

PROGRAMME

I: Invited Talk

O: Oral Presentation

P: Poster Presentation

P1: *T1 Catalysis (joint with the 32nd DICP Symposium on Mössbauer Characterization and Catalysis)*

P2: *T2 Energy (coal, oil, nuclear, solar)*

P3: *T3 Environment*

P4: *T4 Magnetic Materials and Superconductive Materials*

P5: *T5 Biology & Biomedicine*

P6: *T6 Mineralogy*

P7: *T7 Corrosion*

P8: *T8 Electrochemistry, batteries, sensors*

P10: *T10 Nanotechnology*

P11: *T11 Metals & Alloys*

P12: *T12 Methodology & Instrumentation*

P13: *T13 Surface modification*

P14: *T14 New glass and Amorphous Materials*

September 3 (Mon.)

Opening Session

[9:00-9:30]

Chairman: **J. Wang** (*Mössbauer Effect Data Center, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China*)

T. Zhang (*Director of Mössbauer Effect Data Center, Director of Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China*)

J. -M. Greneche (*Vice-chair of International Board of the Applications of the Mössbauer Effect, Université du Maine, France*)

D. S. Xue (*Chairman of Chinese Mössbauer Community, Director of Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, China*)

Keynote Lecture

[9:30-10:10]

Chairman: **T. Zhang** (*Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China*)

M. Carbuicchio (*University of Parma, Italy*): **Industrial Applications of Mössbauer Spectroscopy**

Coffee Time + Photo

[10:10-10:40]

Session 1 In Memoriam Rudolf L. Mößbauer

[10:40-12:20]

Chairman: **S. J. Campbell** (*School of Physical, Environmental and Mathematical Sciences, The University of New South Wales, Australia*)

Co-chairman: **J. -M. Greneche** (*Université du Maine, France*)

Invited Talk-1 (10:40-11:20)

J. -M. R. Génin (*Jean Barriol Institute of the University of Lorraine, France*): **Industrial Applications of Green Rusts Related Compounds and Minerals: from Corrosion to Mineralogy through Water Purification**

Invited Talk-2 (11:20-11:50)

I. Felner (*The Hebrew University, Israel*): **Coexistence of Superconductivity and Magnetism in the Fe-As and Fe-Se New Magneto-Superconductors**

Invited Talk-3 (11:50-12:20)

A. Nakamura (*Advanced Science Research Center, Japan Atomic Energy Agency, Japan*): **Defect-Fluorite Oxides: Ln (Eu and Gd)-Mössbauer Spectroscopic Study Coupled with New Defect-Crystal-Chemistry Model**

Lunch Time

[12:20-13:50]

Session 2 In Memoriam Attila Vértes

[13:50-15:30]

Chairman: **J. G. Stevens** (*The University of North Carolina at Asheville, USA*)

Co-chairman: **M. Reissner** (*Vienna University of Technology, Austria*)

Invited Talk-4 (13:50-14:30)

E. Kuzmann (*Eötvös Loránd University, Hungary*): **^{151}Eu Mössbauer Study of Luminescent $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$ Core-Shell Nanoparticles**

Invited Talk-5 (14:30-15:00)

T. Nishida (*Kinki University, Japan*): **New Conductive Glass with High Chemical Durability**

International Symposium on the Industrial Applications of the Mössbauer Effect

Invited Talk-6 (15:00-15:30)

K. Nomura (*The University of Tokyo, Japan*): **CEMS Study of Transparent SnO₂ Films Doped with ⁵⁷Fe**

Coffee Time

[15:30-15:50]

Session 3 In Memoriam Igor Petrovich Suzdalev

[15:50-17:00]

Chairman: **Yu. D. Perfiliev** (*Moscow Lomonosov State University, Russia*)

Co-chairman: **F. B. Waanders** (*North-West University, South Africa*)

Invited Talk-12 (15:50-16:30)

J. -M. Greneche (*Université du Maine, France*): **Applications of Magnetic Nanostructures and Relevance of Mössbauer Spectrometry**

Invited Talk-8 (16:30-17:00)

V. P. Filippov (*National Research Nuclear University "MEPhI", Russia*): **Mössbauer Spectroscopy of Zirconium Alloys**

Session 4 Biology & Biomedicine

[17:00-17:30]

Chairman: **N. Kojima** (*The University of Tokyo, Japan*)

Invited Talk-9 (17:00-17:30)

J. Galazka-Friedman (*Warsaw University of Technology, Poland*) and **A. Friedman** (*Medical University of Warsaw, Poland*): **Role of Iron in Neurodegenerations**

September 4 (Tue.)

Session 5 Catalysis (joint with the 32nd DICP Symposium on Mössbauer Characterization and Catalysis)

[8:30-10:00]

Chairman: **J. -C. Jumas** (*University of Montpellier 2, France*)

Co-chairman: **Y. Garcia** (*Université Catholique de Louvain, Belgium*)

Invited Talk-10 (8:30-9:00)

K. Lázár (*Centre for Energy Research, Institute of Isotopes, Hungary*): **Mössbauer Spectroscopy in Catalysis**

Oral Presentation-1 (9:00-9:15)

M. T. Sougrati (*Université Montpellier 2, France*): **Identification and Quantification of Sn-Based Species in Trimetallic Pt-Sn-In/Al₂O₃-Cl Naphtha-Reforming Catalysts**

Oral Presentation-2 (9:15-9:30)

M. Ji (*Dalian University of Technology, China*): **Mössbauer Study on Fe-Substituted Spinel Oxides: Synergy of Fe²⁺ and Fe³⁺ for Ethylbenzene Dehydrogenation with CO₂**

Invited Talk-11 (9:30-10:00)

T. Zhang (*Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China*): **Mechanistic Studies on Preferential Oxidation of CO in H₂-rich Atmosphere over IrFe Catalysts**

Coffee Time

[10:00-10:20]

Session 6 Nanotechnology

[10:20-11:50]

Chairman: **N. Kojima** (*The University of Tokyo, Japan*)

Co-chairman: **D. S. Xue** (*Lanzhou University, China*)

Invited Talk-29 (10:20-10:50)

J. Okabayashi (*The University of Tokyo, Japan*): **Room-Temperature Ferromagnetism in Transition-Metal Co-Doped SnO₂**

Oral Presentation-3 (10:50-11:05)

V. V. Popov (*Ural Division of Russian Academy of Sciences, Russia*): **Emission Mössbauer Spectroscopy of Grain Boundaries**

Oral Presentation-4 (11:05-11:20)

K. M. Bato (*King Saud University, Saudi Arabia*): **Room Temperature Ferromagnetism of CoFe_{2-x}CuxO₄ Nanoparticles**

Invited Talk-13 (11:20-11:50)

L. Machala (*Palacký University in Olomouc, Czech Republic*): **Polymorphous Transitions of Nanometric Fe₂O₃ by View of Mössbauer Spectroscopy**

Lunch Time

[11:50-13:35]

Session 7 Sensors

[13:35-14:05]

Chairman: **R. Kukkadapu** (*Pacific Northwest National Laboratory, USA*)

Invited Talk-14 (13:35-14:05)

Y. Garcia (*Université Catholique de Louvain, Belgium*): **New Sensors Based on Thermo and Photoswitchable Iron(II) Spin Crossover Materials**

Session 8 Surface modification, Corrosion

[14:05-15:05]

Chairman: **K. Nomura** (*The University of Tokyo, Japan*)

Invited Talk-15 (14:05-14:35)

J. F. Marco (*Instituto de Química Física "Rocasolano", Spain*): **Surface Studies in Ultrathin Binary Iron Oxide Films: Ancient Materials, New Opportunities**

Oral Presentation-5 (14:35-14:50)

J. Lipka (*Slovak University of Technology, Slovakia*): **Application of Mössbauer Spectroscopy on Corrosion Products of NNP**

Oral Presentation-6 (14:50-15:05)

A. Poliakov (*Lomonosov Moscow State University, Russia*): **Mössbauer Spectroscopy of Frozen Solutions for Stepwise Control in Preparation of Biocompatible Humic-Stabilized Feroxyhyte Nanoparticles**

Coffee Time

[15:05-15:25]

Session 9 Catalysis

[15:25-16:25]

Chairman: **K. Lázár** (*Centre for Energy Research, Institute of Isotopes, Hungary*)

Invited Talk-16 (15:25-15:55)

E. Tabor (*Academy of Sciences of the Czech Republic, Czech Republic*): **Mössbauer Spectroscopy Study of the Iron Active Sites in Zeolites for N₂O Decomposition**

Invited Talk-17 (15:55-16:25)

J. H. Rodriguez (*Purdue University, USA*): **Accurate Prediction of ⁵⁷Fe Mössbauer Parameters Via Density Functional Theory: Prediction of Reaction Intermediates and Catalytic Cycles of Iron Enzymes**

Poster Session 1

[16:25-18:00]

The odd number presentations

September 5 (Wed.)

Session 10 Environment

[8:30-10:00]

Chairman: **T. Nishida** (*Kinki University, Japan*)

Co-chairman: **G. D. Zheng** (*Institute of Geology and Geophysics, Chinese Academy of Sciences, China*)

Invited Talk-18 (8:30-9:00)

S. Forder (*Sheffield Hallam University, England*): **Mössbauer Studies of Materials Used to Immobilise Industrial Waste**

Oral Presentation-7 (9:00-9:15)

J. D. Cashion (*Monash University, Australia*): **Mössbauer Analysis of Biox Treatment of Ores at Wiluna Gold Mine, Western Australia**

Oral Presentation-8 (9:15-9:30)

Yu. D. Perfiliev (*Moscow Lomonosov State University, Russia*): **Mössbauer Spectroscopy and Quality Control in Ferrate Technology**

Oral Presentation-9 (9:30-9:45)

S. Kubuki (*Tokyo Metropolitan University, Japan*): **Decomposition Mechanism of Methylene Blue Caused by Metallic Iron-Maghemite Mixture**

Oral Presentation-10 (9:45-10:00)

A. I. Rykov (*Mössbauer Effect Data Center, DICP, CAS, China*): **"Soluble" Iron Hexacyanocobaltate Prussian Blue Analogue**

Coffee Time

[10:00-10:20]

Session 11 Mineralogy

[10:20-12:05]

Chairman: **G. Klingelhöfer** (*Johannes Gutenberg-Universität Mainz, Germany*)

Co-chairman: **J. D. Cashion** (*Monash University, Australia*)

Invited Talk-19 (10:20-10:50)

P. de Souza (*University of Tasmania, Australia*): **The role of ^{57}Fe Mössbauer spectroscopy in the Mineral and Mineral Processing Industries**

Oral Presentation-11 (10:50-11:05)

F. B. Waanders (*North-West University, South Africa*): **The Relevancy of Mössbauer Spectroscopy and Other Analytical Techniques in Coal Research**

Oral Presentation-12 (11:05-11:20)

D. Malczewski (*University of Silesia, Poland*): **The Metamict State Characterized with Mössbauer Spectroscopy. Implications for Stabilization of High-Level Nuclear Waste**

Oral Presentation-13 (11:20-11:35)

G. D. Zheng (*Institute of Geology and Geophysics, Chinese Academy of Sciences, China*): **Iron and Sulfur Speciation of Sliding Mud from the Xielipu Landslide in Zhouqu County, NW China**

Invited Talk-20 (11:35-12:05)

R. Kukkadapu (*Pacific Northwest National Laboratory, USA*): **Effect of Redox Transformation of Subsurface Fe Minerals under Natural and Stimulated Conditions on Radionuclide Mobility**

Lunch Time

[12:05-13:00]

September 6 (Thu.)

Session 12 Magnetic Materials and Superconductive Materials

[8:30-10:00]

Chairman: **M. Carbuicchio** (*University of Parma, Italy*)

Co-chairman: **G. Langouche** (*University of Leuven, Belgium*)

Invited Talk-21 (8:30-9:00)

M. Ghafari (*Karlsruhe Institute of Technology, Germany*): **Influence of Interfaces on the Magnetic Hyperfine Field**

Oral Presentation-14 (9:00-9:15)

M. Reissner (*Institute of Solid State Physics, Vienna University of Technology, Austria*): **Magnetic and Microstructural Properties of (Nd, Pr)-(Fe, Co, Al, Cu)-B Type Magnets**

Oral Presentation-15 (9:15-9:30)

B. Idzikowski (*Institute of Molecular Physics, Polish Academy of Sciences, Poland*): **Magnetism Influenced by Structural Disorder in Melt-Spun DyMn_{6-x}Ge_{6-x}Fe_xAl_x (x = 2.5, 3) Alloys**

Oral Presentation-16 (9:30-9:45)

M. I. Oshtrakh (*Ural Federal University, Russia*): **Study of NiFe₂O₄ Nanoparticles Using Magnetic Measurements and Mössbauer Spectroscopy with a High Velocity Resolution**

Oral Presentation-17 (9:45-10:00)

G. B. Li (*Peking University, China*): **Cationic Distribution of Oxides in the Mn₃O₄-Fe₂O₃ System Synthesized at 1200°C**

Coffee Time

[10:00-10:20]

Session 13 Magnetic Materials and Superconductive Materials

[10:20-12:05]

Chairman: **R. Hermann** (*Forschungszentrum Juelich, Germany and Université de Liège, Belgium*)

Co-chairman: **Y. He** (*Guangxi Normal University, China*)

Invited Talk-22 (10:20-10:50)

K. Mibu (*Nagoya Institute of Technology, Japan*): **Studies on Spintronics-Related Thin Films Using Synchrotron-Radiation-Based Mössbauer Spectroscopy**

Oral Presentation-18 (10:50-11:05)

K. Bharuth-Ram (*University of KwaZulu-Natal, South Africa*): **Magnetic nanoclusters in ⁵⁷Fe implanted ZnO**

Oral Presentation-19 (11:05-11:20)

Y. Yamada (*Tokyo University of Science, Japan*): **Mössbauer Study of Gamma-Iron Nitride Films**

Oral Presentation-20 (11:20-11:35)

G. Langouche (*University of Leuven, Belgium*): **Properties of Interstitial Fe in α -Al₂O₃**

Oral Presentation-21 (11:35-11:50)

V. O. Pelenovich (*Wuhan University, China*): **⁵⁷Fe Mössbauer Spectroscopy Study of Superconducting Sm_{0.85}Ba_{0.15}FeAsO Doped with Fluorine**

Oral Presentation-22 (11:50-12:05)

M. G. Han (*University of Electronic Science and Technology of China, China*): **Mössbauer Effect Study on the Enhanced Microwave Permeability of Fe-Si-Al Alloy**

Lunch Time

[12:05-13:35]

September 2 - 7, 2012

Session 14 Metals & Alloys

[13:35-14:15]

Chairman: **A. F. Mulaba-Bafubiandi** (*University of Johannesburg, South Africa*)

Oral Presentation-23, 24 (13:35-14:05)

S. M. Dubiel (*AGH University of Science & Technology, Poland*): **What Can We Learn about Fe-Cr Alloys With Mössbauer Spectroscopy?**

Oral Presentation-25 (14:05-14:15)

V. I. Krylov (*Moscow State University, Russia*): **Magnetic Hyperfine Fields on ^{119}Sn Probe Nuclei and the Features of Magnetic Exchange in 3d-, 4f-, and Uranium-Based Intermetallic Compounds**

Coffee Time

[14:15-14:35]

Session 15 Nanotechnology

[14:35-15:50]

Chairman: **Y. Yamada** (*Tokyo University of Science, Japan*)

Invited Talk-23 (14:35-15:05)

N. Kojima (*The University of Tokyo, Japan*): **Study on the Structure and Electronic State of Size-Controlled Gold Nano-Particles by Means of ^{197}Au Mössbauer Spectroscopy**

Oral Presentation-26 (15:05-15:20)

A. M. Elshahawy (*Assiut University, Egypt*): **Mössbauer and Magnetization Studies of Nickel Ferrite Nanoparticles Synthesized By the Microwave-Combustion Method**

Oral Presentation-27 (15:20-15:35)

I. Mischenko (*Russian Academy of Sciences, Russia*): **Biodegradation of Magnetic Nanoparticles Evaluated from Mössbauer and Magnetization Measurements**

Oral Presentation-28 (15:35-15:50)

L. Diop (*Univ Cheikh Anta Diop Dakar, Senegal*): **Synthesis and Spectroscopic Characterization of Some New Hydrophosphonato, Phosphato and Hydrogenophosphato Derivatives**

Company Presentation

[15:50-16:10]

A. Rogozev (*RITVERC GmbH, Russia*): **RITVERC GmbH, Mössbauer Sources Production**

Poster Session 2

[16:10-18:00]

The even number presentation

September 7 (Fri.)

Session 16 Electrochemistry, Batteries

[8:30-9:00]

Chairman: **J. F. Marco** (*Instituto de Química Física "Rocasolano", Spain*)

Invited Talk-24 (8:30-9:00)

J. -C. Jumas (*University of Montpellier 2, France*): **Combined operando Studies of New Electrode Materials for Li-ion Batteries**

Session 17 Methodology & Instrumentation

[9:00-10:00]

Chairman: **P. de Souza** (*University of Tasmania, Australia*)

Invited Talk-25 (9:00-9:30)

G. Klingelhöfer (*Johannes Gutenberg-Universität Mainz, Germany*): **The Miniaturized Mössbauer Spectrometers MIMOS II & MIMOS IIA: Instrument Development and Applications**

Invited Talk-26 (9:30-10:00)

Z. Klencsár (*Hungarian Academy of Sciences, Hungary*): **MossWinn-Methodological Advances in the Field of Mössbauer Data Analysis**

Coffee Time

[10:00-10:20]

Session 18 Applications Using Synchrotron Radiation

[10:20-11:20]

Chairman: **K. Mibu** (*Nagoya Institute of Technology, Japan*)

Invited Talk-27 (10:20-10:50)

R. Hermann (*Forschungszentrum Juelich, Germany and Université de Liège, Belgium*): **Thermoelectric Materials Using Synchrotron Radiation**

Invited Talk-28 (10:50-11:20)

J. T. Sage (*Northwestern University, USA*): **Resonant X-ray Absorption by ⁵⁷Fe: A Site-selective Probe of Protein Structure and Elasticity**

Closing Remarks

[11:20-11:50]

Chairman: **E. Kuzmann** (*Eötvös Loránd University, Hungary*)

J. G. Stevens (*The University of North Carolina at Asheville, USA*)

Closing Session

[11:50-12:20]

Chairman: **D. S. Xue** (*Key Laboratory for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, China*)

A Short Summary

J. Wang (*Mössbauer Effect Data Center, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China*)

Welcome to ISIAME2016

Lunch Time

[12:20-13:20]

September 2 - 7, 2012