



PROGRAM

Sunday July 9th

Hotel SB Diagonal Zero (Plaça Llevant, s/n, 08019 Barcelona)

18.00-20.00

Registration

20.00-21.00

Welcoming cocktail

Monday July 10th

(Escola d'Enginyeria Barcelona Est. Campus Diagonal Besòs, Building A. Av. Eduard Maristany, 16, 08019 Barcelona)

08.00-09.00

Registration

09.00-09.15

Welcoming ceremony by Vice-Dean of Research at EEBE Campus (Prof. Jordi José), ICSAM Chairman (Prof. Goroh Itoh), ICSAM local chairman (Prof. José-María Cabrera)

09.15-09.30

Tribute to the memory of Prof. Alex Zhilyaev by Prof. Terence Langdon, Prof. Alexander Pesin and Prof. Jose Maria Cabrera

SUPERPLASTICITY (I) SESSION.

Chairperson Prof. Jessica Calvo (Universitat Politècnica de Catalunya)

09.30-10.15

Plenary Talk

New developments in the processing of metallic alloys for achieving exceptional superplastic properties

Chuan Ting Wang, Zheng Li, Jing Tao Wang, Terence G. Langdon.

10.15-10.35

An investigation of forming of Ti-6Al-4V at lower temperatures

Hosam Elrakayby, Diego Gonzalez, Paranjayee Mandal, Paul Blackwell

10.35-10.55

Fabrication and superplastic forming property research of TiB whisker reinforced titanium alloy matrix composite sheet

Mingjie Fu, Fuxin Wang, Zhen Li, Yingying Liu.

10.55-11.15

The Ti-based alloys for low-temperature superplastic forming

Anton D. Kotov, Maria N. Postnikova, Ahmed O. Mosleh, Anastasia V. Mikhaylovskaya

11.15-11.45

Coffee break – Poster session

SUPERPLASTICITY (II) SESSION. Chairperson Prof. Nuria Llorca (Universitat de Barcelona)

11.45-12.05

Superplasticity of Ti-6Al-7Nb alloys with different initial microstructures processed by high-pressure torsion.

Kathy González Jiménez, Joaquín E. González Hernández, Jorge M. Cubero-Sesin, Jeremy Barrantes Rodríguez, Zenji Horita

12.05-12.25

Precise forming of Ti60 alloy by superplastic forming/diffusion bonding

Jiang Shaosong, Kang Liangwei, Li Yang.

12.25-12.45

Numerical simulation and experimental trials on superplastic forming for thin-walled structure of Ti2AlNb alloy

Ning Zhang, Yaoqi Wang, Yanhong Mu, Zhen Li.

12.45-13.05

Effect of friction stir forming parameters on mechanical properties and plastic flow of material in the mechanical interlocking of optical fiber and SP-700 superplastic titanium alloy

Hamed Mofidi Tabatabaei, Takahiro Ohashi, Tadashi Nishihara

13.05-13.25

Mechanical and microstructural analysis of Ti-6Al-4V material in a wide range of superplastic forming conditions

Alexander Sancho, Paranjayee Mandall, Craig Knowles, Diego Gonzalez

13.25-15.00

Lunch

SUPERPLASTICITY (III) AND INDUSTRIAL APPLICATIONS (I) SESSION.

Chairperson Prof. Fernando Carreño (Centro Nacional de Investigaciones Metalúrgicas CENIM-CSIC, Spain)

15.00-15.45

Plenary talk

Towards high-speed and low-temperature superplastic deformation in structural ceramics

Hidehiro Yoshida, Koji Morita, Takahisa Yamamoto

15.45-16.05

Creep behavior enhanced under electric field in zirconia

Koji Morita, Kohta Nambu, Hidehiro Yoshida, Takahisa Yamamoto

16.05-16.25

Effects of deformation conditions on the superplastic deformation behavior of LZ91 Mg-Li alloy under electric field

Bao Meng, Feng Pan, Jianqiang Yang, Dongsheng Li, Min Wan

16.25-16.45

Coffee break – Poster session

16.45-17.05

Integration of HF and SPF technology in an efficient industrial production flow for high rates aeronautical parts

Yves Marcel, Jeremy Pion, Sharan Raj Rangasamy Mahendren.

17.05-17.25

Investigation of the complexities inherent in manufacturing near-unconstrained superplastic parts by experiments and simulation

Bryan Ferguson, Eric Bol, Daniel G. Sanders, Mamidala Ramulu

17.25-17.45

Formation mechanism and elimination method for surface groove of the hollow lattice structure by superplastic forming

Yanhong Mu, Zhiqiang Li, Bing Zhao, Feng Yang, Ning Zhang, Lihua Du, Yong Li

17.45-18.05

Study on superplastic gas-bulging properties and microstructure evolution of as-rolled 2A97 Al-Li alloy

Zhang Yanling, Liu Jiajia, Xu Huiyuan, Du Lihua.

18.05-18.25

Superplastic forming process research of front aluminum alloy opening and closing mechanism hatch for multiple units

Ranran Chen, Guangzhong He, Kefei Wang, Guofeng Wang.

18.25-18.45

Low-temperature superplasticity of Si-added medium-Mn steel

Hyun-Bin Jeong, Seok-Won Choi, Seok-Hyeon Kang, Young-Kook Lee.

Tuesday July 11th

(Escola d'Enginyeria Barcelona Est. Campus Diagonal Besòs, Building A. Av. Eduard Maristany, 16, 08019 Barcelona)

SEVERE PLASTIC DEFORMATION (I)

Chairperson Prof. Jorge Cubero (Instituto Tecnológico de Costa Rica, Costa Rica)

09.00-09.45

Plenary talk

Achieving superplasticity in hard-to-deform metallic materials using high-pressure sliding (HPS) process

Zenji Horita, Yoichi Takizawa.

09.45-10.05

Predicting ECAP misorientation evolution and its influence on superplasticity for an Al-Zn-Mg-Cu alloy

Fernando Carreño.

10.05-10.25

Nanostructuring Ti-alloys by HPT: Corrosion properties and bioactivation

Alberto Moreira Jorge Jr, Diego Alfonso Godoy Perez, Virginie Roche, Ruslan Z. Valiev

10.25-10.45

Mechanical properties and corrosion resistance of the Zn-1%Mg alloy with Ca, Dy, or Mn after severe plastic deformation

Natalia Martynenko, Natalia Tabachkova, Olga Rybalchenko, Georgy Rybalchenko, Dmitriy Prosvirnin, Diana Temralieva, Elena Lukyanova, Andrey Sannikov, Sergey Dobatkin

10.45-11.05

Microstructural characteristics, mechanical and corrosion properties of a low-alloyed Mg alloy after different deformation processing

Zahra Abbasi, José María Cabrera, Ramin Ebrahimi, Erhard Schafler

11.05-11.30

Coffee break – Poster session

SEVERE PLASTIC DEFORMATION (II) AND INDUSTRIAL APPLICATIONS (II) SESSION

Chairperson Prof. Alberto Moreira Jorge Jr (Universidade Federal de São Carlos, Brazil)

10.30-11.50

Effect of severe plastic deformation on microstructure and properties of duplex stainless steel.

Claudio Gennari, Luca Pezzato, Nuria Llorca-Isern, Alisiya Biserova-Tahchieva, Irene Calliari.

11.50-12.10

Consolidation of AZ31 magnesium chips using equal channel angular pressing

Majid Al-Maharbi, Almundher Al-Namani.

12.10-12.30

Structure and service properties of Fe-Mn Alloys after severe plastic deformation for biomedical applications

Olga Rybalchenko, Natalia Martynenko, Georgy Rybalchenko, Elena Lukyanova, Natalia Tabachkova, Igor Shchetinin, Dmitry Prosvirnin, Arseniy Raab, Sergey Dobatkin

12.30-12.50

Effect of high-pressure torsion on structure and properties of metal-matrix composites

Sergey Zherebtsov, Maxim Ozerov, Nikita Stepanov

12.50-13.10

Secondary phase precipitation in ultrafine-grained superduplex stainless steels

Alisiya Biserova-Tahchieva, Núria Llorca-Isern, José María Cabrera

13.10-13.30

An industrial application of multiple simulations for “a non formable“ geometry - one piece roof for cable cars

Christoph Pirchl

13.30-15.00

Lunch

15.00-19.30

Guided Tour to visit Down Town and Holly Family Temple: Departure from Conference Venue

20.00-22.30

Gala dinner: Hotel AC Marriot, Passeig del Taulat 278, 08019 – Barcelona

Wednesday July 12th

(Escola d'Enginyeria Barcelona Est. Campus Diagonal Besòs, Building A. Av. Eduard Maristany, 16, 08019 Barcelona)

ADVANCED CHARACTERIZATION AND MECHANISMS SESSION

Chairperson Prof. Pere Barriobero (Universitat Politècnica de Catalunya, Spain)

09.00-09.30

Keynote

In-situ neutron and synchrotron methods for the investigation of plastic deformation and annealing in metals

Klaus Dieter Liss

09.30-09.50

Grain boundary sliding at low temperatures

Roberto B. Figueiredo.

09.50-10.10

In-situ heating observations on microstructure relaxation of ultrafine-grained high-entropy alloys using neutron diffraction and laser-scanning confocal microscopy

Megumi Kawasaki, Jae-Kyung Han, Suk-Chun Moon, Klaus-Dieter Liss

10.10-10.30

Deducing macroscopic viscosity from microscopic cooperative motion when GBS is accommodated by diffusion

Laurent Delannay, Francis Delannay

10.30-10.50

The effect of chemical composition on the mechanisms of superplastic deformation for the alloys with matrix and duplex-type structures

Anastasia V. Mikhaylovskaya, Olga A. Yakovtseva, Anton D. Kotov

10.50-11.10

Retained austenite grain size as a factor controlling the plasticity of medium-Mn automotive steels

Adam Skowronek, Adam Grajcar

11.10-11.30

Puzzling aspects of $(11\bar{2})$ twinning in hcp metals

Andriy Ostapovets, Ritu Verma, Anna Serra

11.30-11.50

Coffee break and poster session

HOT WORKING (I) SESSION

Chairperson Prof. Jose Antonio Benito (Universitat Politècnica de Catalunya, Spain)

11.50-12.10

Hot deformation of ultrafine-grained TiC-reinforced AlCrFeNbMoTiV refractory high entropy alloys

Pablo Martin, Claudio Aguilar, Begoña Ferrari, Antonio Javier Sánchez-Herencia, José María Cabrera.

12.10-12.30

Deformation behaviour and microstructural evolution of high-entropy CoFeMnNi alloy at hot deformation condition with low strain rate

Lihua Du, Jiaai Shi, Jiayu Liang, Kailun Zheng

12.30-12.50

Comparative studies of hyperbolic sine constitutive models for constant pressure superplastic tests

Luis García-Barrachina, Antonio J. Gámez

12.50-13.10

Constitutive relationships for sintered Cobalt during high-temperature deformation

Verónica Collado Ciprés, José García1, Jose Maria Cabrera, Luis Llanes

13.10-13.30

Warm tensile properties of low-alloy TRIP steel warm-rolled just prior to isothermal holding treatment

Katsumi Hattori, Genta Kojima, Junya Kobayashi, Goroh Itoh, Shigeru Kuramoto, Tomohiko Hojo.

13.30-15.00

Lunch

HOT WORKING (I) AND COLD WORKING SESSION

Chairperson Prof. Irene Calliari (Università degli Studi di Padova, Italy)

15.00-15.30

Keynote

Ultra-severe plastic deformation for room-temperature superplasticity and superfunctionality

Kaveh Edalati

15.30-15.50

Investigation of the influence of kinematic asymmetry on the properties of laminated materials

Olesya D. Biryukova, Alexander M. Pesin, Denis O. Pustovoytov

15.50-16.10

FEM simulation of dynamic recrystallization during asymmetric hot rolling of high-speed steel M2

Alexander Pesin, Denis Pustovoytov, Ilya Pesin, Hailiang Yu, Puneet Tandon, Harshal Y. Shahare, Abhay Kumar Dubey, Leonid Nosov

16.10-16.30

Improvement in strength and ductility of flame-retardant magnesium alloy through uniaxial hot pressing

Koichi Kitazono, Kotaro Wada

16.30-16.50

Integration of sheet metal forming processes to optimize the final thickness distribution of axisymmetric components

Antonio Piccininni, Giuseppe Serratore, Donato Sorgente, Giuseppina Ambrogio, Gianfranco Palumbo

16.50-17.10

Experimental study of the effect of increasing technological plasticity during asymmetric rolling of aluminum Alloys

Anna Kozhemyakina, Alexander Pesin, Denis Pustovoytov, Leonid Nosov, Anna Baryshnikova, Natalia Lokotunina, Dmitry Grachev.

17.10-17.30

Closing ceremony and Awards to best poster, and best senior and junior presenters

POSTERS

Hot plastic behavior of an ultrafine-grained aluminum alloy fabricated by laser powder bed fusion and equal channel angular pressing

Jairo Alberto Muñoz, Louis Huvelle, Enrique Manuel Huerta, José María Cabrera.

Improved stochastic dissimilar diffusion bonding model with experimental validation

Bryan Ferguson, Neha Kulkarni, Daniel G. Sanders, Eric Bol, Mamidala Ramulu

Development of asymmetric cold rolling technology of high-strength steel grades in order to exclude intermediate annealing operations

Alexander Pesin, Georgy Raab, Alexey Sverchkov, Denis Pustovoytov, Gennady Kornilov, Alexey Bochkarev, Ilya Pesin, Leonid Nosov

Texture and strain rate sensitivity analysis of solid solution and precipitation hardening aluminum alloys processed by repetitive corrugation and straightening.

Sergio Elizalde, Marcos Ezequiel, Liliana Romero-Reséndiz, Gonzalo González, José María Cabrera.

Exploring the effects of repetitive corrugation and strengthening on alloy A5083 using X-ray diffraction techniques

Carlos Alberto De la Trinidad, Ignacio A. Figueroa, José María Cabrera, Gonzalo González

Microstructural and corrosion study of a “non-comercial” high manganese steel

Marcos Natan da Silva Lima, Mauro Andres Cerra Florez, Jorge Luiz Cardoso, João Vitor da Silva Pinto, Lucas Moura Farias de Medeiros, Walney Silva Araújo, Hamilton Ferreira Gomes de Abreu,

Effect of rotary swaging on the mechanical properties and corrosion resistance of the Zn-1%Mg and Zn-1%Mg-0.1%Ca alloys

Olga Rybalchenko, Natalia Martynenko, Diana Temralieva, Georgy Rybalchenko, Elena Lukyanova, Artem Gorbenko, Vladimir Yusupov, Andrey Sannikov, Sergey Dobotkin

High-speed self-joining of 3Y-TZP using an AC electric field

Kohta Nambu, Koji Morita, Tomoharu Tokunaga, Takahisa Yamamoto, Hiroshi Masuda, Hidehiro Yoshida

Superplastic deformation behaviour and constitutive modelling of Ti-55 sheets under bi-axial stress states

Lihua Du, Zhiqiang Li, Kunning Fu, Kailun Zheng

High temperature tensile flow of 3Y-TZP ceramics under an AC electric field

Itsuki Imanishi, Hiroshi Masuda, Hidehiro Yoshida

MAPS IN THE CONFERENCE AREA

