21st International Conference on Condensed Matter Nuclear Science

Program

Colorado State University
Fort Collins, Colorado
3-8 June 2018

Organized by

LENRIA

21st International Conference on Condensed Matter Nuclear Science

Colorado State University
Fort Collins, Colorado

Sunday 3 June 2018

0900-1030	Registration	Behavioral Sciences Building Room131 Pre-Function Area (BSB-131)
1000-1700	Short Course	Behavior Sciences Building Room 131 (BSB-131)
1600-1930	Registration	Sutherland Garden (Inside West Entrance of The Lory Student Center)
1800-2000	Reception	Sutherland Garden at The Lory Student Center
1900-2300	Lounge	The Sports Grill at Academic Village Commons

Monday 4 June 2018

0730-1000	Registration	The Lory Student Center Grand Ballrooms C&D Pre-Function Area

Opening Session
Lory Student Center Grand Ballrooms C&D

0830-900	S. B. Katinsky	Welcome and Introduction
0900-930	T. F. Darden	Keynote Address
930-1000	M. C. H. McKubre	The Fleischmann-Pons Heat and Ancillary Effects. What Do We Know, and Why? How Might We Proceed?
1000-1030	Morning Break in the Pre-Function Area of the Grand Ballrooms C&D	

Heat Measurements
Chairman: M. Srinivasan

1030-1100	D. G. Letts and D. J. Cravens	Building & Testing a High Temperature Seebeck Calorimeter
1100-1130	T. Mizuno	Excess Heat Generation by Simple Treatment of Reaction Metal in Hydrogen Gas
1130-1200	G. H. Miley *et al.*	Progress in Cluster Enabled LENR
1200-1330	Lunch	Rams Horn Dining Center at Academic Village Commons

Heat from NanoMaterials
Chairman: R. V. Duncan

1330-1400	A. Takahashi *et al.*	Research Status of Nano-Metal Hydrogen Energy
1400-1430	Y. Iwamura *et al.*	Anomalous Heat Effects Induced by Metal Nanocomposites and Hydrogen Gas
1430-1500	T. Hioki *et al.*	XRD and XAFS Analyses for Metal Nanocomposites Used in Anomalous Heat Effect Experiments
1500-1530	Afternoon Break in the Pre-Function Area of the Grand Ballrooms C&D	

Theory Chairman: S. Park		
1530-1555	P. L. Hagelstein	Phonon-Mediated Excitation Transfer Involving Nuclear Excitation
1555-1620	V. Vysotskii *et al.*	Using the Method of Coherent Correlated States for Realization of Nuclear Interaction of Slow Particles with Crystals and Molecules
1620-1645	A. Zuppero and T. J. Dolan	Electron Quasiparticle Catalysis of Nuclear Reactions
1645-1710	N. D. Cook	The "Renaissance" in Nuclear Physics: Low-Energy Nuclear Reactions and Transmutations
Poster Session		
1710-1800	Posters	Lory Student Center North Ballroom (Open until 1900)
1700-1900	Dinner	Rams Heading Dining Center at Academic Village Commons
1900-2300	Lounge	The Sports Grill at Academic Village Commons
Tuesday 5 June 2018		
0730-0830	Registration	The Lory Student Center Grand Ballrooms C&D Pre-Function Area
Heat Measurements Chairman: F. E. Gordon		
0800-0825	F. Tanzella *et al.*	Nanosecond Pulse Stimulation in the Ni-H_2 System
0825-0850	M. Swartz	Aqueous and Nanostructured CF/LANR Systems Each Have Two Electrically Driven Modes
0850-0915	F. Celani *et al.*	Steps to Identification of Main Parameters for AHE Generation in Sub-Microscopic Materials Measurements by Isoperibolic and Air-Flow Calorimetry
0915-0940	M. R. Staker	Coupled Calorimetry and Resistivity Measurements, in Conjunction with an Emended and More Complete Phase Diagram of the Palladium - Isotopic Hydrogen System
0940-1005	E. J. Beiting	Investigation of the Nickel-Hydrogen Anomalous Heat Effect
1005-1030	Morning Break in the Pre-Function Area of the Grand Ballrooms C&D	
Transmutations Chairman: W. Collis		
1030-1050	J.-P. Biberian	Anomalous Isotopic Composition of Silver in a Palladium Electrode
1050-1110	M. Fomatchev-Zamilov	Synthesis of Lanthanides on Nickel Anode
1110-1130	G. Lu and W. Zhang	Photocatalytic hydrogen evolution and induced transmutation of potassium to calcium via LENR driven by visible light
1130-1150	A. Nikitin *et al.*	Impact of Effective Microorganisms on the Activity of ^{137}Cs in Soil from the Exclusion Zone of Chernobyl NPP
1200-1330	Lunch	Rams Horn Dining Center at Academic Village Commons

Ion Beams and Rydberg Matter Chairman: Y. Iwamura		
1330-1400	S. Olafsson	What is Rydberg Matter and Ultra-Dense Hydrogen?
1400-1430	S. Zeiner-Gunderson	Hydrogen Reactor for Rydberg Matter and Ultra Dense Hydrogen, a Replication of Leif Holmlid
1430-1500	K. Czerski	Influence of Crystal Lattice Defects and the Threshold Resonance on the Deuteron-Deuteron Reaction Rates at Room Temperature
1510-1530	Afternoon Break in the Pre-Function Area of the Grand Ballrooms C&D	
Theory Chairman: V. Violante		
1530-1555	X.-Z. Li	Resonant Surface Capture Model
1555-1620	J.-L. Paillet and A. Meulenberg	On Highly Relativistic Deep Electrons
1620-1645	C. D. Stevenson and J. P. Davis	Isotope Effects beyond the Electromagnetic Force: ^{1}H and ^{2}H in Palladium Exhibiting LENR
1645-1710	V. Dubinko *at al.*	Chemical and Nuclear Catalysis Mediated by the Energy Localization in Hydrogenated Crystals and Quasicrystals
Poster Session		
1710-1800	Posters	Lory Student Center North Ballroom (Open until 1900)
1700-1800	**Annual General Meeting of the ISCMNS: Lory Student Center Grand Ballrooms C&D**	
1700-1900	Dinner	Rams Heading Dining Center at Academic Village Commons
1900-2300	Lounge	The Sports Grill at Academic Village Commons
Wednesday 6 June 2018		
0730-0830	Registration	The Lory Student Center Grand Ballrooms C&D Pre-Function Area
Materials Chairman: J. Kasagi		
0800-0825	E. Storms	The Loading and Deloading Behavior of Palladium Hydride
0825-0850	H. Nee *et al.*	Lattice Confinement of Hydrogen in FCC Metals for Fusion Reaction
0850-0915	P. L. Hagelstein	Statistical Mechanics Models for the PdHx and PdDx Phase Diagram with both O-site and T-site Occupation
0915-0940	M. A. Imam	Fabrication, Characterization, and Evaluation of Palladium-Boron Alloys Used in LENR Experiments
0940-1005	M. H. Miles	Excess Power Measurements For Palladium-Boron Cathodes
1005-1030	Morning Break in the Pre-Function Area of the Grand Ballrooms C&D	

Old and New Experiments Chairman: J.-P. Biberian		
1030-1050	G. Egely	Electric Energy Generation by LENR
1050-1110	F. Metzler *et al.*	Observation of Non-Exponential Decay of X-ray and γ lines from Co-57 on Steel Plates
1110-1130	W. H. McCarthy	Light Hydrogen LENR in Copper Alloys
1130-1150	B. Roarty	A Method to Initiate an LENR Reaction in an Aqueous Solution
1230	Depart for Tours with Box Lunches on the Buses. Note that destinations for all conference participants will be pre-determined because of limits set by the destinations for the tours.	
1700-1900	Dinner	Rams Heading Dining Center at Academic Village Commons
1900-2200	International Advisory Committee Meeting: Lory Student Center in the Grey Rock Room 290	
1900-2300	Lounge	The Sports Grill at Academic Village Commons
Thursday 7 June 2018		
0730-0830	Registration	The Lory Student Center Grand Ballrooms C&D Pre-Function Area
Diverse Experiments Chairman: A. Takahashi		
0800-0825	J. Ruer	Considerations on Chemical Reactions and LENR
0825-0850	Z. M. Dong *et al.*	Temperature Dependence of Excess Heat in Gas-Loading Experiments
0850-0915	Y. Kitagawa *et al.*	Direct Joule Heating of D-Loaded Bulk Pd Plates in Vacuum
0915-0940	R. Stringham *et al.*	Investigation of Cavitation Effects Related to LENR
0940-1005	G. Egley	Changes of Isotope Ratios in Transmutations
1000-1030	Morning Break in the Pre-Function Area of the Grand Ballrooms C&D	
Instrumentation Chairman: P. Mosier-Boss		
1030-1050	M.M. Fowler and T. N. Claytor	Development of a Sensitive Detection System for the Measurement of Trace Amounts of He-4 in Deuterium or Hydrogen
1050-1110	B. Higgins and D. Letts	Modeling & Simulation of a Gas Discharge LENR Prototype
1110-1130	J. Kasagi *et al.*	Search for γ-ray Radiation in NiCuZr Nano-materials and H_2 gas System Generating Large Excess Heat
1130-1150	F. David	Alternatives to Calorimetry
1200-1330	Lunch	Rams Horn Dining Center at Academic Village Commons
Experiment and Theory Chairman: P. L. Hagelstein		
1330-1355	V. Vsyotskii and M. Vysotakyy	Effective LENR in Weakly Ionized Gas Under the Action of Optimal Pulsed Magnetic Fields and Lightening
1355-1420	D. Alexandrov	Nuclear Fusion in Solids–Experiments and Theory

1420-1445	A. Kovacs and D. Wong	Electron Mediated Nuclear Chain Reactions
1445-1510	S. Brink	LENR Catalyst Identification Model
1510-1530	Afternoon Break in the Pre-Function Area of the Grand Ballrooms C&D	
Theory Chairman: G. H. Miley		
1530-1555	R. Blake	Understanding LENR Using QST
1555-1620	P. Hatt	Cold Nuclear Transmutations Light Atomic Nuclei Binding Energy
1620-1645	K Tanabe	Plasmonic Field Enhancement on Planar Metal Surfaces
1645-1710	T. Yoshimura *et al.*	Estimation of Bubble Fusion Requirements during High-Pressure, High-Temperature Cavitation
1700-1800	Posters	Lory Student Center North Ballroom (Open until 1900)
1900-2300	Conference Banquet	Colorado State University Stadium: 4th Floor Stadium Club
Friday 8 June 2018		
0730-0830	Registration	The Lory Student Center Grand Ballrooms C&D Pre-Function Area
Experimental Experiences **Chairman:** M. C. H. McKubre		
0800-0830	E. Storms	Personal Experiences during Many Years of LENR Experiments
0830-0900	J.-P. Biberian	
0900-0930	M. Swartz	
0930-1000	S. D. Seccombe	Experience with Semiconductor Technology Development Potentially Relevant to LENR
1000-1030	Morning Break in the Pre-Function Area of the Grand Ballrooms C&D	
Applications and Summary Chairman: D. J. Nagel		
1030-1055	P Mosier-Boss *et al.*	Hybrid Fusion-Fission Reactor Using Pd/D Co-Deposition
1055-1120	L. Forsley and P. Mosier-Boss	Space Application of a Hybrid Fusion-Fission Reactor
1120-1145	A. Meulenberg and J.-L. Paillet	Nuclear-Waste Remediation with Femto-Atoms and Femto-Molecules
1145-1200	D. J. Nagel	Conference Summary and Looking Ahead
1130-1230	Info Desk	The Lory Student Center Grand Ballrooms C&D Pre-Function Area
1200-1330	Lunch	Rams Horn Dining Center at Academic Village Commons
1900-2300	Lounge	The Sports Grill at Academic Village Commons

Poster Sessions: 1700-1800 on 4, 5 and 7 June 2018
Lory Student Center North Ballroom (Room open until 1900 each day)
Note: -X after a name indicates the additional abstracts submitted by some authors.

Afanasyev	Cold fusion: Superfluidity of Deuterons.
Amini	Warp Drive Hydro Model for Interactions Between Hydrogen and Nickel
Barot	Flow Calorimetry Design for Elevated Temperature Experiments with Deuterium and PdZr Nanoparticles
Beiting-2	Generation of High-Temperature Samples and Calorimetric Measurement of Thermal Power for the Study of Ni/H Exothermic Reactions
Bergschneider	Study of a Calorimetry Apparatus Utilizing Radiation Based Heat Transfer.
Blake-2	Further Foundations of Fusion
Bowen	A Simple Calculation of the Inter-Nucleon Up-to-Down Quark Bond and its Implications for Nuclear Binding
Fomitchev-Zamilov-2	Reliable Neutron and Gamma Radiation Detection
Fredericks	Elliptical Tracks and Magnetic Monopoles
Gibson	A Geometric Understanding of Low Energy Nuclear Reactions in the Palladium-Deuterium Lattice
Gordon	Real-time Instrumentation and Digital Processing for LENR Characterization
Grimshaw	Documentation and Archive of 29 Years of LENR Research by Dr. Edmund Storms
Gutzmann	Parametric Experimental Studies of Ni-H Electrochemical Cells
Hagelstein-3	Phonon-Nuclear Coupling Matrix Element for the Low Energy E1 Transition in Ta-181 and Applications
Kaal	The Structured Atom Model - SAM
Katinsky	LEAP: The LENRIA Experiment and Analysis Program
Kornilova	Stimulation of LENR in Hydroborate Minerals Under the Action of Distant High-Frequency Thermal Waves
Lomax	Correlation and Cold Fusion
Meyer	On the Oxidation of Palladium
Miles-2	Calorimetric Insights From Fleischmann Letters
Miles-3	No Steady State For Open Isoperibolic Calorimetry
Mosier Boss-2	Overview of Pd/D Co-deposition
Olafsson-2	Adler–Bell–Jackiw Anomaly in Electroweak Interactions, the 3p+→3L+process and Links to Spontaneous UHD Decay and Transmutation Process
Olafsson-3	Volcanism in Iceland, Cold fusion and Rydberg matter
Olafsson-4	Conductivity of Rydberg matter
Olafsson-5	Rydberg Matter Experimental Setup in Iceland
Papadatos	Electrical and Thermal Simulations of Ni-H Electrochemical Cell
Plekhanov	A Possible Signature of Neutron Quark – Lepton Interaction in solids
Prevenslik	X-ray Emission in LENR by Zero Point Energy or simple QED?
Scholkmann	Complex Current Fluctuations in Ni-H Electrochemical Experiments: Characterization using Non-Linear Signal Analysis
Storms-2	The Enthalpy of Formation of PdH as a Function of H/Pd Atom Ratio and Treatment
Storms-3	The Strange Behavior of Catalysts made from Pd or Pt applied to Al_2O_3
Stringham-2	A Deuteron Plasma Driven to Neutrality and 4He
Swartz-2	Excess Heat is Linked to Deuterium Loss in an Aqueous Nickel CF/LANR System
Tarassenko	The Mechanism of Formation of LENR in Earth's Crust
Vysotskii-3	Effective LENR in Weakly Ionized Gas Under the Action of Optimal Pulsed Magnetic Fields and Lightening
Vysotskii-4	Controlled Transmutation of Na, P and Mn to Fe isotopes in D_2O and H_2O during Growth of Yeast Saccharomyces Cerevisiae
Whitehouse	Electrochemical Immittance and Transfer function Spectroscopy applied to LENR
Zeiner-Gundersen-2	Distance Dependency of Spontaneous Decay Signal from Ultra Dense Hydrogen Source
Zeiner-Gundersen-3	Pulse Shape and PMT Stabilization Period from Spontaneous Signal from an Ultra Dense Hydrogen Source
Ziehm	Detecting Charged Particles in LENR Applications using CR-39
Zuppero-2	Transmutations by Heavy Electron Catalysis