

15th *International Conference
on
Condensed Matter Nuclear Science*

*Roma, Italy
October 5-9, 2009*



Historic view of Rome by Spode, 1811

PROGRAMME

New Energy Times Archives

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ORGANIZATION

ENEA, Dipartimento Fusione e Presidio Nucleari, Via E. Fermi, 45, 00044 Frascati, Italy

Vittorio Violante RdA	<i>Chair</i>	ENEA, Frascati	(Italy)
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Martin Fleischmann	<i>Honorary Chair</i>	Southampton Univ. (retired)	(UK)

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Xing Zhong Li		Tsinghua Univ.	(China)
Andrei Lipson		Russian Academy of Science	(Russia)
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George Miley	Illinois Univ.	(USA)
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Scott Chubb	ISCMNS	(USA)

LOCAL ORGANIZING COMMITTEE

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Emanuele Castagna		ENEA, Frascati	(Italy)
Marisa Cecchini		ENEA, Frascati	(Italy)
Lucilla Crescentini		ENEA, Frascati	(Italy)
Stefano Lecci		ENEA, Frascati	(Italy)
Vincenzo Vitale		ENEA, Frascati	(Italy)

SPONSOR

Energetics Technologies

PATRONAGE

Società Chimica Italiana
Società Italiana di Fisica
CNR

CONFERENCE DATE AND SITE

The Conference is being held on October 5-9, 2009 at the Angelicum University, Largo Angelicum, 1, Rome, just behind Trajan's Markets and between the Roman Forums and the Quirinale Palace.

SCIENTIFIC PROGRAMME

Scope

The conference belongs to the series of ICCF Conferences, that began in 1990 in Salt Lake City, after the famous “cold fusion” announcement by Martin Fleischmann and Stanley Pons. The primary target of the conference is the scientific presentation, discussion and publication of results concerning the Fleischmann-Pons Effect. ICCF-15 will give to participants the appropriate frame for contributing to the advancement of the discipline. The Conference will be also an opportunity for participants mainly interested in the scientific status of this multidisciplinary field to have both an exhaustive review of the research developments and a picture of the perspectives in this field.

Topics:

Measurements and measurement techniques

- Calorimetry and excess of power measurements
- Nuclear (Radiation) measurements
- Isotopic composition study
- Spectrometry and others analytical techniques
- Electrochemical measurements
- Microscopy

Hydrogen isotope loading in metal lattices

- Measurement of hydrogen isotopes loading in metals and alloys
- Mass transfer mechanisms
- Loading techniques

Hosting materials

- Metallurgy and metallurgical treatments
- Hydrogen in metals
- Hydrogen in micro and nano structured metal particles
- Surface treatments
- Surfaces characterization
- Electrochemical characterization
- Study of the interface and of the processes at interface

Theory and Modeling

- Theoretical concepts
- Computational results
- Systems modeling
- Statistical analysis

Related topics

- Relevant topics from physics, chemistry, material science and engineering

Format of the Conference

The Conference is organized in ten oral Sessions, alternating theoretical and experimental topics and four poster sessions, which will be held after the end of the oral Sessions, from Monday to Thursday evening.

Besides the oral and poster sessions, two round tables (RT) will be organized to discuss in more details some critical aspects of the field. The first RT is on Thursday morning; it has a technical character and it is aimed to review critically the various theoretical models developed to explain the experimental phenomena. The second RT is on Thursday afternoon and it is focused on the future perspectives and technological impact of the discipline, moving the level of the discussion from the technical one to research organizing.

Proceedings

Papers will be published on the ENEA Conference Proceedings Series. The final publication of the contributions will be subjected to the standard peer review process of such a Journal.

SOCIAL PROGRAMME

Day	Hour	Event	Location
Sunday, October 4	16.00–20.00	Welcome	Angelicum University, Rome
Monday, October 5	19.15	Conference Reception	Castel Sant'Angelo, Rome Sponsored by Energetics Technologies
Tuesday, October 6	18.45	Concert by Ensemble Nuovarmonia	Basilica di San Bartolomeo all'Isola, Rome
Wednesday, October 7	14.00	Official Excursion (*)	Villa D'Este e Villa Adriana, Tivoli
Thursday, October 8	20.00	Conference Dinner	Palazzo Brancaccio, Rome

(*) Ticket required

Accompanying persons excursions

Day	Hour	Tours
Monday, October 5	14.00–17.30	Classic Rome, Rome
Tuesday, October 6	09:30–11:30	Galleria Borghese, Rome
Thursday, October 8	10:00–13:00	Musei Capitolini, Rome Terrazza Caffarelli, Rome

Papal Audience, Basilica di San Pietro, Rome

Day	Hour	
Wednesday, October 7	9.00-13.00	Papal Audience

REGISTRATION

The registration desk opens at the Conference centre on Sunday, October 4 at 16.00 and closes at 20.00.

Access to the Conference centre will be restricted to participants wearing their badge. Registration fee for participants includes the welcome drink, the morning and afternoon refreshments, the Conference reception, the concert, the Conference material, the Conference services (Internet connection, etc.), the Conference dinner, the proceedings and the video of the Conference on DVD.

Registration for accompanying persons includes the welcome drink, the conference reception and the concert.

Registrations and hotel reservations are handled by:

Symposia s.r.l.
B.go San Lazzaro 17
00136 Rome, Italy
e-mail: info@grupposymposia.it

CONFERENCE SECRETARIAT

Mobile phone number: 0039 346 3168975

Fax is available at the Secretariat upon payment

Internet access is available at the Conference centre in Sala Colonne

LUNCHES

Many restaurants, bar, "trattorie" are available close to the Conference centre. A list of them is given separately.

PUBLIC TRANSPORTATION

Rome's public transportation system is called Metrebus, a combination of the words: metro (underground), treno metropolitano (urban train) and autobus (bus). With Metrebus tickets you can travel on these means of transportation. Tickets must always be validated when getting on buses, before getting on metro and trains. They are sold at tobacconists, newsagents, cafés, travel agencies, hotels, vending machines at bus terminals and metro stations and at dealers in railway stations in Rome.

TAXI

Taxi in Rome are white, they have an identification name and number on the front door and show a taximeter inside.

You can call for a taxi the following telephone numbers within Rome:

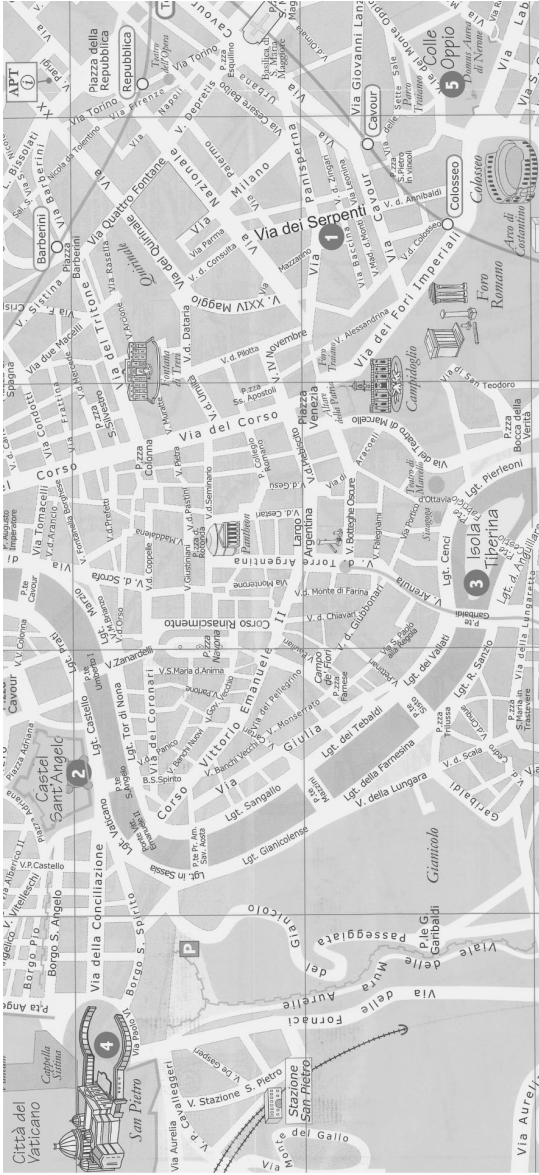
06.3570 – 06.8822 – 06.4157

06.4181319 – 06.4994 – 06.5551

Welcome to the ICCF-15 Conference and our best wishes for a pleasant stay in Rome

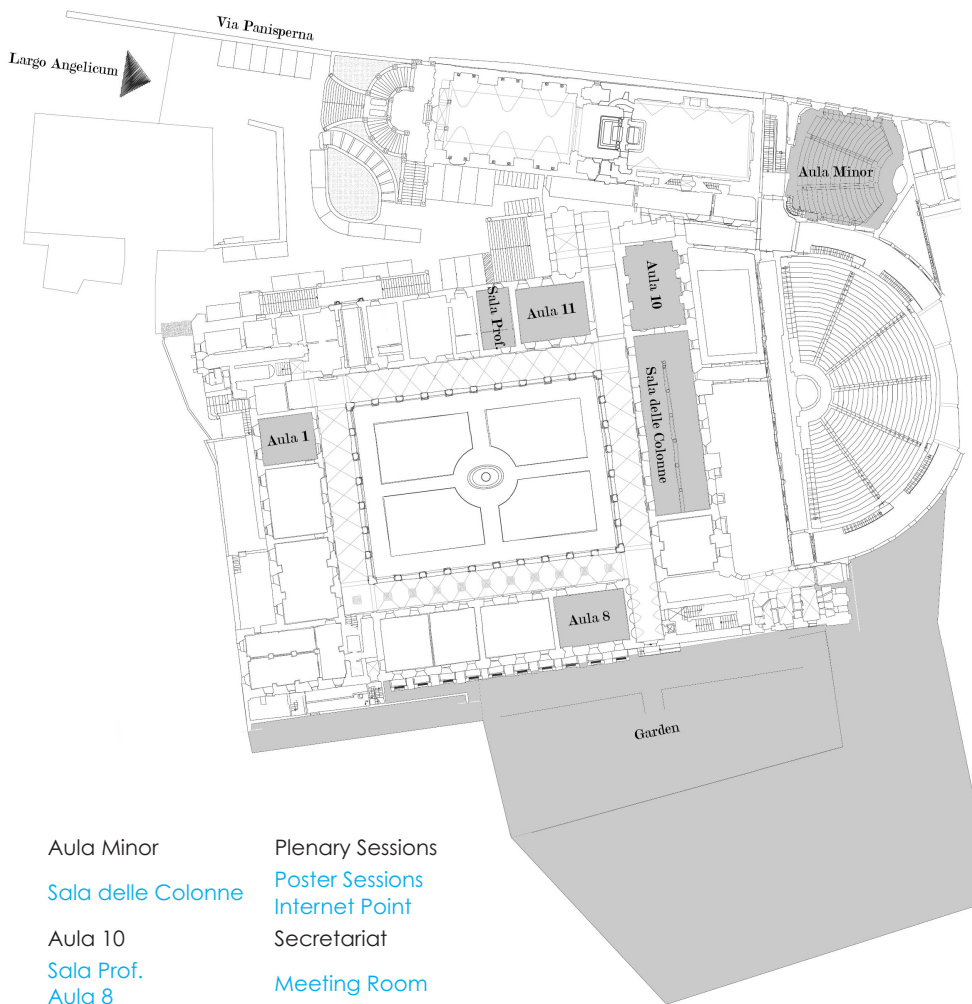
The Local Organizing Committee

Conference Sites Map



- 1 Angelicum University, Largo Angelico I: **Conference Centre**
- 2 Castel Sant'Angelo: **Reception**
- 3 Basilica S. Bartolomeo all'Isola. Isola Tiberina: **Concert**
- 4 Basilica di S. Pietro: **Papal Audience**
- 5 Palazzo Brancaccio, Viale del Monte Oppio, 7: **Social Dinner**

Angelicum Conference Centre



Aula Minor

Sala delle Colonne

Aula 10

Sala Prof.

Aula 8

Aula 11

Garden

Plenary Sessions

Poster Sessions

Internet Point

Secretariat

Meeting Room

LOC

Coffee Break

Programme

MONDAY 5, OCTOBER, 2009

08:00 – 09:00 **Registration**

OPENING (Chairs: M. McKubre, F. Scaramuzzi)

09:00 – 09:30	V. Violante RdA (<i>Chair</i>)	ENEA, Frascati	(Italy)
	S. Lesin (<i>Co-Chair</i>)	Energetics Technologies	(Israel)
	M. Fleischmann (<i>Honorary Chair</i>)	Southampton Univ. (retired)	(UK)
	ENEA Representative	ENEA	(Italy)
09:30 – 09:50	R. Tomellini	EC Directorate-Gen. of Research	(EU)
09:50 – 10:10	L. Campanella	(President It. Chem. Soc.)	(Italy)
10:10 – 10:30	E. De Sanctis	(Vice-President It. Phys. Soc.)	(Italy)

10:30 - 10:45 Coffee Break

SESSION 1: FLEISCHMANN & PONS EXPERIMENT (Chairs: J. Kasagi, A. Lipson)

10:45 – 11:15	S1_O2	R.V. Duncan	Missouri Univ.	(USA)
11:15 – 11:45	S1_O3	M. McKubre	SRI International	(USA)
11:45 – 12:15	S1_O4	G. Hubler	Naval Research Laboratory	(USA)
12:15 – 12:45	S1_O6	V. Violante RdA	ENEA, Frascati	(Italy)
12:45 – 13:15	S1_O7	S. Lesin	Energetics Technologies	(Israel)

13:15 - 14:30 Lunch

SESSION 1: FLEISCHMANN & PONS EXPERIMENT (Chairs: M. Melich, D. Gozzi)

14:30 – 14:50	S1_O8	P.L. Hagelstein	MIT	(USA)
14:50 – 15:10	S1_O5	D.L. Knies	Naval Research Laboratory	(USA)
15:10 – 15:30	S1_O9	M.H. Miles	Dixie Foundation	(USA)
15:30 – 15:50	S1_O10	W.S. Zhang	Chinese Academy of Science	(China)

15:50 - 16:05 Coffee Break

SESSION 2: THEORY (I) (Chairs: K. Czerski, G. Dattoli)

16:05 – 16:30	S2_O1	P.L. Hagelstein	MIT	(USA)
16:30 – 16:55	S2_O2	Y.E. Kim	Purdue Univ.	(USA)
16:55 – 17:20	S2_O3	A. Huke	Technische Univ. Berlin	(Germany)
17:20 – 17:45	S2_O4	A. Takahashi	Technova inc.	(Japan)
17:45 – 18:05	S2_O5	C. Sibillia	Rome Univ. "La Sapienza"	(Italy)
18:05 – 18:15	S2_O6	I. Dardik	Energetics Technologies	(Israel)

POSTER SESSION

18:15 - 19:00 P_1 → P_41

19:15 Reception at Castel Sant'Angelo

TUESDAY, 6 OCTOBER, 2009

SESSION 3: NUCLEAR MEASUREMENTS (I) (Chairs: M. Srinivasan, F. Sarto)

08:30 – 08:50	S3_O1	M.L. Apicella	ENEA, Frascati	(Italy)
08:50 – 09:05	S3_O2	A. Kitamura	Kobe Univ.	(Japan)
09:05 – 09:20	S3_O3	D.D. Afonichev	IMSP RAS	(Russia)
09:20 – 09:40	S3_O4	C. Rosada	ENEA, Casaccia	(Italy)
09:40 – 10:00	S3_O5	Y. Iwamura	Mitsubishi Heavy Industries	(Japan)
10:00 – 10:30	S3_O6	K. Grabowsky	Naval Research Laboratory	(USA)

10:30 – 10:45 Coffee Break

SESSION 4: GAS LOADING (Chairs: J.P. Biberian, D.J. Nagel)

10:45 – 11:15	S4_O1	Y. Arata	Osaka Univ.	(Japan)
11:15 – 11:35	S4_O2	F. Scaramuzzi	LNf/INFN, Frascati (Guest)	(Italy)
11:35 – 11:55	S4_O3	F. Celani	INFN, Frascati	(Italy)
11:55 – 12:05	S4_O4	X.Z. Li	Tsinghua Univ.	(China)
12:05 – 12:35	S4_O5	D. Gozzi	Rome Univ. "La Sapienza"	(Italy)
12:35 – 13:05	S4_O6	D.A. Kidwell	Naval Research Laboratory	(USA)

13:05 - 14:30 Lunch

SESSION 5: NUCLEAR MEASUREMENTS (II) (Chairs: K. Grabowski, F. Tanzella)

14:30 – 14:55	S5_O1	A.G. Lipson	Russian Academy of Science	(Russia)
14:55 – 15:20	S5_O2	J. Kasagi	Tohoku Univ.	(Japan)
15:20 – 15:45	S5_O3	K. Czernik	Szczecin Univ.	(Poland)
15:45 – 16:00	S5_O4	Y. Toriyabe	Tohoku Univ.	(Japan)
16:00 – 16:10	S5_O5	R.M. Montekali	ENEA, Frascati	(Italy)
16:10 – 16:30	S5_O6	M. Angelone	ENEA, Frascati	(Italy)

16:30 - 16:45 Coffee Break

SESSION 6: NUCLEAR MEASUREMENTS (III) (Chairs: G. Miley, A. Takahashi)

16:45 – 17:05	S6_O1	U. Mastromatteo	STMicronics	(Italy)
17:05 – 17:25	S6_O2	M. Srinivasan	BARC (retired)	(India)
17:25 – 17:45	S6_O3	Y.N. Bazhutov	Russian Academy of Science	(Russia)
17:45 – 17:55	S6_O4	A. Petrucci	LNf/INFN, Frascati	(Italy)
17:55 – 18:05	S6_O5	A. Carpenteri	Torino Polytechnic	(Italy)
18:05 – 18:15	S6_O6	A.B. Karabut	FSUE "LUCH"	(Russia)

POSTER SESSION

18:05 - 18:30 P_1 → P_41

18:45 Concert at Basilica San Bartolomeo all'Isola

Programme

WEDNESDAY, 7 OCTOBER, 2009

SESSION 7: MATERIAL SCIENCE (Chairs: E. Storms, C. Sibilia)

08:30 – 09:00	S7_O1	G. Barbieri	ITM-CNR	(Italy)
09:00 – 09:20	S7_O2	S. Tosti	ENEA, Frascati	(Italy)
09:20 – 09:40	S7_O3	A. Santucci	ENEA, Frascati	(Italy)
09:40 – 09:55	S7_O4	T. Hioki	Toyota Labs Inc:	(Japan)
09:55 – 10:10	S7_O5	Y. Sasaki	Kobe Univ.	(Japan)
10:10 – 10:25	S7_O6	B.L. Liu	Tsinghuan Univ.	(China)
10:25 – 10:45	S7_O7	F.L. Tanzella	SRI International	(Italy)
10:45 – 11:00	S7_O8	T. Mizuno	Hokkaido Univ.	(Japan)

11:00 – 11:15 Coffee Break

SESSION 8: THEORY (II) (Chairs: T. Mizuno, F. Celani)

11:15 – 11:35	S8_O1	F. Frisone	Catania Univ.	(Italy)
11:35 – 11:50	S8_O2	N.D. Cook	Kansai Univ.	(Japan)
11:50 – 12:05	S8_O3	S.R. Chubb	Infinite Energy Magazine	(USA)
12:05 – 12:20	S8_O4	T.A. Chubb	Infinite Energy Magazine	(USA)
12:20 – 12:35	S8_O5	J. Dufour	CNAM	(France)
12:35 – 12:50	S8_O6	D. Alexandrov	Lakehead Univ.	(Canada)

12:50 - 14:00 Lunch

14:00 Social Tour

POSTER SESSION

18:00 – 20:00 P_1 → P_41

19:00 IAC Meeting

THURSDAY, 8 OCTOBER, 2009

SESSION 9: THEORY (III) (Chairs T. Bressani, J. Dufour)

08:30 – 08:50	S9_O1	E. Storms	Kivalabs	(USA)
08:50 – 09:10	S9_O2	A. Meulenberg	HiPi Consulting	(USA)
09:10 – 09:30	S9_O3	M. Melich	Naval Postgraduate School	(USA)
09:30 – 09:50	S9_O4	D.G. Tasker	Los Alamos National Laboratory	(USA)
09:50 – 10:05	S9_O5	P.L. Chernov	Tomsk Polytechnic Univ.	(Russia)
10:05 – 10:20	S9_O6	V.I. Vysotskii	Kiev Nat. Shevchenko Univ.	(Russia)
10:20 – 10:35	S9_O7	G.H. Miley	Illinois Univ.	(USA)
10:35 – 10:55	S9_O8	T. Bressani	INFN, Torino	(Italy)
10:55 – 11:15	S9_O9	Amal Al Katrib	George Washington Univ.	(USA)

11:15 – 11:25 Coffee Break

ROUND TABLE ON THEORIES (Chairs: G. Dattoli, G. Hubler)

11:25 – 13:30

13:30 - 15:00 Lunch

ROUND TABLE ON FUTURE PERSPECTIVES (Chairs M. Bertolotti, G. Hubler)

L. Nicolais, G. Silvestrini, M. McKubre, R.V. Duncan

15:00 – 18:15

POSTER SESSION AND ISCMNS MEETING

18:15 – 19:30 P_1 → P_41

20:00 Social Dinner at Palazzo Brancaccio

FRIDAY, 9 OCTOBER, 2009

SESSION 10: MATERIAL AND CHARACTERIZATION (Chairs: M.H. Miles, Y. Iwamura)

08:30 – 08:50	S10_O1	F. Sarto	ENEA, Frascati	(Italy)
08:50 – 09:10	S10_O2	A. Lipson	Russian Academy of Science	(Russia)
09:10 – 09:30	S10_O3	J. He	Naval Research Laboratory	(USA)
09:30 – 09:50	S10_O4	E. Castagna	ENEA, Frascati	(USA)
09:50 – 10:10	S10_O5	E. Bemporad	Rome Univ. "Roma Tre"	(Italy)
10:10 – 10:30	S10_O6	R. Li Voti	Rome Univ. "La Sapienza"	(Italy)
10:30 – 10:40	S10_O7	A.S. Roussetski	Russian Academy of Science	(Russia)
10:40 – 10:50	S10_O8	L. Caneve	ENEA, Frascati	(Italy)

10:50 – 11:05 Coffee Break

ENDING (Chairs: V. Violante RdA, S. Lesin)

11:05 – 13:00

Monday, 5 October, 2009

SESSION 1: FLESCHMANN & PONS EXPERIMENT (10.45 – 15.50)

S1_01	Chemistry Creativity and Flexibility at Service of Energy Problems <i>L. Campanella</i>	13
S1_02	An Outsider's view of the Significance of The Fleischmann-Pons Effect <i>R.V. Duncan</i>	14
S1_03	Cold Fusion LENR; one Perspective on the State of the Science <i>M. McKubre</i>	15
S1_04	An X-Ray Diffraction Study of Lattice Expansion and Phase Transformation in Electrochemically Loaded Palladium Hydrides <i>G. Hubler, D.L. Knies, V. Violante, K.S. Grabowsky, J. Hu, D.D. Dominquez, J. He, S.B. Qadri</i>	16
S1_05	The Development of a Low Cost Differential Thermal Analysis System at the Naval Research Laboratory <i>D. Knies, K.S. Grabowski, V.K. Nguyen, M.E. Melich</i>	17
S1_06	Evolution and Progress in Material Science for Studying the Fleischmann and Pons Effect (FPE) <i>V. Violante, F. Sarfo, E. Castagna, S. Lecci, M. Sansovini, G. Hubler, D. Knies, K.S. Grabowski, M. McKubre, F. Tanzella, C. Sibilia, Z. Del Prete, T. Zilov</i>	18
S1_07	On the Accuracy of Energetics Technologies Excess Heat Determination <i>S. Lesin, I. Dardik, T. Zilov, H. Branover, A. El Boher, E. Greenspan, B. Khachaturov, V. Krakov, A. Shapiro, M. Tsirlin</i>	19
S1_08	Progress on Dual Laser Experiments <i>P.L. Hagelstein, D.G. Letts, D. Cravens,</i>	20
S1_09	New Approaches to Iso-peribolic Calorimetry <i>M.H. Miles, M. Fleischmann</i>	21
S1_010	Characteristics of Excess Heat in Pd D₂O+D₂SO₄ Electrolytic Cells Measured by Seebeck Envelope Calorimetry <i>W.S. Zhang</i>	22

SESSION 2: THEORY (I) (16.05 – 18.15)

S2_01	Modeling Excess Heat in the Fleischmann-Pons Experiment <i>P.L. Hagelstein, I.U. Chaudhary</i>	23
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S2_O3	Electron Catalyzed Fusion <i>A. Huke, K. Czerny, G. Ruprecht, S. Gottlieb, L. Martin, N. Targosz Slecza, D. Blauth, A. Górska, P. Heide, H. Winter</i>	25
S2_O4	Anomalous Heat Generation in Charging of Pd Powders with High Density Hydrogen Isotopes (II) Discussions on Experimental Results and Underlying Physics <i>A. Takahashi, A. Kitamura, Y. Sasaki, Y. Miyoshi, T. Nohmi, A. Taniike, R. Seto, Y. Fujita</i>	26
S2_O5	On the Spatial Localization of the Electromagnetic Fields in Non-Homogeneous Media <i>C. Sibilia, M. Berlotti</i>	27
S2_O6	The Natural Origin of Excess Heat <i>I. Dardik</i>	28

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SESSION 3: NUCLEAR MEASUREMENTS (I) (08.30 – 10.30)

S3_O1	Mass Spectrometry: Critical Aspects Related to the Particles Detection in the Condensed Matter Nuclear Science <i>M.L. Apicella, E. Castagna, S. Lecci, M. Sansovini, F. Sarto, V. Violante</i>	29
S3_O2	Search for Nuclear Reaction Products in Gas Phase Experiments - Deuterium Permeation and Absorption <i>A. Kitamura, Y. Sasaki, Y. Miyoshi, Y. Yamaguchi, A. Taniike, Y. Furuyama, A. Takahashi, R. Seto, Y. Fujita</i>	30
S3_O3	About Products of Nucleus Reactions During Diffusion of Deuterium Through Palladium Membrane <i>D.D. Afonichev</i>	31
S3_O4	Impurity Measurements by Instrumental Neutron Activation Analysis on Palladium, Nickel and Copper Thin Films <i>A. Rosada, E. Santoro, F. Sarto, V. Violante, P. Avino</i>	32
S3_O5	Analysis of Permeation Induced Transmutation from the Aspects of Deuterium Density and Electronic Structure in Pd Multilayer Film (Pd/CaO/Pd) <i>Y. Iwamura, T. Itoh, N. Yamazaki, N. Watari, D. Sekiba, H. Yonemura, K. Fukutani, J. Kasagi, Y. Terada, T. Ishikawa</i>	33

S3_O6	Evaluation of the Claim of Transmutation of Cesium to Praseodymium with the MHI Structure <i>K. Grabowsky, D.A. Kidwell, C. Cetina, C. Carosella</i>	34
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SESSION 4: GAS LOADING (10.45 – 13:05)

S4_O1	Production of Helium and Energy in the “Solid Fusion” <i>Y. Arata, Y.C. Zhang, X.F. Wang</i>	35
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S4_O3	Towards a High Temperature CMNS Reactor: Nano-Coated Pd Wires with D₂ at High Pressures. Identification of Main Control Parameters, Development of Simple Tests about Quality of Coating <i>F. Celani, P. Marini, V. Di Stefano, M. Nakamura, O.M. Calamai, A. Spallone, E. Purchi, V. Andreassi, B. Ortenzi, E. Righi, G. Trenta, G. Cappuccio, D. Hampai</i>	37
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