

Abstract submission for an oral presentation on the HE Special Symposium, within the framework of the ECF22 is closed (for more details see below).

Dear colleagues,

Currently, we have 50 abstracts already submitted (including 10 invited talks) to the

ECF22 Special Symposium:

"Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" (HE Special Symposium), with a round table and panel discussions,

Organized by:

Milos Djukic, Associate Prof. ¹, Prof. William Curtin ² and Prof. Zhiliang Zhang ³

¹ *Department of Engineering Materials and Welding, University of Belgrade, Faculty of Mechanical Engineering, Serbia*

² *Laboratory for Multiscale Mechanics Modeling, École polytechnique fédérale de Lausanne - EPFL, Switzerland*

³ *Department of Structural Engineering, Norwegian University of Science and Technology - NTNU, Faculty of Engineering, Norway,*

within the framework of **the 22nd European Conference on Fracture - ECF22** which will be held in Belgrade, Serbia, 26-31 August 2018 (see <http://www.ecf22.rs/>).

Prof. William Curtin, EPFL, Switzerland (HE Special Symposium co-chair) will give one of the plenary talks on the conference, titled: ***"Mechanisms of Hydrogen Embrittlement: Insights from Atomistic Studies"***.

HE Special Symposium Announcement:

<http://www.ecf22.rs/docs/Symposium%20Recent%20Advances%20on%20Hydrogen%20Embrittlement%20Understanding.pdf>

IMPORTANT NEWS:

Due to the large number of abstracts received (more than 50), the HE Special Symposium will be extended for four (five) days, but the main sessions are on Wednesday and Thursday, as well as a round table (Thursday - afternoon).

- **We do not have slots remains for an additional oral presentations of papers within the HE Special Symposium and an abstract submission for an oral presentation is closed.**
- **Only submission on an additional abstracts for the HE Special Symposium and poster presentations are available until 31. March, 2018.**
- All contributions in the form of extended abstracts will be peer reviewed. Abstracts will be published in the form of ECF22 e-book and available during the registration. Full papers will be published in an open access *Procedia Structural Integrity* journal by Elsevier in the form of ECF22

Proceedings. (<https://www.journals.elsevier.com/procedia-structural-integrity>)

- A selection of papers presented during ECF22 and at the HE Special Symposium will be published in a Special Issue of International journals by Elsevier affiliated with the European Structural Integrity Society - ESIS: *International Journal of Fatigue*, *Engineering Failure Analysis*, *Engineering Fracture Mechanics* and *Theoretical and Applied Fracture Mechanics*. (<http://www.structuralintegrity.eu/site/home/journal>)
- Please inform us by email about your expression of interest and submission/intention to submit **an abstract for a poster presentation** with a tentative title of your presentation together with the name, affiliation and email address of the corresponding author and the names of co-authors to: mdjukic@mas.bg.ac.rs (Milos Djukic, Associate Prof.), so that we could plan Special Symposium's poster sessions.
- **When submitting your abstract for a poster presentation**, please click on the topic: "2.5 hydrogen embrittlement" during the submission process in the EasyChair on-line system.
- **More details about organization (chairman's list and participants list) of the HE Special Symposium round table and panel discussions** (to be held on Thursday - afternoon); topics (tentative titles of topics), and planned discussions, will be available soon on this webpage.
- **Draft programme** of the HE Special Symposium will be available soon on this webpage.
- **Visit and save this webpage to stay tuned**, as we will regularly post updates.
- **Do not hesitate to contact us** if you have any further question about the HE Special Symposium: mdjukic@mas.bg.ac.rs (Milos Djukic, Associate Prof.).

We'll have some top hydrogen embrittlement experts from Japan, Norway, France, China, USA, Canada, Belgium, Russia, Ukraine, Germany, United Kingdom, India, Italy, Spain, Israel, Switzerland and Serbia in Belgrade (check the participants list below).

We are looking forward to see you all in Belgrade.

Sincerely,

Milos Djukic, William Curtin and Zhiliang Zhang

Organizers of the HE Special Symposium (ECF22)

HE Special Symposium Invited speakers

Prof. William Curtin, *Laboratory for Multiscale Mechanics Modeling, École polytechnique fédérale de Lausanne - EPFL, Lausanne, Switzerland*



Xiao Zhou, William Curtin and Jun Song,
***Hydrogen diffusion along grain boundaries:
Atomistic simulations and mechanistic model***

Jun Song, *Associate Professor, McGill University, Materials Engineering, Montreal, Quebec, Canada*



Xiao Zhou, William Curtin and Jun Song,
***Hydrogen diffusion along grain boundaries:
Atomistic simulations and mechanistic model***

Prof. Zhiliang Zhang, *Norwegian University of Science and Technology – NTNU, Department of Structural Engineering, Faculty of Engineering, Trondheim, Norway*



Haiyang Yu, Jim Stian Olsen, Jianying He and
Zhiliang Zhang,
***Hydrogen-microvoid interaction: bridging the
gap between hydrogen embrittlement and
ductile failure***

Prof. Hiroyuki Toda, *Kyushu University, Department of Mechanical Engineering, Faculty of Engineering, Fukuoka, Japan*



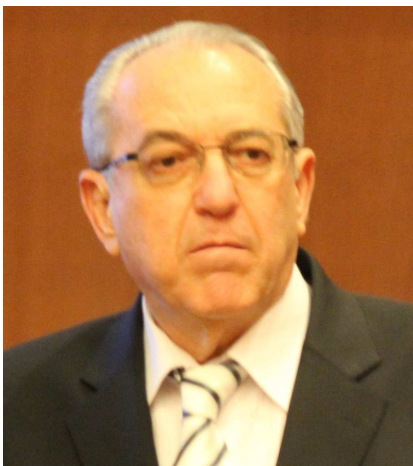
Hiroyuki Toda, Hang Su, Kazuyuki Shimizu, Hiro Fujihara, Kyosuke Hirayama, Akihisa Takeuchi and Kentaro Uesugi,
Assessment of hydrogen embrittlement via in-situ imaging techniques in high Zn Al-Zn-Mg alloys

Prof. Afrooz Barnoush, *Norwegian University of Science and Technology – NTNU, Department of Mechanical and Industrial Engineering, Faculty of Engineering, Trondheim, Norway*



Afrooz Barnoush, Bjørn Rune Rogne, Yun Deng, Tarlan Hajilou, Di Wan, Xu Lu and Dong Wang,
Understanding the hydrogen embrittlement by novel critical experiments

Prof. Dan Eliezer, *Ben-Gurion University of the Negev, Department of Materials Engineering, Beersheba, Israel*



Dan Eliezer,
Recent studies of hydrogen embrittlement in structural materials

Dr. Mohsen Dadfarnia, *International Institute for Carbon Neutral Energy Research (WPI-I2CNER), Kyushu University, Japan and Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA*



Mohsen Dadfarnia, Akihide Nagao, Brian P. Somerday, Petros Sofronis and Robert O. Ritchie,
Plasticity-induced intergranular and “quasi-cleavage” fracture of lath martensitic steels in hydrogen

Prof. Xavier Feugas, *Université de La Rochelle, Laboratoire des Sciences de l'Ingénieur pour l'Environnement – LaSIE, La Rochelle, France*



Xavier Feugas, Guillaume Hachet, Jiaqi Li, Arnaud Metsue and Abdelali Oudriss,
Multi-scale analyses of the different interactions between defects and hydrogen: on the contribution of the elastic fields

Prof. Kim Verbeken, *Ghent University, Department of Materials, Textiles and Chemical Engineering, Ghent, Belgium*



Tom Depover and **Kim Verbeken**,
Understanding the interaction between a steel microstructure and hydrogen: the key to develop more hydrogen resistant materials?

Motomichi Koyama, Assistance Prof., Kyushu University, Department of Mechanical Engineering, Faculty of Engineering, Fukuoka, Japan



**Motomichi Koyama, Takeshi Eguchi, Kenshiro Ichii, Cemal Cem Tasan and Kaneaki Tsuzaki,
*A new concept for prevention of hydrogen-induced mechanical degradation: viewpoints of metastability and high entropy***

Prof. Kenichi Takai, Sophia University, Department of Engineering and Applied Science, Faculty of Science and Technology, Japan



**Kenichi Takai and Hiroshi Suzuki,
*Trapping states of hydrogen and hydrogen embrittlement of high strength steels***

HE Special Symposium participants list (not complete):

- Prof. William Curtin, *Laboratory for Multiscale Mechanics Modeling, École polytechnique fédérale de Lausanne – EPFL, Lausanne, Switzerland*
- Prof. Zhiliang Zhang, *Norwegian University of Science and Technology (NTNU), Faculty of Engineering, Norway*
- Prof. Hiroyuki Toda, *Kyushu University, Japan*
- Prof. Afrooz Barnoush, *Norwegian University of Science and Technology – NTNU, Faculty of Engineering, Norway*
- Prof. Dan Eliezer, *Ben-Gurion University of the Negev, Department of Materials Engineering, Israel*
- Jun Song, Associate Professor, *McGill University, Canada*
- Dr. Mohsen Dadfarnia, *International Institute for Carbon Neutral Energy Research (WPI-I2CNER), Kyushu University, Japan and Department of Mechanical Science and Engineering, University of Illinois at Urbana-Champaign, USA*
- Prof. Xavier Feaugas, *Université de La Rochelle, France*
- Prof. Kim Verbeken, *Ghent University, Belgium*
- Motomichi Koyama, Assistance Prof., *Kyushu University, Japan*
- Prof. Kenichi Takai, *Sophia University, Japan*
- Prof. Ihor Dmytrakh, *Karpenko Physico-Mechanical Institute of National Academy of Sciences of Ukraine, Ukraine*
- Prof. Jianying He, *Norwegian University of Science and Technology (NTNU), Faculty of Engineering, Norway*
- Prof. Renzo Valentini, *Università di Pisa, Department of Chemistry and Industrial Chemistry, Italy*
- Prof. Gilbert Hénaff, *Pprime Institute, ISAE-ENSMA, France*
- Prof. Alan Cocks, *University of Oxford, United Kingdom*
- Prof. Hryhoriy Nykyforchyn, *Karpenko Physicomechanical Institute, Ukrainian National Academy of Science, Ukraine*
- Prof. Alexander Balitskii, *Karpenko Physicomechanical Institute, Ukrainian National Academy of Science, Ukraine*
- Prof. Vladimir Polyanskiy, *Institute of Problems of Mechanical Engineering RAS, Russia*
- Gabriella Bolzon, Associate Prof., *Politecnico di Milano, Department of Civil and Environmental Engineering DICA, Italy*
- Shinya Taketomi, Associate Prof., *Saga University, Department of Mechanical Engineering, Japan*
- Ryosuke Matsumoto, Associate Prof., *Kyoto University, Department of Mechanical Engineering and Science, Japan*
- Milos Djukic, Associate Prof., *University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia*
- Masanori Fujinami, *Chiba University, Japan*
- Kenshiro Ichii, *Kyushu University, Department of Mechanical Engineering, Japan*
- Tsubasa Kumamoto, *Kyushu University, Japan*
- Yann Charles, Assistant Prof., *Université Paris 13, France*
- Dhiraj K. Mahajan, Assistance Prof., *Indian Institute of Technology Ropar (IIT Ropar), India*
- Dr. Tuhin Das, Graduate Research Assistant, *McGill University, Canada*
- Dr. Mimoun Elboujdaini, *Blade Energy Partners, USA*
- Dr. Eiji Akiyama, *Institute for Materials Research, Tohoku University, Japan*
- Dr. Antonio Alvaro, *SINTEF, Norway*
- Dr. Giovana Gabetta, *Eni SpA, Italy*
- Dr. Elena Astafurova, *Institute of Strength Physics and Materials Science, Siberian Branch of Russian Academy of Sciences, Russia*
- Dr. Eunan J. McEniry, *Max-Planck-Institut für Eisenforschung GmbH (MPIE), Germany*
- Dr. Evgeniy Merson, *Institute of Advanced Technologies, Togliatti State University Institute of Advanced Technologies, Russia*
- Dr. May Martin, *National Institute of Standards and Technology - NIST, USA*
- Dr. Matthew Connolly, *National Institute of Standards and Technology - NIST, USA*
- Dr. Xiaofei Guo, *Steel Institute, RWTH Aachen University, Germany*
- Dr. Evy De Bruycker, *ENGIE Laborelec, Belgium*
- Predrag Andric, M.Sc., *Laboratory for Multiscale Mechanics Modeling, École polytechnique fédérale de Lausanne - EPFL, Lausanne, Switzerland*
- Zaiqing Que, M.Sc., *Paul Scherrer Institut, Switzerland*
- Elisabeth Schwarzenböck, *Airbus, Germany*
- Margot Pinson, *Ghent University, Belgium*