

***ixs2004***

**5th International  
Conference on**

**Inelastic X-Ray Scattering**

**Comprehensive  
Program**



## COMPREHENSIVE PROGRAM

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**SUNDAY, SEPTEMBER 19, 2004**

7:00 pm

**Informal welcome reception**

Argonne Guest House

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**MONDAY, SEPTEMBER 20, 2004**8:00 am                      **Registration**

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**Session 1**Chair: *M. Klein*8:30 am-8:45 am            **Welcome remarks**8:45 am-9:20 am            **Steps in the right direction: IXS on the way between Haikko and Argonne**  
*Winfried Schuelke, University of Dortmund (emeritus)*9:20 am-9:40 am            **Inelastic x-ray scattering in x-ray and neutron sources: DOE perspective**  
*Pedro Montano, Department of Energy*9:40 am-10:00 am          **Coffee break**

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**Session 2**Chair: *P. Montano*10:00 am-10:40 am         **Theory of correlated electron systems**  
*G. Kotliar, Rutgers University*10:40 am-11:10 am         **Magnetic Compton Scattering as a probe of correlated electron materials**  
*A. Bansil, Northeastern University*11:10 am-11:40 am         **Theory of RIXS in strongly correlated electron systems**  
*S. Maekawa, Tohoku University*11:40 am-12:10 pm         **RIXS Studies of Charge Neutral Excitations in Cuprates**  
*John Hill, Brookhaven National Laboratory*12:10 pm-1:30 pm          **Lunch**

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**Session 3**Chair: *J. Mizuki*1:30 pm-2:00 pm            **Hole concentration and temperature dependence of Mn 3d orbital state in bilayer manganites: A Magnetic Compton scattering study**  
*A. Koizumi, University of Hyogo*2:00 pm-2:30 pm            **IXS in superconductors**  
*A. Baron, Spring-8/JASRI, Hyogo*2:30 pm-2:50 pm            **RIXS study of hole doped manganites**  
*K. Ishii, Spring-8/JASRI, Hyogo*2:50 pm-3:10 pm            **RIXS in manganites**  
*S. Grenier, Brookhaven National Laboratory*3:10 pm-3:30 pm            **Break**

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### Session 4

Chair *M. van Veenendaal*

- 3:30 pm-4:00 pm      **Resonant Inelastic X-Ray Scattering and its MCD**  
*A. Kotani, RIKEN/Spring-8 and Photon Factory/KEK*
- 4:00 pm-4:30 pm      **Correlation functions measured in indirect resonant IXS**  
*J. van den Brink, Leiden University*
- 4:30 pm-5:00 pm      **Dynamical structure factor of correlated materials**  
*A. Eguluz, University of Tennessee*
- 6:00 pm                **Dinner**

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**TUESDAY, SEPTEMBER 21, 2004**

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**Session 5**Chair: *D. Price*

- 9:00 am-9:30 am      **Liquid dynamics in high melting materials**  
*Harald Sinn, APS, Argonne National Laboratory*
- 9:30 am-10:00 am    **Fragility of liquids or fragility of glasses?**  
*Tullio Scopigno, University of Roma, La Sapienza*
- 10:00 am-10:30 am   **Anomalous vibrational properties of disordered solids**  
*Walter Schirmacher, Technical University of Munich*
- 10:30 am-10:50 am   **Break**

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**Session 6**Chair: *U. Bergmann*

- 10:50 am-11:20 am   **The local structure of water from ambient to supercritical conditions:  
New insight from X-Ray Raman scattering**  
*Philippe Wernet, BESSY*
- 11:20 am-11:50 am   **Compton scattering on water and aqueous solutions**  
*Keijo Hamalainen, University of Helsinki*
- 11:50 am-12:20 pm   **Observation of fast sound in metal-nonmetal transition in liquid Hg**  
*Masanori Inui, University of Hiroshima*
- 12:20 pm-2:00 pm    **Lunch**

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**Session 7**Chair: *A. Chumakov*

- 2:00 pm-2:30 pm      **Nuclear resonant inelastic x-ray scattering**  
*Wolfgang Sturhahn, APS, Argonne National Laboratory*
- 2:30 pm-3:00 pm      **Vibrational density of states of amorphous binary alloy films**  
*Werner Keune University of Duisburg-Essen*
- 3:00 pm-3:30 pm      **Molecular rotations studied by nuclear resonant scattering**  
*Tanja Asthalter, University of Stuttgart*
- 3:30 pm-4:00 pm      **X-Ray Raman scattering on Si L edge of Si and amorphous SiO**  
*C. Sternemann, University of Dortmund*
- 4:00 pm -5:30 pm      **POSTER SESSION**
- 6:00 pm                 **Dinner**

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### WEDNESDAY, SEPTEMBER 22, 2004

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#### Session 8

Chair: *G. Shenoy*

- 9:00 am-9:30 am      **Nuclear resonant scattering : principles and applications to biology**  
*A. Chumakov, ESRF*
- 9:30 am-10:00 am    **Vibrational density of states in proteins and its model compounds**  
*T. Sage, Northeastern University*
- 10:00 am-10:30 am   **Dynamics of myoglobin**  
*F. Parak, Technical University of Munich*
- 10:30 am-11:00 am   **Break**

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#### Session 9

Chair: *S. Durbin*

- 11:00 am-11:30 am   **Vibrational Spectroscopy of Fe-S proteins**  
*S. Cramer, University of California, Davis*
- 11:30 am-12:00 pm   **Phonon studies of liquid crystalline DNA**  
*S. H. Chen, MIT*
- 12:00 pm-12:30 pm   **Dynamics of liquids**  
*Marie-Louise Saboungi, CNRS-Orleans, France*
- 12:30 pm-2:00 pm    **Lunch**
- 2:00 pm                **Excursion to Chicago River, Lake Michigan, and the Millennium Park**  
  
**After dinner guest: Murray Gibson, Director of the APS**

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**THURSDAY, SEPTEMBER 23, 2004**

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**Session 10**Chair: *D. Häusermann*

- 9:00 am-9:30 am      **Electronic properties of transition-metal oxides at extreme conditions**  
*J.P. Rueff, University of Paris*
- 9:30 am-10:00 am    **Anisotropy in elastic properties of hcp iron under high pressure**  
*G. Wortmann, Paderborn University*
- 10:00 am-10:30 am   **IXS in alkali metals under high pressure: phonons and bulk plasmons**  
*K. Syassen, MPI Stuttgart*
- 10:30 am-11:00 am   **Break**

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**Session 11**Chair: *M. Krisch*

- 11:00 am-11:30 am   **Nuclear Resonant IXS in Kr clathrates**  
*J. Tse, National Research Council –Ottawa /University of Saskatchewan*
- 11:30 am-12:00 pm   **Pressure induced phase transitions in FeS via nuclear resonant IXS**  
*H. Kobayashi, Hyogo University*
- 12:00 pm-12:30 pm   **Phonon density of states in Kr up to 46 GPa**  
*J. Zhao, APS, Argonne National Laboratory*
- 12:30 pm-2:00 pm    **Lunch**

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**Session 12**Chair: *H. Kawata*

- 2:00 pm-2:30 pm      **X-Ray Raman Scattering in high pressure research**  
*P. Eng, University of Chicago/CARS*
- 2:30 pm-3:00 pm      **IXS at from electronic excitations**  
*Y. Cai, NSRC-Hsinchu, Taiwan/Spring-8*
- 3:30 pm-4:00 pm      **Advances in magnetic and high resolution Compton scattering**  
*Y. Sakurai, JASRI-Spring-8*
- 4:00 pm-4:30 pm      **Recent results of phonon studies at ESRF**  
*M. Krisch, ESRF*
- 4:30 pm-5:30 pm      **POSTER SESSION**
- 6:00 pm-7:00 pm      **Dinner**

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### Session 13

Chair: *K. Hamalainen*

7:00 pm-7:30 pm

**High energy photoemission spectroscopy**

*C. Dallera, Politecnico di Milano*

7:30 pm-8:00 pm

**Multiple scattering approach to x-ray Raman scattering**

*A. Soininen, University of Helsinki*

8:00 pm-8:30 pm

**Reconstruction of Fermi surface from high resolution Compton data**

*N. Shiotani, Photon Factory, KEK-IMSS*

8:30 pm-9:00 pm

**Dyson orbitals, quasi-particle effects and Compton Scattering**

*B. Barbellini, Northeastern University*

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**FRIDAY, SEPTEMBER 24, 2004**

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**Session 14**Chair: *G. Srajer*

- 9:00 am-9:30 am      **Soft X-ray Inelastic scattering as a tool of materials science**  
*A. Moewes, University of Saskatchewan*
- 9:30 am-10:00 am    **High resolution soft X-ray inelastic scattering at the ALS**  
*Z. Hussain, ALS, Lawrence Berkeley National Laboratory*
- 10:00 am-10:30 am   **New light for electronic excitations in 3d transition metal systems:  
High-resolution  $L_3$ -edge RIXS**  
*G. Ghiringhelli, Politecnico de Milano*
- 10:30 am-11:00 am   **Break**

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**Session 15**Chair: *A. Macrander*

- 11:00 am-11:30 am   **Advances in high resolution monochromators**  
*T. Toellner, APS, Argonne National Laboratory*
- 11:30 pm-12:00 pm   **IXS spectroscopy below 10 keV with meV resolution**  
*Y. Shvydko, Physikalisch-Technische Bundesanstalt (PTB)*
- 12:00 pm-12:30 pm   **Advances in crystal analyzers for IXS**  
*R. Verbeni, ESRF*
- 12:30 pm-2:00 pm    **Lunch**

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**Session 16**Chair: *R. Simmons*

- 2:00 pm-2:30 pm      **Imaging electronic motion with attosecond time resolution**  
*P. Abbamonte, Brookhaven National Laboratory*
- 2:30 pm-3:00 pm      **Compton Scattering: is it still gathering momentum?**  
*M. Cooper, University of Warwick*
- 3:00 pm-3:30 pm      **IXS in the next generation synchrotron sources**  
*D. Moncton, MIT*