



**19<sup>th</sup> International Conference on Atomic Processes in Plasmas  
4-8 April 2016, Paris**

**Campus Les Cordeliers  
15, rue de l'École de Médecine**

**CONFERENCE PROGRAM**

Monday, April 4<sup>th</sup>

**18:00-20:30 REGISTRATION AND WELCOME RECEPTION**

Tuesday, April 5<sup>th</sup>

**8:15-8:45 REGISTRATION**

**8:45-9:00 INTRODUCTION**

**9:00-11:00 ATOMIC DATA AND PROCESSES. I**

9:00-9:30 **Yu. Ralchenko**, NIST, Gaithersburg **(Invited)**  
*Atomic data quality and needs for collisional-radiative modeling*

9:30-10:00 **H. K. Chung**, IAEA, Vienna **(Invited)**  
*Atomic processes in X-ray free electron produced plasmas*

10:00-10:20 **N. Tyndall**, Queen's University Belfast  
*Electron-impact excitation and photoionization cross-sections involving low ionization stages of Cobalt for astrophysical plasmas*

10:20-10:40 **S. Ali**, Institute for Laser Science, University of Electro-Communications, Tokyo  
*Spectroscopy of highly charged iron ions relevant to astrophysical plasmas*

10:40-11:00 **M. Bautista**, Western Michigan University, Kalamazoo  
*Atomic data and spectral models for low ionization Fe-peak ions*

**11:00-11:30 COFFEE BREAK**

**11:30-13:00 HIGH ENERGY DENSITY PLASMAS. I**

11:30-12:00 **C. Mossé**, PIIM, Aix-Marseille Université **(Invited)**  
*Prospect of photo-pumping experiment with XFEL source in a hot and dense plasma*

12:00-12:30 **D. J. Hoarty**, AWE, Reading **(Invited)**  
*Measurements of plasma spectra from hot, dense elements and mixtures at conditions relevant to the solar radiative zone*

12:30-13:00 **G. Rochau**, Sandia National Lab **(Invited)**  
*Opacity measurements and analysis at stellar interior conditions*

**13:00-14:00 LUNCH**

**14:00-16:00 POSTER SESSION**

**16:00-18:10 MAGNETIZED PLASMAS**

16:00-16:30 **D. Reiter**, Institute of Energy and Climate Research, Jülich **(Invited)**  
*Atomic collision kinetics and dynamics in fusion edge plasmas: detailed book-keeping by integrated computations*

16:30-17:00 **Y. Marandet**, PIIM, Aix-Marseille Université **(Invited)**  
*Turbulence and atomic physics in magnetically confined plasmas*

17:00-17:30 **V. Soukhanovski**, Lawrence Livermore National Lab **(Invited)**  
*Near-infrared spectroscopy of tokamak divertor plasmas*

17:30-17:50 **J. Rosato**, PIIM, Aix-Marseille Université  
*Modeling of Stark-Zeeman line shapes in magnetic fusion plasmas*

17:50-18:10 **M. Pajek**, Jan Kochanowski University, Kielce, Poland  
*Magnetic field effect in radiative recombination of bare uranium ions with electrons*

Wednesday, April 6th

**9:00-11:00 ASTROPHYSICS**

9:00-9:30 **C. Fontes**, Los Alamos National Lab **(Invited)**  
*Spectral modeling of astrophysical interest*

9:30-9:50 **J. Colgan**, Los Alamos National Lab  
*A new generation of Los Alamos Opacity Tables*

9:50-10:20 **J. Kaastra**, SRON, Utrecht **(Invited)**  
*Astrophysical plasma modeling in the astro-H era*

10:20-10:40 **V. Bommier**, Observatoire de Paris-Meudon  
*Non-perturbative theory of radiative scattering, in the weak radiation field limit*

10:40-11:00 **R. Hutton**, Fudan University, Shanghai  
*Magnetic-field induced transitions: a novel method to determine magnetic fields in low-density plasma*

**11:00-11:30 COFFEE BREAK**

**11:30-12:40 X-RAY SOURCES. I**

11:30-12:00 **G. O'Sullivan**, University College Dublin **(Invited)**  
*Source development for extreme ultraviolet lithography and water window imaging*

- 12:00-12:20 **O. Guilbaud**, LPGP, Université Paris-Sud  
*Near-field and far-field structure of a seeded plasma-based soft x-ray laser*
- 12:20-12:40 **D. Kurilovich**, Advanced Research Center for Nanolithography, Amsterdam  
*Laser-produced plasma EUV source based on liquid tin droplets*

**12:40-14:00 LUNCH**

**14:00-16:00 LOW TEMPERATURE PLASMAS. I**

- 14:00-14:30 **J. Gudmundsson**, University of Iceland, Reykjavik **(Invited)**  
*Plasma chemistry and kinetics in low pressure discharges: The significance of metastable states*
- 14:30-15:00 **E. Wagenaars**, University of York **(Invited)**  
*Picosecond two-photon absorption laser induced fluorescence for measuring reactive atomic species in atmospheric-pressure plasma jets*
- 15:00-15:20 **J. Creel**, Trinity College Dublin  
*Heating and compression of laser produced plasma in a pulsed magnetic field*
- 15:20-15:40 **P. Grondein**, LPP, Ecole Polytechnique, Palaiseau  
*Iodine chemistry in global model and experiments*
- 15:40-16:00 **A. Bartnik**, Institute of Optoelectronics, Warsaw  
*Low temperature photoionized plasmas driven by LPP EUV sources*

**16:00-16:30 COFFEE**

**16:30-17:50 WARM DENSE MATTER. I**

- 16:30-17:00 **J. Wark**, University of Oxford **(Invited)**  
*X-ray spectroscopic studies of solid-density plasmas created by an X-ray free electron laser*
- 17:00-17:30 **P. Sperling**, SLAC, Stanford **(Invited)**  
*Free-electron x-ray laser measurements in isochorically heated warm dense matter*
- 17:30-17:50 **F. Rosmej**, Université Pierre et Marie Curie, Paris  
*Generalized atomic processes for WDM : XFEL interaction with solids*

Thursday, April 7th

**9:00-11:00 X-RAY SOURCES. II**

- 9:00-9:30 **J. Colvin**, Lawrence Livermore National Lab **(Invited)**  
*Advances in non-equilibrium atomic physics with novel laser targets*
- 9:30-10:00 **S. Sebban**, Laboratoire d'Optique Appliquée, ENSTA, Palaiseau **(Invited)**  
*Toward ultrafast and polarization controllable plasma-based soft X-ray lasers*
- 10:00-10:20 **A. Le Marec**, ISMO, Université Paris-Sud  
*Influence of partial temporal coherence on the spectral characterization of XUV laser pulses*

10:20-10:40 **D. Wilson**, Peter Grünberg Institut, Jülich  
*Tunable EUV radiation source for laboratory based photoemission spectro-microscopy*

10:40-11:00 **Z. Samsonova**, Friedrich Schiller Universität, Jena  
*X-ray emission generated by laser-produced plasma from dielectric nanostructured targets*

**11:00-11:30 COFFEE BREAK**

**11:30-12:40 LOW TEMPERATURE PLASMAS. II**

11:30-12:00 **A. Bultel**, CORIA, Université de Rouen **(Invited)**  
*State-to-state modeling of non equilibrium low temperature atomic plasmas*

12:00-12:20 **A. Puglisi**, LCPMR, Université Pierre et Marie Curie, Paris  
*Ab-initio methods for core level spectra simulation of hydride molecular ions*

12:20-12:40 **C. Brandt**, Max Planck-Institute for Plasma Physics, Greifswald  
*Emission of fast non-Maxwellian hydrogen atoms in low-density laboratory plasmas*

**12:40-14:00 LUNCH**

**14:00-15:30 A TRIBUTE TO CLAIRE AND JACQUES BAUCHE** Chair: **J.-C. Gauthier**

14:00-14:30 **J.-F. Wyart**, LERMA, Observatoire de Paris-Meudon **(Invited)**  
*Interpreting atomic spectra in the vicinity of Claire and Jacques Bauche*

14:30-15:00 **J.-C. Pain**, CEA, DAM, DIF, Arpajon **(Invited)**  
*Statistical properties of levels and lines in complex atomic spectra*

15:00-15:30 **O. Peyrusse**, PIIM, Aix-Marseille Université **(Invited)**  
*Some remarks on global methods for the modeling of atomic physics in hot plasmas*

**15:30-16h00 COFFEE BREAK**

**16:00-17:00 A TRIBUTE TO CLAIRE AND JACQUES BAUCHE**

16:00-16:30 **M. Klapisch**, Berkeley Research Associates, Beltsville, MD **(Invited)**  
*Transition Arrays: Unresolved or Resolved*

16:30-17:00 **C. Iglesias**, Lawrence Livermore National Lab **(Invited)**  
*Beyond the unresolved transition array approximation*

**17:00-18:20 ATOMIC DATA AND PROCESSES. II**

17:00-17:30 **G. Gribakin**, Queen's University Belfast **(Invited)**  
*Can quantum chaos prevent nuclear fusion ?*

17:30-17:50 **S. Preval**, University of Strathclyde, Glasgow  
*The Tungsten Project: Dielectronic Recombination data for Collisional-Radiative Modelling in ITER W<sup>44+</sup>-W<sup>74+</sup>*

17:50-18:20 **P. Indelicato**, Laboratoire Kastler Brossel, Paris **(Invited)**  
*Status of QED tests in high-Z few electron ions*

**19:30-21:30 CONFERENCE DINNER**

Friday, April 8th

**8:50-10:50 HIGH ENERGY DENSITY PLASMAS. II**

- 8:50-9:20 **R. Mancini**, University of Nevada, Reno **(Invited)**  
*X-ray spectroscopy of inertial confinement fusion plasmas*
- 9:20-9:50 **H. A. Scott**, Lawrence Livermore National Lab **(Invited)**  
*Non-LTE Modeling of Radiatively-Driven Dense Plasmas*
- 9:50-10:10 **J. Larour**, LPP, Polytechnique, Palaiseau  
*PC Spectra analysis of L-shell copper X-pinch plasma produced by the compact generator of Ecole Polytechnique*
- 10:10-10:30 **M. Dozières**, LIDyL, CEA, Saclay  
*Simultaneous X and XUV opacity measurements in dense plasmas*
- 10:30-10:50 **F. P. Condamine**, LULI, Polytechnique, Palaiseau  
*M-shell resolved high-resolution X-ray spectroscopic study of transient matter evolution driven by hot electrons in kJ-laser produced plasmas*

**10:50-11:20 COFFEE BREAK**

**11:20-12:20 WARM DENSE MATTER. II**

- 11:20-11:40 **S. Ferri**, PIIM, Aix-Marseille Université  
*Classical molecular dynamics for non equilibrium correlated plasmas*
- 11:40-12:00 **V. Aslanyan**, University of York  
*Efficient calculation of atomic rate coefficients in dense plasmas*
- 12:00-12:20 **L. Harbour**, Montreal University  
*Accurate and efficient neutral pseudo-atom model to predict warm dense matter properties*

**12:20-13:00 ATOMIC DATA AND PROCESSES. III**

- 12:20-12:40 **V. Stancalie**, National Institute for Laser, Romania  
*Atomic data for transitions in S V*
- 12:40-13:00 **S. Ankita**, Physics Department, Aligarh Muslim University, India  
*The Spectrum of Doubly Ionized Silver: Ag III*

**13:00 MEETING CLOSE**