

08:40 – 09:00 ICPEAC Opening

09:00 – 10:00 Plenary Session (chair: K. Kirby, Harvard University, Cambridge, USA)
S. Svanberg (Lund University, Sweden)
Environmental and Medical Applications of Photonic Interactions

10:00 – 10:30 Coffee break

10:30 – 12:30 Session in Aula Magna (AUM): Cold Collisions
(chair: F. Masnou-Seeuws, Lab. Aimé Cotton, Orsay, France)

10:30 – 11:00 PR REP: J. Bohn (JILA, Boulder, USA)
Linking Ultracold Polar Molecules

11:00 – 11:30 PR REP: T. Killian (Rice University, Houston, USA)
Collisions in ultracold plasmas

11:30 – 12:00 PR REP: A. Hatakeyama (University of Tokyo, Japan)
Properties of alkali atoms confined in a cold helium gas

12:00 – 12:15 SP REP: S. Jonsell (Umeå University, Sweden)
Cold collisions of spin-polarized metastable hydrogen atoms

12:15 – 12:30 SP REP: I. Labazan (Zagreb Institute of Physics, Croatia)
An intense source of slow metastable NH radicals

10:30 – 12:30 Session in Lecture Hall (LH): Electron-Ion Collisions
(chair: D. Schwalm, MPI, Heidelberg, Germany)

10:30 – 11:00 PR REP: A. Wolf (MPI, Heidelberg, Germany)
Storage Ring Experiments with Cold Molecular Ions: the H_3^+ puzzle

11:00 – 11:30 PR REP: A. Florescu (University Paris XI, France)
Recent progress in theoretical treatment of Dissociative Recombination and related processes

11:30 – 12:00 PR REP: R. Thomas (Stockholm University, Sweden)
Branching between different decay channels in dissociative recombination of poly-atomic molecules

12:00 – 12:15 SP REP: T. D. Märk (University of Innsbruck, Austria)
Site selective electron attachment to RNA and DNA bases

12:15 – 12:30 SP REP: T. Tanabe (KEK, Tsukuba, Japan)
Electron-biomolecular ion collisions in the electrostatic storage ring

12:30 – 14:00 Lunch break

14:00 – 16:00 Session in Aula Magna (AUM): Short Pulse
(chair: A. D. Bandrauk, Sherbrooke University, Canada)

14:00 – 14:45 REV: P. B. Corkum (SIMS, Ottawa, Canada)
Attosecond Atomic and Molecular Science

14:45 – 15:15 PR REP: G. Paulus (MPI, Garching, Germany)
Quantum orbits made visible in strong-field ionization

15:15 – 15:45 PR REP: A. Saenz (University of Konstanz, Germany)
Molecular hydrogen in strong laser fields: Bond softening, enhanced ionization, and coherent control

15:45 – 16:00 SP REP: C. Bordas (LASIM, Lyon, France)
Photoionization microscopy

14:00 – 16:00 Session in Lecture Hall (LH): Ion-Cluster Collisions
(chair: A. Solov'ov, A. F. Ioffe PTI, St.-Petersburg, Russia)

14:00 – 14:30 PR REP: P. A. Hervieux (LPMC, Metz, France)
Charge transfer and evaporation in low energy collisions of metal clusters and fullerenes with atomic targets

14:30 – 14:45 SP REP: H. Bräuning (Justus-Liebig University, Gießen, Germany)
Charge transfer in collisions between two fullerene ions

14:45 – 15:15 PR REP: A. Lyalin (St.-Petersburg State University, Russia)
Molecular dynamics simulations of cluster fusion and fission processes

15:15 – 15:45 PR REP: P. Moretto-Capelle (University Paul Sabatier, Toulouse, France)
Electron capture, ionization and fragmentation in collisions of singly-charged ions with C_{60}

15:45 – 16:00 SP REP: T. Schlathölder (KVI, Groningen, the Netherlands)
 C^{9+} induced excitation and fragmentation of nucleic acid bases

16:00 – 18:00 Poster Session

19:00 – 21:00 Reception (City Hall)

- 09:00 – 10:00** **Plenary Session (chair: Y. Hatano, Tokyo Institute of Technology, Japan)**
H. Hotop (University of Kaiserslautern, Germany)
Resonance and Threshold Phenomena in Low-Energy Electron Collisions with Molecules and Clusters
- 10:00 – 10:30** Coffee break
- 10:30 – 12:30** **Session in Aula Magna (AUM): Electron–Molecule Collisions**
(chair: W. van der Zande, AMOLF, Amsterdam, the Netherlands)
- 10:30 – 11:15** REV: A. Chutjian (Jet Propulsion Laboratory, Pasadena, USA)
Collisions with Ions in the Highly Charged Universe
- 11:15 – 11:45** PR REP: M. Allan (University of Fribourg, Switzerland)
Threshold phenomena in electron collisions
- 11:45 – 12:30** REV: C. Noble (Daresbury Laboratory, UK)
Benchmark Calculations for electron collisions with atoms, ions, and molecules
- 10:30 – 12:30** **Session in Lecture Hall (LH): Ion–Atom Collisions**
(chair: B. Fricke, University of Kassel, Germany)
- 10:30 – 11:00** PR REP: M. Sant’Anna (PUC, Rio de Janeiro, Brazil)
Photon-like ionization of Ne by H_2^+ ions in breakup collisions
- 11:00 – 11:15** SP REP: G. N. Ogurtsov (A. F. Ioffe PTI, St.-Petersburg, Russia)
Electron emission in $H^- - He$, H_2 collisions
- 11:15 – 11:45** PR REP: T. Kirchner (TU Clausthal, Clausthal-Zellerfeld, Germany)
Nonperturbative study of the rearrangement dynamics in ion-atom collisions with active electrons on projectile and target
- 11:45 – 12:15** PR REP: J. Greenwood (Queen’s University, Belfast, UK)
The Contribution of Charge Exchange to EUV and X-ray Astronomy
- 12:15 – 12:30** SP REP: I. Bray (Murdoch University, Perth, Australia)
Close-coupling solves coulomb three-body problems
- 12:30 – 14:00** Lunch break
- 14:00 – 16:00** **Session in Aula Magna (AUM): Ion–Molecule Collisions**
(chair: J. Pálinkas, University of Debrecen, Hungary)
- 14:00 – 14:30** PR REP: H. Kohguchi (IMS, Okazaki, Japan)
Crossed Beam Ion-Imaging of Open-Shell Collisions
- 14:30 – 15:00** PR REP: P. C. Stancil (University of Georgia, USA)
Theoretical studies of vibrationally-resolved electron capture in low-energy ion-molecule collisions
- 15:00 – 15:30** PR REP: B. Sulik (ATOMKI, Debrecen, Hungary)
Young type interferences in electron emission from molecular hydrogen by fast ion impact
- 15:30 – 15:45** SP REP: M. Suter (Göteborg University, Sweden)
The scattering of carbon monoxide from water ice – experimental molecular beam studies
- 15:45 – 16:00** SP REP: S. Hossain (Western Michigan University, Kalamazoo, USA)
Electron correlation in the formation of Li-like ions
- 14:00 – 16:00** **Session in Lecture Hall (LH): Electron–Atom Collisions**
(chair: M. P. Scott, Queen’s University, Belfast, UK)
- 14:00 – 14:30** PR REP: M. Khakoo (California State University, Fullerton, USA)
Measurements of differential and doubly differential cross-sections for electron impact elastic scattering, excitation, and ionization of atomic hydrogen
- 14:30 – 15:00** PR REP: A. Stelbovics (Murdoch University, Perth, Australia)
Three body Coulomb scattering above the ionization threshold
- 15:00 – 15:30** PR REP: J. Lower (Australian National University, Canberra, Australia)
Developments in Quantum State Resolved ($e,2e$) Experiments
- 15:30 – 16:00** PR REP: R. Srivastava (University of Roorkee, India)
Electron impact excitation of atoms in the relativistic distorted wave approximation
- 16:00 – 18:00** **Poster Session**
- 19:30 – 20:30** **Public Lecture (A. Bárány, Stockholm University, Sweden)**

09:00 – 10:00 Plenary Session (chair: R. Morgenstern, KVI, Groningen, the Netherlands)

L. Cocke (Kansas State University, USA)

Momentum Imaging in Atomic Collision Physics

10:00 – 10:30 Coffee break

**10:30 – 12:30 Session in Aula Magna (AUM): Multi-Photon Ionization
(chair: N. A. Cherepkov, SAAI, St.-Petersburg, Russia)**

10:30 – 11:15 REV: L. Malegat (LIXAM, Orsay, France)

(e, 2e) and (γ , 2e) processes: closed and open questions

11:15 – 11:45 PR REP: P. Bolognesi (IMAI, Rome, Italy)

Two electron processes: satellite transitions and double photoionization of atoms

11:45 – 12:15 PR REP: N. Kabachnik (Moscow State University, Russia)

Theoretical and experimental study of the angular correlations in Auger cascades in noble gas atoms

12:15 – 12:30 SP REP: A. Czasch (J. W. Goethe University, Frankfurt, Germany)

*Double excited states in helium close to the double ionization threshold:
angular and energy resolved partial cross sections*

**10:30 – 12:30 Session in Lecture Hall (LH): Applications
(chair: L. M. Brescansin, UNICAMP, Campinas, Brazil)**

10:30 – 11:15 REV: N. Mason (The Open University, Milton Keynes, UK)

Electron driven processes—Technological opportunities

11:15 – 11:45 PR REP: T. Orlando (Georgia Institute of Technology, USA)

Electron Collisions from Complex Targets

11:45 – 12:15 PR REP: H. Sadeghpour (ITAMP, Cambridge, USA)

Long-range tubular states in collision of charged particles with nanotubes

12:15 – 12:30 SP REP: D. Farías (Madrid University, Spain)

Theoretical and experimental study of the scattering of H_2 from Pd(111)

12:30 – 14:00 Lunch break

**14:00 – 16:00 Session in Aula Magna (AUM): Surface Interaction
(chair: H.-P. Winter, TU Vienna, Austria)**

14:00 – 14:30 PR REP: J. Gillaspay (NIST, Gaithersburg, USA)

Collision Studies with Highly Charged Ions

14:30 – 15:00 PR REP: B. Ban-d'Etat (CNRS, Caen, France)

Potential and kinetic sputtering of UO_2 by slow highly charged ions

15:00 – 15:30 PR REP: M. S. Gravielle (IAFE, Buenos Aires, Argentina)

Grazing ion-surface collisions

15:30 – 16:00 PR REP: F. Meyer (Oak Ridge National Laboratory, USA)

Site-specific neutralization of slow multicharged ions incident on solid surfaces

**14:00 – 16:00 Session in Lecture Hall (LH): Electron Interactions
(chair: B. Lohmann, Griffith University, Queensland, Australia)**

14:00 – 14:30 PR REP: T. Odagiri (Tokyo Institut of Technology, Japan)

*Doubly excited molecules in electron collisions as studied by
coincident electron-energy-loss spectroscopy*

14:30 – 15:00 PR REP: S. Buckman (Australian National University, Canberra, Australia)

Electron – Molecule Collisions at Low Incident Energies

15:00 – 15:30 PR REP: C. Greene (University of Colorado, USA)

Dissociative Recombination of Polyatomic Molecules: A New Mechanism

15:30 – 16:00 PR REP: H. Batelaan (University of Nebraska–Lincoln, USA)

The Kapitza-Dirac effect: Matter Optics with Electrons

16:00 – 18:00 Poster Session

18:00 – 21:00 General Committee (MSL)

Saturday, 26 July 2003

09:30 – 12:30 Visit at the Manne Siegbahn Laboratory (MSL)

09:30 – 10:15 Lecture (chair: Ö. Skeppstedt, MSL, Stockholm, Sweden)

H. Danared (MSL, Stockholm, Sweden)

One dimensional ordering in cooled heavy ion beams

11:00 – 12.30 Visit of cooler-storage ring facility CRYRING, EBIS and ECR source, Penning trap

Afternoon Optional Excursion Program

Sunday, 27 July 2003

09:00 – 17:45 Optional Excursion Program

17:45 – 22:30 SKANSEN: Visit and Conference Dinner

- 09:00 – 10:00 Plenary Session (chair: J. Ullrich, MPI, Heidelberg, Germany)**
F. Krausz (TU Vienna, Austria)
Interaction of Attosecond Pulses with Matter
- 10:00 – 10:30 Coffee break**
- 10:30 – 12:15 Session in Aula Magna (AUM): Anti-Hydrogen**
(chair: P.P. Frölich, Uppsala University, Sweden)
- 10:30 – 11:00 PR REP: G. Gabrielse (Harvard University, Cambridge, USA)**
Observations of Cold Antihydrogen
- 11:00 – 11:30 PR REP: P. Bove (University of Wales, Aberystwyth, UK)**
Progress towards Production, Trapping and Study of Antihydrogen
- 11:30 – 12:00 PR REP: Y. Yamazaki (RIKEN, Saitama, Japan)**
Ultralow antiproton beam and its application to atomic collisions
- 12:00 – 12:15 SP REP: M. Kitajima (Sophia University, Tokyo, Japan)**
Detection of non-emissive CH₃ and CH₂ radicals via low-lying electronic states of CH₄
- 10:30 – 12:15 Session in Lecture Hall (LH): Femtosec–Control**
(chair: E. T. Kennedy, Dublin City University, Ireland)
- 10:30 – 11:00 PR REP: E. Charron (P. and M. Curie University, Paris, France)**
Optimal control of double ionization in Ca
- 11:00 – 11:30 PR REP: S. Yoshida (TU Vienna, Austria)**
Tailoring and controlling wavepackets in multi-photon atom collisions
- 11:30 – 12:00 PR REP: T. Brixner (Würzburg University, Germany)**
Adaptive Femtosecond Quantum Control
- 12:00 – 12:15 SP REP: Y.-S. Kim (Myongji University, South Korea)**
Entanglement change in atomic photoionization
- 12:15 – 14:00 Business meeting and Lunch break**
- 14:00 – 16:00 Session in Aula Magna (AUM): Inner-Shell Multi-Excitations**
(chair: R. A. Phaneuf, University of Nevada, Reno, USA)
- 14:00 – 14:30 PR REP: N. Berrah (University of Western Michigan, USA)**
Inner-Shell Photodetachment of Negative Ions: Probing Dynamics and Structure
- 14:30 – 15:00 PR REP: L. B. Madsen (University of Aarhus, Denmark)**
Correlated electrons in multiply excited atoms at and below threshold
- 15:00 – 15:30 PR REP: N. Saito (NMIJ/AIST, Tsukuba, Japan)**
Dynamics of Core-excitation in Small Molecules Probed by the Coincidence Momentum Imaging Technique
- 15:30 – 16:00 PR REP: J.-M. Bizau (LIXAM, Orsay, France)**
Photoionisation of multiply-charged ions along isonuclear and isoelectronic series
- 14:00 – 16:00 Session in Lecture Hall (LH): Ion–Atom Collisions**
(chair: X. W. Ma, Academia Sinica, Lanzhou, China)
- 14:00 – 14:30 PR REP: P. Glans (Mid-Sweden University, Sundsvall, Sweden)**
Dielectronic recombination used as a tool for spectroscopic studies of highly charged ions
- 14:30 – 15:00 PR REP: T. Stöhlker (GSI, Darmstadt Germany)**
Angular Correlation and Polarisation Studies for Radiative Electron Capture into High-Z Ions
- 15:00 – 15:30 PR REP: M. Schulz (University of Missouri, Rolla, USA)**
Kinematically Complete Experiments on Single and Multiple Ionisation in Heavy Ion Collisions
- 15:30 – 16:00 PR REP: L. Ph. H. Schmidt (J. W. Goethe University, Frankfurt, Germany)**
Fully differential study of transfer ionization processes - a view into correlated many particle dynamics
- 16:00 – 18:00 Poster Session**
- 19:30 – 21:00 S. Datz Symposium**
(chairs: A. Dalgarno, Harvard University, Cambridge, USA
R. Vane, Oak Ridge National Laboratory, USA)
J. P. Toennies (MPI, Göttingen, Germany)
Diffraction of Magic Helium Clusters: A Homage to Datz and Taylor

- 09:00 – 10:00 Plenary Session (chair: J. W. McConkey, University of Windsor, Canada)**
N. Andersen (University of Copenhagen, Denmark)
Polarization, Alignment, and Orientation in Atomic Collisions
- 10:00 – 10:30** Coffee break
- 10:30 – 12:15 Session in Aula Magna (AUM): Exotic Systems**
(chair: I. Shimamura, RIKEN, Saitama, Japan)
- 10:30 – 11:00** PR REP: C. Surko (University of California, San Diego USA)
High resolution positron scattering and annihilation studies using a trap-based beam
- 11:00 – 11:30** PR REP: K. Sakimoto (ISAS, Yoshinodai, Japan)
Full quantum-mechanical study of protonium formation in slow collisions of antiprotons with hydrogen atoms
- 11:30 – 12:00** PR REP: H. Stapelfeldt (University of Aarhus, Denmark)
Laser aligned molecules: Applications in physics and chemistry
- 12:00 – 12:30** PR REP: S. Sörensen (Lund University, Sweden)
Core level studies of free molecules and clusters
- 10:30 – 12:15 Session in Lecture Hall (LH): Cold Collisions**
(chair: G. F. Gribakin, University of New South Wales, Sydney, Australia)
- 10:30 – 11:00** PR REP: M. Weidemüller (MPI, Heidelberg, Germany)
Interactions on optically trapped, ultracold gases: from atoms to molecules
- 11:00 – 11:30** PR REP: O. Dulieu (Lab. Aimé Cotton, Orsay, France)
Ultracold molecule formation and detection
- 11:30 – 12:00** PR REP: T. Hyodo (Tokyo University, Japan)
Cooling and Quenching of Positronium and Prospect for a Ps BEC
- 12:00 – 12:30** PR REP: E. Timmermans (Los Alamos National Laboratory, USA)
Progress and prospects of Fermi gas physics in cold atom traps
- 12:30 – 14:00** Lunch break
- 14:00 – 16:00 Session in Aula Magna (AUM): Strong Fields**
(chair: J.-M. Rost, MPI, Dresden, Germany)
- 14:00 – 14:45** REV: E. Mazur (Harvard University, Cambridge, USA)
Black silicon: Femtosecond laser-assisted microstructuring of silicon surfaces for novel detector, sensing, and display technologies
- 14:45 – 15:15** PR REP: K. Taylor (Queen's University, Belfast, UK)
Intense laser interactions with few-electron atoms and molecules
- 15:15 – 15:45** PR REP: J. Feldhaus (DESY, Hamburg, Germany)
The FEL program at DESY: From first results at 100 nm wavelength to a true 1 Å X-ray laser
- 15:45 – 16:00** SP REP: A. Hishikawa (University of Tokyo, Japan)
Hydrogen migration in acetonitrile in intense laser fields studied by coincidence momentum imaging
- 14:00 – 16:00 Session in Lecture Hall (LH): Ions and Molecules**
(chair: S. V. K. Kumar, TIFT, Mumbai, India)
- 14:00 – 14:30** PR REP: O. Heber (Weizmann Institute of Science, Rehovot, Israel)
Trapped ion beams: From Atomic Physics to Mass Spectrometry
- 14:30 – 14:45** SP REP: S. Sanchez (UNICAMP, Campinas, Brazil)
Low energy positron scattering by SF₆ and CO₂
- 14:45 – 15:15** PR REP: S. B. Nielsen (University of Aarhus, Denmark)
Gas-phase studies of chromophore molecules in an electrostatic storage ring
- 15:15 – 15:45** PR REP: L. A. Collins (Los Alamos National Laboratory, USA)
Time-dependent simulations of large-scale quantum dynamics
- 15:45 – 16:00** SP REP: A. Lahmam-Bennani (University Paris XI, France)
Coincidence angular correlations between scattered, ejected and Auger electrons in electron impact double ionization
- 16:00 – 18:00 Poster Session**
- 18:00** End of Conference