

## Monday, 23<sup>rd</sup> March

8:50 Introductions

### Session A Plenary; Chair: Kevin Fournier (LLNL)

9:00 **Larry Suter** (LLNL) Effect Of NLTE Emissivity Models On NIF Ignition Hohlraum Power Requirements

### Session B High Energy Density Plasmas I; Chair: Chris Keane (LLNL)

9:30 **Manolo Sherrill** (LANL) NLTE Opacities of Mid- and High-Z Cocktails

10:00 *Break*

10:30 **Phillip Nilson** (LLE) Bulk Heating Of Solid-Density Matter Using Kilojoule Pulses on OMEGA EP

11:00 **Pravesh Patel** (LLNL) Progress in Fast Ignition Studies with Electrons and Protons

11:30 **Jeff Koch** (LLNL) Non-Equilibrium Electron And Ion Temperature Measurements In Omega Direct-Drive Implosions

12:00 – 13:30 *Lunch*

### Session C High Energy Density Plasmas II; Chair: John Seely (NRL)

13:30 **Jon Eggert** (LLNL) Shock Experiments on Pre-Compressed Fluid Helium

14:00 **Michael Desjarlais** (SNL) Quantum Molecular Dynamics Simulations for Generating Equation of State Data

14:30 **Greg Rochau** (SNL) Radiating Shock Properties in the Z-pinch Dynamic Hohlraum

15:00 **Jim Bailey** (SNL) Experimental Investigation of Iron Plasma Opacity Models

15:30 – 17:30 **Poster Session**

17:30 *Close*

## Tuesday, 24<sup>th</sup> March

8:50 Announcements

### Session D Magnetic Fusion Energy Plasmas I; Chair: Michael Crisp (DOE)

9:00 **Martin O'Mullane** (QUB) Atomic Data For Core And Edge Modeling

9:30 **Matt Reinke** (MIT) Verification of the Radiating Properties of High-Z Impurities in High Temperature Plasmas

10:00 *Break*

### Session E EBIT Plasmas; Chair: Elmar Träbert (LLNL)

10:30 **Fred Currell** (QUB) Programming the EBIT Plasma to Highlight Specific Processes

11:00 **Christoph Biedermann** (MPI) X-ray And EUV Spectroscopy Of Highly Charged Tungsten Ions

11:30 **Nobuyuki Nakamura** (Inst. For Laser Science Tokyo) Collision Processes of Highly Charged Ions with Electrons Studied with an Electron Beam Ion Trap

12:00 – 13:30 *Lunch*

### Session F Next Generation Light Sources; Chair: Victor Kantsyrev (UNR)

13:30 **Roger Falcone** (UCB) Future Opportunities in Plasma Physics with FELs

14:00 **Stefan Hau-Riege** (LLNL) Modeling XFEL Interaction with Solids, Clusters, and Biomolecules

14:30 **Beata Ziaja** (DESY) Ionization and expansion dynamics of atomic clusters irradiated with short intense VUV pulses

15:00 *Break*

15:30 **Claudio Pellegrini** (UCLA) X-ray Free-electron Lasers

16:00 **Lou DiMauro** (OSU) Intense Laser-Atom Physics in the Classical Limit

16:30 *Close*

## Wednesday, 25<sup>th</sup> March

8:50 Announcements

### Session G Astrophysical Plasmas; Chair: Chris Fontes (LANL)

9:00 **Kate Kirby** (CFA) Accurate Calculations and Laboratory Measurements for Astrophysical Plasmas

9:30 **David Cohen** (Swarthmore) X-ray Spectroscopy of the Radiation-Driven Winds of Massive Stars: Line Ratio and Line Profile Diagnostics

10:00 *Break*

10:30 **Enrico Landi** (NRL) The Thermal Structure Of The Solar Upper Atmosphere

11:00 **Peter Hakel** (UNR) Polarization Spectroscopy Modeling With The Inclusion of Opacity Effects

11:30 **Stuart Loch** (Auburn) Ionization Balance and Data Surveys

12:00 – 13:30 *Lunch*

### Session H MFE Plasmas II; Chair: John Rice (MIT)

13:30 **Robin Barnsley** (ITER) A Generalist's and Specialist's Talk on ITER Spectroscopy

14:00 **Eric Hollmann** (UCSD) Low-Z Shell Pellet Experiments on DIII-D

14:30 **Predrag Krstic** (ORNL) Burning Plasma Wall Interactions

15:00 *Break*

### Session I Modeling and Plasma Diagnostics I; Chair: Dave Schultz (ORNL)

15:30 **John Ludlow** (Auburn) Advances in Supercomputing for the Modelling of Atomic Processes in Plasmas

16:00 **Yitzhak Maron** (Weizmann) Magnetic-Field Measurements in Plasmas: Beyond the Traditional Zeeman Spectroscopy

16:00 *Close*



19:00 *Evening Banquet & Social, Monterey Bay Aquarium*

## Thursday, 26<sup>th</sup> March

8:50 Announcements

### Session J Fundamental Data; Chair: John Curry (NIST)

9:00 **Michael Witthoef** (NNSA/GSFC) R-matrix calculations along sequences: photoionization and electron-impact excitation

9:30 **Yuri Raichenko** (NIST) Ab Initio Multi-Code Calculation of Ionization Balance and Radiative Losses for Tungsten under MCF Conditions

10:00 *Break*

### Session K Modeling and Plasma Diagnostics II; Chair: Stephanie Hansen (SNL)

10:30 **Arati Dasgupta** (NRL) X-ray Spectroscopy of K- and L-shell Z-pinch and Astrophysical Plasmas

11:00 **Olivier Peyrusse** (CELIA) K-edge Absorption Spectra in Warm Dense Matter

11:30 **Alla Safronova** (UNR) Studying radiation from Z-pinch wire array plasmas: from K-shell Mg to M-shell Mo

12:00 – 13:30 *Lunch*

### Session L Small Laser Plasmas; Chair: Jorge Filevich (Colo. St.)

13:30 **Justin Wark** (Oxford) Femtosecond X-ray Diffraction: Applications for Laser-Irradiated Materials

14:00 **Toru Kawamura** (Tokyo Inst. Tech) Polarization of He-alpha radiation by anisotropic fast electron transport in ultra-intense laser produced plasmas

14:30 **Gianluca Gregori** (Oxford, RAL) Dense plasma correlations and experimental tests of structure factors

15:00 *Break*

15:30 **Todd Ditmire** (UT) High Intensity Femtosecond XUV Pulse Interactions with Atomic Clusters

16:00 **Andrea Kritcher** (LLNL) X-ray Thomson Scattering Measurements in Dense Plasmas - towards accurate measurements of the optical properties of warm dense matter

16:30 *Close*

## Poster List

- P01. J. Colgan** (LANL) Radiative Losses of Solar Coronal Plasmas  
**P02. P. Cossé** (CEA) Solar Spectral Opacities With The OPAS Code  
**P03. J. Oelgoetz** (Austin Peay State Univ) A comparison of Fe X-ray emission calculated from Fine Structure, Configuration Average, and Reduced Configuration Average Models  
**P04. E. Martell** (Swarthmore) Photoelectric Absorption As An X-ray Spectral Diagnostic Of Massive Star Winds  
**P05. P. Loboda** (RFNC VNIITF) Atomic Database Spectr-W3 for Plasma Spectroscopy and Other Applications. Current Status and Perspectives  
**P06. J. Gillaspay** (NIST) Soft X-ray and EUV Spectra of Highly Charged Hafnium, Tantalum, Tungsten, and Gold  
**P07. M. May** (LLNL) Gold Spectra Measurements from the LLNL EBIT  
**P08. Y. Podpaly** (MIT) High-Resolution Spectroscopy Of  $2s_{1/2} - 2p_{3/2}$  Transitions In  $W_{71+}$  Through  $W_{65+}$   
**P09. E. Träbert** (LLNL) Metastable Levels Acting As Stepping Stones In Ionization  
**P10. C. Chen** (MIT) Measurements of Laser Conversion Efficiency into Fast Ignition Relevant Hot Electrons Using Bremsstrahlung and K-shell Emission from Planar Non-refluxing Targets  
**P11. T. Ma** (UCSD) Effects of Laser Prepulse on Hot Electron Production and Transport in Hollow Cone Targets  
**P12. J. Seely** (NRL) MeV Electron Propagation from Femtosecond Laser Focal Spots and through Highly Conducting and Insulating Materials  
**P13. K. Aggarwal** (Queen's Univ) Atomic Data For Transitions In N VI  
**P14. J. Curry** (NIST) Radiative Transition Probabilities for Neutral Cerium  
**P15. S. Manson** (Georgia State Univ) Photoionization of the Be Isoelectronic Sequence: LS and Relativistic Total Cross Section Calculations  
**P16. B. McLaughlin** (Queen's Univ) M-shell photoionization of  $Ar^{+}$ : Theory and Experiment  
**P17. J. Reader** (NIST) Spectrum and Energy Levels of Triply-Ionized Cerium ( $Ce^{3+}$ )  
**P18. U. Safronova** (UNR) Atomic data for dielectronic satellite lines and dielectronic recombination into Na-like tungsten,  $W_{63+}$   
**P19. W.-U. Tchang-Brillet** (Observatoire de Paris-Meudon) Recent Advances in the Interpretation of Weakly Charged Lanthanide Ion Spectra : Eu, Er, Tm  
**P20. C. Ballance** (Auburn Univ) Electron-impact ionization of near neutral atomic systems using non-perturbative methods  
**P21. D. Benredjema** (Laboratoire Aimé Cotton) Opacity And Radiative Power Losses  
**P22. C. Dong** (Northwest Normal Univ) Influence of Plasma Effects on Atomic Structures and Dynamic Processes  
**P23. C. Fontes** (LANL) Relativistic Top-Ups of Cross Sections for Excitation to Magnetic Sublevels by a Longitudinally Polarized Electron Beam  
**P24. T. Gorczyca** (Western Michigan Univ) Dielectronic Recombination of Argon-Like Ions: Iron Peak Elements and Beyond  
**P25. S. Hansen** (SNL) Continuum Lowering in Mixtures  
**P26. V. Novikov** (Keldysh Institute of Applied Mathematics RAS) Radiative unresolved spectra atomic model  
**P27. Sh. Abdel-Naby** (Western Michigan Univ) Theoretical Studies of Dielectronic Recombination for Al-Like Ions  
**P28. A. Shadrin** (RFNC VNIITF) On the Modeling of Thermodynamic Properties of Dense Multicharged-Ion Plasmas Based on the Chemical-Picture Approach  
**P29. C. Starrett** (CEA, DAM) A Banded Average Atom Model For Atoms in Plasmas

## Poster List – continued

- P30. U. Feldman** (Artep Inc.) A High Resolution Transmission Crystal Spectrometer for Analyzing the Properties of EP-Generated MeV Electrons  
**P31. I. Hall** (UNR) Photoionised plasma experiments at Z  
**P32. V. Kantsyrev** (UNR) Overview of experimental spectroscopic studies of compact multi-planar and cylindrical wire arrays plasmas on 1.4 MA UNR Z-pinch generator  
**P33. N. Kuglanda** (UCLA) Fast Electron Transport in High Density Ar Gas Jets Diagnosed with  $K\alpha$  X-ray Imaging  
**P34. I. Shrestha** (UNR) Study of electron beams in wire array Z-pinch plasmas at 1.4 MA Zebra generator  
**P35. L. Shechelina** (Ioffe Physical Technical Institute) The Optimization Of Time Of Flight Of Charged Particles In Some Devices With Harmonic Fields Created By Grids  
**P36. R. Tommasini** (LLNL) Hard X-Rays Backlighters for Inertial Confinement Fusion  
**P37. Z. Henis** (Soreq Research Center) Line Spectroscopy with Spatial Resolution of Laser Produced Samarium Plasma  
**P38. J. Filevich** (Colorado State) Shocks Formed by the Collision of Plasmas in Laser-Irradiated Cylindrical Cavities  
**P39. S. Glenzer** (LLNL) Dense Plasma X-ray Thomson Scattering  
**P40. J. Colvin** (LLNL) A Computational Study of X-ray Emissions from Laser-Irradiated Ge-doped Foams  
**P41. R. Florido** (UNR) Spectroscopic analysis of OMEGA direct-drive high- and low-adiabat implosions  
**P42. R. London** (LLNL) Design and Analysis of an Experiment to Measure the non-LTE Emissivity of High-Z Plasma  
**P43. J. MacFarlane** (Prism Computational Sciences) Simulation of  $K\alpha$ /  $K\beta$  Spectral Emission in Short-Pulse Laser Experiments  
**P44. M. Patel** (LLNL) Detailed NLTE Atomic Kinetics in HYDRA  
**P45. T. Nagayama** (UNR) Three-dimensional analysis of spectrally-resolved core image data from OMEGA direct-drive implosions  
**P46. F. Yilmaz** (UNR) Modeling of EUV Mo spectra produced by Z-pinch wire array plasmas  
**P47. L. Welsch-Sherrill** (LANL) Inference of ICF Implosion Core Mix using Experimental Data and Theoretical Mix Modeling  
**P48. Y.-J. Rhee** (Korea Atomic Energy Research Institute) Diagnosis Of Laser Produced Plasma And High Density Plasma Simulation  
**P49. S. Ferri** (Université de Provence, CNRS) Spectral Line Shape Calculations Using Classical Two Component Molecular Dynamics Model  
**P50. C. Mossé** (PIIM, Université de Provence) New Fast Stark-broadened Line Shape Calculation Method  
**P51. G. Raniszewski** (Technical Univ of Lodz) Metal Vapor Influence on Electric Arc Plasma Composition and Temperature  
**P52. I. Bespamyatnov** (Univ of Texas) A new integrated CXRS/BES\* system for accurate measurement of the impurity density profiles for the Alcator C-Mod tokamak  
**P53. J. Rice** (MIT) The  $Ar^{17+}$   $Ly\alpha_2/Ly\alpha_1$  Ratio in Alcator C-Mod Plasmas  
**P54. W. Rowan** (Univ of Texas) The emission spectrum of fast ions in Alcator C-Mod and its application to measurement of the fast ion distribution  
**P55. K. Fujii** (Kyoto Univ) Development of a Multi-wavelength-range Highresolution Spectrometer for Hydrogen Emissions and its Application to the LHD Edge Plasma  
**P56. G. Kyrala** (LANL) Using Imploding Capsule Shells as an HED Playground

