of the ligand: one carbonyl group is pointing towards the calcium ion, the other one is pointing

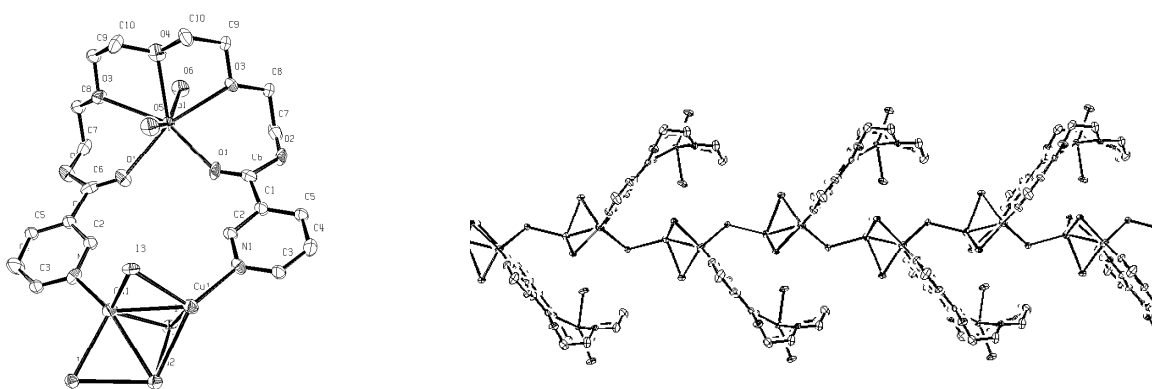
outside. The second complex of the same chemical composition is "symmetrically" built with both carbonyl groups pointing towards the metal ion. **2** crystallises in the monoclinic space group $P2_1/n$ and the calcium ion poses an 8-coordination.

Repeated synthesis of the complexes, which are obtained under similar conditions, leads most frequently to the formation of **1**. This is possibly due to the fact that **2** has two rather strained metallacycles.



Bimetallic compound $[CaCu_3(L)I_5(H_2O)_2]$, **3**

Obtaining compound **3**, we reached the goal of a bimetallic compound by adding slowly CuI to a mixture of CaI_2 and **L** in chloroform. In the solid state, compound **3** crystallises in the orthorhombic space group $Pnma$. **3** presents a 1D-polymer structure in which the chain backbone is formed by Cu_3I_4 – cluster units linked via iodide ions. In contrast to **2** the calcium cation completes its coordination number of eight with two water molecules and one iodide.



Conclusions

A multitopic ligand approach for the synthesis of mixed metal compounds is described herein. With our ligand system it is possible to coordinate successively two different metal ions. Two calcium complexes, and a bimetallic compound were synthesised and fully characterised.

[1] K. M. Fromm, *Dalton Transactions*, **2006**, (43), 5103-5112.

News for and from members

We welcome the following new members of the SGK/SSCr:

personal members

Loïc le Dreau

(Université de Rennes & LNS PSI/ETH Zurich/CNRS/ESM, Science Chimiques, Bât 10b, Campus Beaulieu, FR-35000 Rennes, thesis student)

Delphine Phanon

(Laboratoire de Cristallography, Université de Genève, Quai E. Ansermet, CH-1211 Genève, post doc)

Flavio Pendolino

(EMPA, Hydrogen and Energy, Überlandstrasse 129, CH-8600 Dübendorf, thesis student)

Peter Mandaliev

(Laboratory for Waste Management, Paul Scherrer Institute, OHL-004, CH-5232 Villigen PSI, thesis student)

Sebastian Basso

(EPF Lausanne, Laboratoire de Cristallography, BSP 518, CH-1015 Lausanne, post doc)

corporate members

Stoe & CIE GmbH, Box 101302, DE-64213 Darmstadt, Germany

(www.stoe.com)

PANalytical B.V., Allmendstrasse 140, CH-8041 Zürich, Switzerland

(www.panalytical.com)

Travel grants for young SGK/SSCr members

The committee will award the grants according to the following rules:

- Preference is given to PhD students
- Proof has to be given that there are no grants available covering the expenses
- A supporting letter by the supervisor of the applicant is necessary

If you wish to apply for a travel grant, please send the above mentioned documents to the president of the SGK/SSCr anytime.

Details for applications are given at:

<http://www.sgk-sscr.ch/TravelGrants.pdf>

2008 SGK/SSCr Membership Fee

I would like to take the opportunity to thank all the members for promptly paying their membership fees. They will remain unchanged for 2008.

SGK/SSCr full member	30 CHF / year
SGK/SSCr student member	10 CHF / year
SGK/SSCr institutional member	130 CHF / year

- Please pay the fee for 2008 by the end of May **by bank transfer** to the UBS account: IBAN CH39 0027 9279 C029 1110 0 , BIC: UBSWCHZH80A
Please avoid to pay in cash at a post office (PC 80-2-2, UBS Zürich, Account No. 230-C0291110.0) as Postfinance is charging handling fees to the society.
- Several of the fees for 2007 and even a few for 2006 are still missing. A cover letter indicating the **total amount due** has been included with this newsletter to the members concerned (a negative balance means that you paid in advance and no action is needed).
- **Institutional members will be mailed a special invoice.**
- Individual members of the ECA must pay their membership directly to ECA (ECA accepts credit cards).

Thank you for your cooperation.

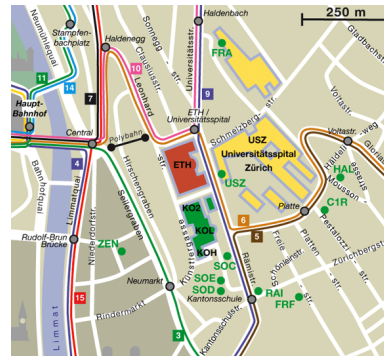
Your treasurer,
Michael Hennig

Annual Meeting of the SGK/SSCr at the University of Zurich, September 8-9, 2008

Joint meeting of the SGK and the National Center of Competence in Research for Structural Biology

Location

Main Building University of Zürich City
Lecture Hall KOH B10
between Künstlergasse and Rämistrasse



Scope of the Meeting

- Bring together the national center of competence in research 'structural biology' and swiss society for crystallography
- Use the annual meeting of both organizations for a joint meeting
- Majority of lectures organized by the NCCR, one afternoon with lectures focused to more crystallographic topics followed by the annual general meeting of the SGK

Registration:

Until **Aug. 29, 2008** at <http://www.structuralbiology.uzh.ch/symposium2008.asp>
Further information: Dr. Patrick Sticher Moser

Confirmed Speakers

NCCR

Markus Grütter
Stephen Kowalczykowski
Kaspar Locher
Keiichi Namba

Poul Nissen

Andrej Sali
Titia Sixma
Jeffrey Skolnick
A. Joshua Wand

SGK

Clemens Schulze-Briese
Colin Nave

Conferencene Dinner SGK/SSCr

Tuesday, Sept. 9, 2008, time: 19h, Place: Restaurant Linde Oberstrass,
Universitätstrasse 91, 8006 Zürich (Tram 10, <http://www.linde-oberstrass.ch>)

Reservations: cornelia.aurelio@mat.ethz.ch, **no later than Aug. 2, 2008.**

Organizing committee:

(* Posters (format A0 portrait) on any crystallographic subject may be presented during the whole meeting.

Contributors are kindly asked to send their **abstracts** as a word file to Michael.Hennig@Roche.com **no later than Aug 2, 2008**

Abstracts will be printed in our Newsletter No. 75 and the conference proceedings.

Detailed meeting information and abstract template
<http://www.sgk-sscr.ch>

SNBL Workshop on simultaneous Raman-X-ray diffraction/absorption studies for the *in situ* investigation of solid state transformations, and reactions at non ambient conditions.

The workshop will be held on 18th and 19th of June 2008 at the ESRF

X-ray diffraction (XRD) and absorption spectroscopy (XAS) are the principal techniques used to investigate long and short-range order of atoms and molecules in the solid state, respectively. The Raman technique, in contrast, has the ability to probe the length scale between these two extremes. The synergy between these methodologies has attracted application to many scientific studies where the Raman and XRD or XAS techniques have been previously performed *ex-situ*. SNBL has a long record in combining HRPD and XAFS methods. Recently Raman scattering has been added to the experimental techniques available at SNBL.

A research grade Raman spectrometer has recently been installed at SNBL and is successfully coupled to all our X-ray instruments.

We are now capable to perform combined in-situ X-ray + Raman experiments at:

- low and high temperature and/or
- up to 200 bar gas pressures and/or reducing/oxidizing conditions or
- high pressure in a diamond anvil cell

We believe this new approach will open up many new avenues of research and offer vital new detail in the study of materials and solid state sciences.

The project has advanced to a state where we will be able to support this technique as an additional standard tool for our users. We believe the time has come to communicate the new opportunities to our user community and anyone else interested.

A workshop will be organized with expert speakers in the field of Raman scattering. We will emphasize the complementarities of Raman scattering to diffraction and absorption techniques and show how to exploit this extra dimension. Scientific cases in the field of Materials Science, Geophysics, Zeolite Chemistry, Solid State Chemistry, Catalysis, and Biology will be given as well as an overview of the available instrumentation at SNBL and other synchrotron beam lines.

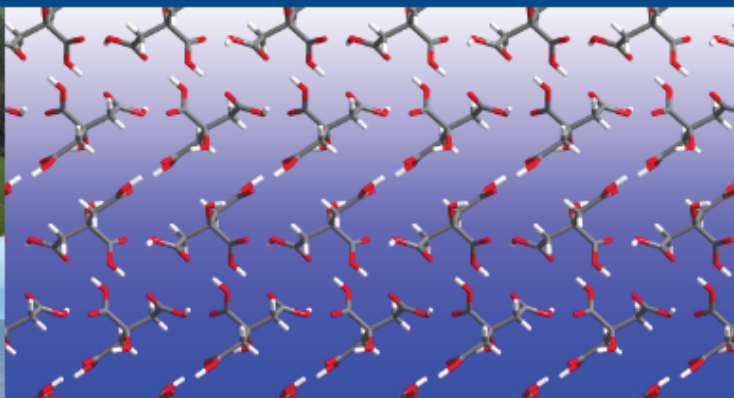
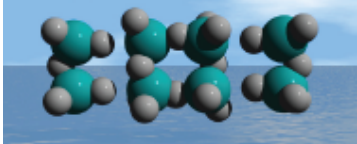
Participants are welcome to present their work with posters and oral presentations will be selected on the basis of abstracts.

Please send your abstract to: wouter@esrf.fr

June 18th–22th, 2008 • Paul Scherrer Institut • 5232 Villigen PSI • Switzerland

Structure Determination from Powder Diffraction Data

A Hands-on Workshop on X-rays, Synchrotron Radiation and Neutron Diffraction Techniques



Organizers

R. Černý (Uni-Geneva)
 F. Gozzo (SLS-PSI)
 A. Guagliardi (IC-CNR, Bari)
 N. Masciocchi (Uni-Insubria, Como)
 J. Schefer (LNS/SINQ-PSI)
 D. Sheptyakov (LNS/SINQ-PSI)

Teachers

A. Altomare (IC-CNR, Bari)
 H.-B. Bürgi (Uni-Bern)
 R. Černý (Uni-Geneva)
 B. David (ISIS, Rutherford Appleton Laboratory, UK)
 N. Finney (Uni-Zurich)
 F. Gozzo (SLS-PSI)
 A. Guagliardi (IC-CNR, Bari)
 B. Hinrichsen (Bruker GmbH, Karlsruhe)
 N. Masciocchi (Uni-Insubria, Como)
 V. Pomjakushin (LNS/SINQ-PSI)
 J. Rius (ICMAB-CSIC, Barcelona)
 R. Rizzi (IC-CNR, Bari)
 J. Rodríguez-Carvajal (ILL, Grenoble)
 D. Sheptyakov (LNS/SINQ-PSI)

Scope

Guide the students through the process of the structure solution from powder diffraction data, starting with the tips and tricks of sample preparation and optimized data collection strategies through those of determining a plausible structural model and of refining it.

Topics

- Fundamentals of crystallography
- Fundamentals of X-ray powder diffraction (XRPD), laboratory and synchrotron instrumentation and geometries, sample preparation
- Modeling of a powder diffraction pattern
- Indexing, intensity extraction and space group determination
- Reciprocal and direct-space structural solution methods
- Rietveld structure refinement
- Neutron powder diffraction and its complementarity to X-ray diffraction
- Non-conventional approaches to structure solution
- Pharmaceutical applications of X-ray powder diffraction

Registration details and deadlines

<http://user.web.psi.ch/powder08/>



7th PSI Summer School on Condensed Matter Research

August 16-22, 2008

Probing the Nanometer Scale with Neutrons, Photons and Muons

The properties of a material may be dramatically altered either when one or more of its spatial **dimensions are reduced to the nanometer scale or within nanometer distances** from an interface to another material with very different properties. The latter proximity effect may lead to very **strong coupling between properties such as magnetism, resistivity, superconductivity, ferroelectricity**, etc. In this school we will show how **neutrons, synchrotron X-rays and muons** can be used to probe these materials and detect **new phenomena on the nm scale**. Various **techniques based on the use of neutrons, muons and photons** (powder diffraction, small angle scattering, reflectometry, muon spin rotation/relaxation, real space imaging and X-ray circular dichroism) will be introduced and **examples from the fields of superconductivity, magnetism, ferroelectricity, material science, food science and soft matter science** will be presented.

The school is addressed mainly to the education of PhD and postdoctoral students without prior knowledge of neutron, X-ray and muon techniques. It is fully open to the Swiss and international public. The language of the school is English.

More information, registration etc: <http://num.web.psi.ch/zuoz2008/>

Space groups and their generalizations: A tribute to E. Ascher and J.J. Burckhardt

Contribution of Hans Grimmer (Hans.Grimmer@psi.ch)

A microsposium will be held at the **XXI IUCr congress in Osaka** dedicated to Edgar Ascher and Johann Jakob Burckhardt, who worked in Geneva and Zürich, respectively, and made important contributions to crystallography, in particular to the theory of space groups. Both died in 2006; obituaries were published in the SGK/SSCr Newsletter, in No. 69 for E. Ascher and in No. 70 for J.J. Burckhardt.

The microsposium will contain three invited contributions by Aloysio Janner, Peter Zeiner and Bernd Souvignier as well as a talk by Yoshinori Teshima.

Aloysio Janner will speak about his work with Edgar Ascher on algebraic, geometric, arithmetic, crystallographic, computational and material oriented aspects of space groups, leading eventually to higher-dimensional space groups acting on a lower-dimensional space.

Peter Zeiner will discuss coset and double coset decompositions of space groups G and how they have been applied to phase transitions and twins in crystals. Closely connected to coset decompositions are colour groups. A special kind of colorings is formed by the Bravais colorings, which lead him to similar sublattices and the group of similarity rotations, which is a supergroup of the point group of G . In between these two groups is the group of coincidence rotations. Thus he arrives at coincidence site lattices and grain boundaries and returns to twins.

Bernd Souvignier will concentrate on Burckhardt's derivation of the 230 space group types, which placed the earlier work of Schoenflies and Fedorov in the modern algebraic context of cohomology theory. Burckhardt's approach via Frobenius congruences in particular freed space group theory from dimensional constraints. He will discuss also Burckhardt's crystal clear article with B. L. van der Waerden about colour symmetry, which clarified the ideas around that topic and influenced a generation of researchers.

Yoshinori Teshima will report on the space groups of periodic cylinder packings consisting of congruent infinitely long cylinders with axes in the six $\langle 110 \rangle$ directions, each cylinder being fixed by cylinders of other directions, so that the whole structure sustains mechanical stability.

The microsposium is scheduled as **MS89 on Saturday, August 30, 9⁵⁵ - 12³⁰**. You are cordially invited to attend.

Hans Grimmer, Chairman of MS89



NEWS



The call for proposals is now open.

The 4th call for proposals is open until September 15, 2008

EVENTS: Announcement of the 4th call

- May 06, 2008, 3:00 pm EPFL Lausanne
- May 15, 2008, 3:00 pm ETH Zürich
- May 21, 2008, 3:00 pm EMPA Dübendorf

CCEM Informationsveranstaltungen zum Thema:
New opportunities in the 4th call for proposals

Donnerstag, 6. Mai 2008, 15.00 Uhr Campus EPFL, Lausanne, Raum BC01

Dienstag, 15. Mai 2008, 15.00 Uhr ETH Zürich, Raum ML J 25

Mittwoch, 21. Mai 2008, 15.00 Uhr EMPA Dübendorf, Akademie

Calls for proposals

**Beside normal proposals, most facilities allow urgent beam time requests.
Please check directly with the facility.**

Facility	Deadline(s)	Link
SLS: Swiss Light Source All except PX lines Protein beam lines (PX)	March 15, Sept. 15 Feb. 15, June 15, Oct. 15	user.web.psi.ch user.web.psi.ch
SINQ: Swiss Spallation Neutron Source All instruments (regular calls) *SANS-II: operational but not open for the May-15-call	May 15* , Nov. 15	user.web.psi.ch
SμS: Swiss Muon Source ALC, DOLLY, LEM GPS, LTF, GPD	Dec. 3 June 2, Dec. 3	user.web.psi.ch
ESRF: European Synchrotron All instruments, long term proposals All instruments, short term proposals	Jan. 15 March 1, Sept. 1	www.esrf.fr www.esrf.fr
SNBL: Swiss Norwegian Beam Line	March 1, Sept. 1	www.esrf.fr/ exp_facilities/BM1A
ILL: Institut Laue Langevin All instruments	Sept. 16, 2008	www.ill.fr
FRM-II All instruments	July 25, 2008	user.frm2.tum.de

Calendar of forthcoming meetings

(please mail missing information on meetings of interest to Jurg.Schefer@psi.ch)

			Abstract Deadline
2008			
May 6-10	Rigi Kulm CH	Erasmus Mundus: MaMaSelf Materials Science Workshop http://diffraction.web.psi.ch/mamaself-rigi-ch	expired
May 18-24	Grenoble France	Synchrotron Radiation and Neutrons for High Pressure Studies, www.esrf.eu/events/conferences/HSC/HSC7	expired
May 18-25	Beatenberg CH	IWCGT-4 Fourth International Workshop on Crystal Growth Technology http://www.beatenberg.ch/IWCGT-4	Jan. 31, 2008 (early registration)
May 31 – June 5	Knoxville USA	Annual Meeting of the American Crystallographic Society www.hwi.buffalo.edu/ACA	expired
May 29 – June 8	Erice Italy	International School of Crystallography: From Molecules to Medicine, http://www.crystalerice.org	expired
June 18-19	ESRF Grenoble, Fr	SNBL Workshop on simultaneous Raman-X-ray diffraction/absorption studies, wouter@esrf.fr http://www.esrf.eu/UsersAndScience/Experiments/CRG/BM01/raman_workshop/Raman%20Workshop.pdf	See add in this issue
June 18-22	Villigen CH	International School on Structure Determination from Powder Diffraction Data, http://user.web.psi.ch/powder08	Registration: ~15.3.2008
June 22- July 5	Zurich CH	The Zurich School of Crystallography http://www.oci.unizh.ch/diversa/xtal_school	Registration: March 15, 2008
July 6-11	Zurich CH	10 th International Conference on Quasicrystals, ICQ10 http://icq10.ethz.ch	Jan 15, 2008
August 16-22	Zuoz CH	Zuoz 2008, PSI Summer school: Probing the nanometer scale with Neutrons, Photons and Muons	June 30, 2008
August 23-31	Osaka Japan	IUCr-2008, 21 st General Assembly and Congress of IUCr http://www.congre.co.jp/iucr2008	April 20, 2008
August 25-29	Rome Italy	14 th General Conference of the European Physical Society 22 nd General Conference of its Condensed Matter Division http://www.cmdconf.org/eps14/program.html	April 7, 2008
Sept. 9-14	Sydney Australia	WATOC-08 World Association of Theoretical and Computation Chemists, http://www.watoc2008.com/	to be announced
Sept. 8/9	Zürich CH	Annual Meeting 2008 of the SGK/SSCr, joint meeting with the NCCR (Structural Biology) www.structuralbiology.uzh.ch/symposium2008.asp	Aug. 29, 2008
Sept. 9	Zürich CH	General Assembly/Dinner of the SGK/SSCr	Aug. 2, 2008
Sept. 18-22	Warsaw Poland	EPDIC-11 European Powder Diffraction Conference http://www.epdic-11.eu	April 30, 2008
Sept. 18	Warsaw Poland	Software workshop at EPDIC 11 http://www.sgk-sscr.ch/EPDIC11/SoftwareWorkshop.html	April 30, 2008
Sept. 29- Oct. 1	Pfäffikon SZ Switzerland	7 th International Workshop on Catalytic Combustion and «Future Concepts in Energy Related Catalysis» 2008 http://iwcc7.web.psi.ch/	expired
Oct. 14-17	Bern CH	Annual Meeting of the Swiss Academy of Science http://www.scnat.ch	to be announced
Nov. 17-20	Ghent Belgium	14 th International Conference on Thin Films http://www.ICTF14.UGent.be	to be announced

2009

August 7-9	Istanbul Turkey	Symmetry and Crystallography in Turkish Art and Culture, Satellite Conference of the ECM-25 www.lcm3b.uhp-nancy.fr/mathcryst/istanbul2009.htm	to be announced
August 9-14	Istanbul Turkey	ECM-25: European Crystallographic Meeting http://www.ecm25.org	to be announced

2010

			to be announced
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2011

	Madrid Spain	IUCr-2011, 22 nd General Assembly and Congress of IUCr	to be announced
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2012

Aug. 27-30	Darmstadt Germany	EPDIC-12	to be announced
Aug. 29 – Sept. 3	Darmstadt Germany	ECM-26	to be announced

2013

Aug/Sept.	Bergen Norway	ECM-27	to be announced
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Become a member of SGK/SSCr

If you are working in the field of crystallography, you will be interested to become a member of our society. For more information as well as online registration, please have a look on our website (<http://www.sgk-sscr.ch>). Presently, the yearly membership fee is sfr. 30 (sfr. 10 for students). For new members, the membership is free until the end of 2007. Please note: SGK/SSCr members can also apply to be a member of the subsection crystal growth (no additional charge) or for individual membership of the European Crystallographic Association, ECA (additional charge: 10 Euro).

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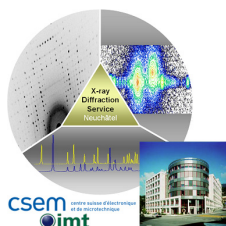
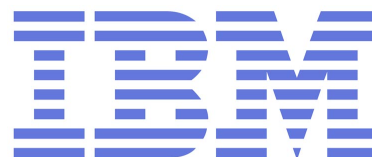
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Mobile phone	+ ()
E-Mail	@
Interest	
Membership subsection crystal growth	Yes () No ()
Birth date	Day: Month: Year:
Language(s)	
Major research interests	
Highest degree received	
from university	
Present position	

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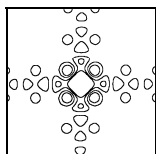
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