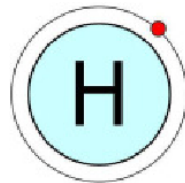


Programme - Final

The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework"

(HE Special Symposium)

with a round table and panel discussions (Thursday, 30th, afternoon)



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, Faculty of Engineering – NTNU, Norway,

within the framework of the 22nd European Conference on Fracture -
ECF22

**Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August,
2018, Belgrade, Serbia**

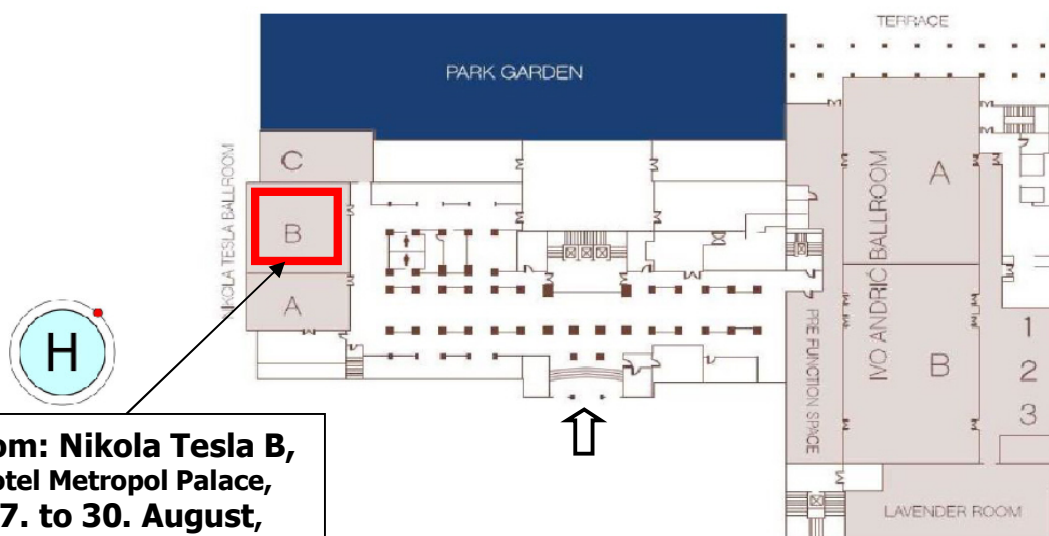
HE Special Symposium - Timetable, Room: Nikola Tesla B

Monday, 27th - Session 1, Parallel 1 (morning) 11.00 - 13.30 h Hydrogen embrittlement, industrial case studies	Tuesday, 28th - Session 3, Parallel 3 (morning) 11.00 - 13.30 h Hydrogen-materials interactions, part I (steels)	Wednesday, 29th - Session 5, Parallel 5 (morning) 11.00 - 13.30 h Hydrogen mapping and novel critical experiments, Hydrogen-materials interactions, part II	Thursday, 30th - Session 6, Parallel 6 (morning) 11.00 - 13.30 h Hydrogen embrittlement mechanism: Experiments and models
Monday, 27th - Session 2, Parallel 2 (afternoon) 16.15 - 18.00 h Hydrogen embrittlement modelling	Tuesday, 28th - Session 4, Parallel 4 (afternoon) 16.15 - 18.10 h Materials mechanical response	-	Thursday, 30th - Session 7, Parallel 7 (afternoon) 14.30 - 19.00 h Round table and panel discussions

ECF22 – Timetable, Preliminary Conference Programme

ECF22 schematic time table					
Sunday, 26.8	Monday 27.8	Tuesday 28.8	Wednesday 29.8	Thursday 30.8	Friday 31.8
	8.00-9.00 Registration	8.00-9.00 Registration	8.00-9.00 Registration	8.00-9.00 Registration	8.00-9.00 Registration
	9-10.30 Plenary 1 Opening ceremony, J. Rice	9-10.30 Plenary 3 Y. Hong, U. Zerbst	9-10.30 Plenary 5 R. Ritchie, Y. Huang	9-10.30 Plenary 6 T. Kitamura, W. Curtin	9-10.30 Parallel 8
	10.30-11.00 Coffee break	10.30-11.00 Coffee break	10.30-11.00 Coffee break	10.30-11.00 Coffee break	10.30-11.00 Coffee break
	11-13.30 Parallel 1	11-13.30 Parallel 3	11-13.30 Parallel 5	11-13.30 Parallel 6	11-13.30 Plenary session and Closing ceremony
	13.30-14.30 Lunch	13.30-14.30 Lunch	13.30-14.30 Lunch	13.30-14.30 Lunch	
Faculty of Mech.Engng 15.30-17.00 J. Rice on J Integral 50 th Anniversary 17.00-20.00 Registration and Welcome cocktail	14.30-15.40 Plenary 2 J. Jaric, D. Kozak	14.30-15.40 Plenary 4 M. Kuna, N. Gubeljak	14.30-16.00 Competition Young scientist best paper Poster session (Lavander)	14.30-17 Parallel 7	
	15.40-16.00 Coffee break	15.40-16.00 Coffee break			
	16.00-18.15 Parallel 2	16.00-18.15 Parallel 4	17.00-20.00 ESIS Council		
	19.00-22.00 Cultural programme & cocktail	18.30-22.00 Belgrade cruise	16.30-21.00 Belgrade sightseeing	19.00-23.00 Conference dinner	

Plenary sessions and Conference dinner will be held in IVO ANDRIC BALLROOM, Coffee breaks and Lunches: TERRACE, RESTAURANT, PARK GARDEN



Scheme of the ground floor of Metropol Palace, view from the street

**Room: Nikola Tesla B,
Hotel Metropol Palace,
27. to 30. August,
2018, Belgrade, Serbia**
HE Special Symposium
**with a round table and
panel discussions**

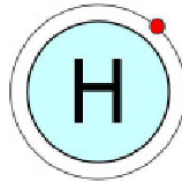
HE Special Symposium - Timetable, Room: Nikola Tesla B

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The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework"

([HE Special Symposium](#))

with a round table and panel discussions



Our aim is to bring together top scientists and researchers in the field of hydrogen embrittlement in order to present the latest achievements, current state of the art and the future research framework in understanding of hydrogen embrittlement phenomena.

The main objective of this HE Special Symposium with a round table and panel discussions is to enable an open and productive dialogue between all disciplines which study hydrogen embrittlement phenomena from any scientific or technological perspective and which in turn are being transformed by continuous advances in materials science and technology.

The idea is to attract top researchers in hydrogen embrittlement phenomena to participate with papers and to join the HE Special Symposium round table and panel discussions (Session 7, Parallel 7, Thursday, 30th, Room: Nikola Tesla B, afternoon, 14.30 - 19.00h).

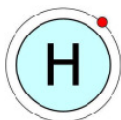
The Special Issue of Engineering Fracture Mechanics (EFM) Journal (Impact Factor: 2.580 – 2017) will be devoted to the selected papers presented at the Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" (HE Special Symposium), within the framework of the 22nd European Conference on Fracture - ECF22 (HE Special Symposium, ECF22 - <http://www.ecf22.rs/minisymp.html> - click on More Info...).

Thank you. We are looking forward to seeing you all in Belgrade during ECF22.

Best regards,

Milos Djukic, William Curtin and Zhiliang Zhang

Organizers of the ECF22 HE Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" with a round table and panel discussions, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

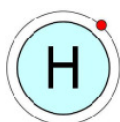


The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium - Timetable, Room: Nikola Tesla B

Monday, 27th - Session 1, Parallel 1 (morning) 11.00 - 13.30 h Hydrogen embrittlement, industrial case studies			Tuesday, 28th - Session 3, Parallel 3 (morning) 11.00 - 13.30 h Hydrogen-materials interactions, part I (steels)			Wednesday, 29th - Session 5, Parallel 5 (morning) 11.00 - 13.30 h Hydrogen mapping and novel critical experiments, Hydrogen-materials interactions, part II			Thursday, 30th - Session 6, Parallel 6 (morning) 11.00 - 13.30 h Hydrogen embrittlement mechanism: Experiments and models		
<i>Paper Submission No.</i>			<i>Paper Submission No.</i>			<i>Paper Submission No.</i>			<i>Paper Submission No.</i>		
1.1	170	Invited talk	3.1	204	Invited talk	5.1	246	Invited talk	6.1	311	Invited talk
1.2	422		3.2	452		5.2	465	Invited talk	6.2	231	Invited talk
1.3	45		3.3	444		5.3	191		6.3	541	
1.4	1		3.4	337		5.4	224		6.4	213	
1.5	218		3.5	212		5.5	240		6.5	333	
1.6	359		3.6	294		5.6	340		6.6	339	
1.7	188		3.7	393		5.7	439		6.7	338	
1.8	202					5.8	219		6.8	306	
		5.9				329		6.9	55		
Monday, 27th - Session 2, Parallel 2 (afternoon) 16.15 - 18.00 h Hydrogen embrittlement modelling			Tuesday, 28th - Session 4, Parallel 4 (afternoon) 16.15 - 18.10 h Materials mechanical response			-			Thursday, 30th - Session 7, Parallel 7 (afternoon) 14.30 - 19.00 h Round table and panel discussions		
<i>Paper Submission No.</i>			<i>Paper Submission No.</i>						Session 7.1		
2.1	57	Invited talk	4.1	425	Invited talk				Session 7.2		
2.2	239	Invited talk	4.2	77	Invited talk				Session 7.3		
2.3	208		4.3	232					Session 7.4		
2.4	237		4.4	429					Session 7.5		
2.5	266		4.5	454							
2.6	323		4.6	483							
			4.7	532							

ECF DIVK **22**
BELGRADE, SERBIA, 26-31.8.2018

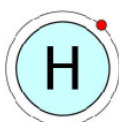


The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium

Monday, 27th - **Session 1 (morning), Parallel 1, 11.00 - 13.30 h**

Room		Nikola Tesla B
Chair		Milos Djukic, William Curtin and Zhiliang Zhang
Track		HE Special Symposium, Session 1 - Hydrogen embrittlement, industrial case studies
1.1	11.00 – 11.20	<p>Invited talk: Recent studies of hydrogen embrittlement in structural materials (<u>Dan Eliezer</u>, Ravit Silverstein)</p> <p style="text-align: right;">170</p>
1.2	11.20 – 11.35	<p>Vacuum vs argon technology for hydrogen measurement (A. M. Polyanskiy, <u>V. A. Polyanskiy</u>, K.P. Frolova, Yu.A. Yakovlev)</p> <p style="text-align: right;">422</p>
1.3	11.35 – 11.50	<p>Hydrogen embrittlement of steel pipelines during transients (<u>Zahreddine Hafsi</u>, Sami Elaoud and Manoranjan Mishra)</p> <p style="text-align: right;">45</p>
1.4	11.50 – 12.05	<p>Analysis of stress corrosion cracking in X80 pipeline steel: An approach from the Theory of Critical Distances (<u>Pablo González Gutiérrez</u>, Sergio Cicero González, José Alberto Álvarez Laso and Borja Arroyo Martínez)</p> <p style="text-align: right;">1</p>
1.5	12.05 – 12.20	<p>Hydrogen embrittlement in pipelines transporting sour hydrocarbons (<u>Giovana Gabetta</u>, F. Pagliari and N. Rezgui)</p> <p style="text-align: right;">218</p>
1.6	12.20 – 12.35	<p>Electrochemical fracture analysis of in-service natural gas pipeline steels (<u>Hryhoriy Nykyforchyn</u>, Oleksandr Tsyrlunyk and Olha Zvirko)</p> <p style="text-align: right;">359</p>
1.7	12.35 – 12.50	<p>Toward a non-destructive diagnostic analysis of exercises pipelines: models and experiences (<u>Gabriella Bolzon</u> and Marco Talassi)</p> <p style="text-align: right;">188</p>
1.8	12.50 – 13.05	<p>Hydrogen effects on the formation of nickel based superalloys cutting and wear products (<u>Alexander Balitskii</u> and V. Kolesnikov)</p> <p style="text-align: right;">202</p>

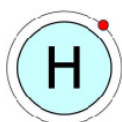


The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium

Monday, 27th - **Session 2 (afternoon), Parallel 2, 16.15 - 18.00 h**

Room		Nikola Tesla B
Chair		William Curtin, Eunan J. McEniry and Shinya Taketomi
Track		HE Special Symposium, Session 2 – Hydrogen embrittlement modelling
2.1	16.15 – 16.35	<p>Invited talk: Hydrogen diffusion along grain boundaries: Atomistic simulations and mechanistic model (Xiao Zhou, William Curtin and <u>Jun Song</u>)</p> <p style="text-align: right;">57</p>
2.2	16.35 – 16.55	<p>Invited talk: Hydrogen-microvoid interaction: bridging the gap between hydrogen embrittlement and ductile failure (Haiyang Yu, Jim Stian Olsen, Jianying He and <u>Zhiliang Zhang</u>)</p> <p style="text-align: right;">239</p>
2.3	16.55 – 17.10	<p>Molecular dynamics study of the influence of nonhydrostatic stress on the diffusion behavior of hydrogen in bcc-Fe (<u>Ryosuke Matsumoto</u>, Shunki Nagase and Shinya Taketomi)</p> <p style="text-align: right;">208</p>
2.4	17.10 – 17.25	<p>Numerical simulation of hydrogen embrittlement in iron (<u>Shinya Taketomi</u> and Ryosuke Matsumoto)</p> <p style="text-align: right;">237</p>
2.5	17.25 – 17.40	<p>Adaptation of hydrogen transport models at the polycrystal scale and application to the U-bend test (<u>Yann Charles</u>, Monique Gaspérini, Kevin Ardon, S. Ayadi, Sofiane Benannoune and Jonathan Mougnot)</p> <p style="text-align: right;">266</p>
2.6	17.40 – 17.55	<p>Atomistic modelling of light-element cosegregation at structural defects in iron (<u>Eunan J. McEniry</u>, Tilmann Hickel and Joerg Neugebauer)</p> <p style="text-align: right;">323</p>

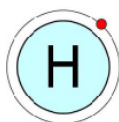


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HE Special Symposium

Tuesday, 28th - Session 3 (morning), Parallel 3, 11.00 - 13.30 h

Room		Nikola Tesla B
Chair		Kim Verbeken, Hiroyuki Toda and Milos Djukic
Track		HE Special Symposium, Session 3 – Hydrogen-materials interactions, part I (steels)
3.1	11.00 – 11.20	<p>Invited talk: Trapping states of hydrogen and hydrogen embrittlement of high strength steels (<u>Kenichi Takai</u> and Hiroshi Suzuki)</p> <p style="text-align: right;">204</p>
3.2	11.20 – 11.35	<p>Hydrogen enhanced fatigue crack growth rates in a ferritic Fe-3wt%Si alloy (<u>Antonio Alvaro</u>, Di Wan, Vigdis Olden and Afrooz Barnoush)</p> <p style="text-align: right;">453</p>
3.3	11.35 – 11.50	<p>Dislocation and twinning behaviors in high manganese steels in respect to hydrogen and material chemistry (<u>Xiaofei Guo</u>, Stefan Zaefferer, Wolfgang Bleck and Fady Archie)</p> <p style="text-align: right;">444</p>
3.4	11.50 – 12.05	<p>Proposal and verification of novel fatigue crack propagation simulation method by finite element method (Temma Sano, Daisuke Sasaki, Motomichi Koyama, Shigeru Hamada and Hiroshi Noguchi)</p> <p style="text-align: right;">337</p>
3.5	12.05 – 12.20	<p>Strain rate sensitivity of microstructural damage evolution in a dual-phase steel pre-charged with hydrogen (<u>Tsubasa Kumamoto</u>, Motomichi Koyama and Kaneaki Tsuzaki)</p> <p style="text-align: right;">212</p>
3.6	12.20 – 12.35	<p>Influence of hydrogen for crack formation during mechanical clinching (<u>Daisuke Sasaki</u>, Yuki Tampa and Toru Kato)</p> <p style="text-align: right;">294</p>
3.7	12.35 – 12.50	<p>EBSD characterization of hydrogen induced cracks in TRIP-assisted steel (A. Laureys, L. Claeys, <u>M. Pinson</u>, T. Depover and K. Verbeken)</p> <p style="text-align: right;">393</p>

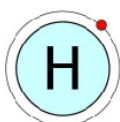


The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium

Tuesday, 28th - **Session 4 (afternoon), Parallel 4, 16.15 - 18.10 h**

Room		Nikola Tesla B
Chair		Afrooz Barnoush, Mohsen Dadfarnia and Kenichi Takai
Track		HE Special Symposium, Session 4 – Materials mechanical response
4.1	16.15 – 16.35	<p>Invited talk:</p> <p>Understanding the interaction between a steel microstructure and hydrogen: the key to develop more hydrogen resistant materials?</p> <p>(Tom Depover and <u>Kim Verbeken</u>)</p> <p>425</p>
4.2	16.35 – 16.55	<p>Invited talk:</p> <p>A new concept for prevention of hydrogen-induced mechanical degradation: viewpoints of metastability and high entropy</p> <p>(<u>Motomichi Koyama</u>, Takeshi Eguchi, Kenshiro Ichii, Cemal Cem Tasan and Kaneaki Tsuzaki)</p> <p>77</p>
4.3	16.55 – 17.10	<p>Environmentally-assisted fatigue crack growth mechanisms in ARMCO iron under high pressure of gaseous hydrogen</p> <p>(Tomoki Shinko, Damien Halm, Guillaume Benoit and <u>Gilbert Hénaff</u>)</p> <p>232</p>
4.4	17.10 – 17.25	<p>Tracking hydrogen embrittlement using short fatigue crack behavior of metals</p> <p>(Vishal Singh, Rajwinder Singh, Amanjot Singh, <u>Dhiraj K. Mahajan</u>)</p> <p>429</p>
4.5	17.25 – 17.40	<p>Study on stress coupled hydrogen diffusion and fracture of high strength steels using finite element analysis (FEA) based on incremental step load (ISL) testing methodology</p> <p>(<u>Tuhin Das</u>, E. Legrand, S. V. Brahimi, J. Song and S. Yue)</p> <p>454</p>
4.6	17.40 – 17.55	<p>Assessment of the contribution of internal pressure to the structural damage in a hydrogen-charged type 316L austenitic stainless steel during slow strain rate tensile test</p> <p>(<u>Jean-Gabriel Sezgin</u>, Osamu Takakuwa, Hisao Matsunaga and Junichiro Yamabe)</p> <p>483</p>
4.7	17.55 – 18.10	<p>Stable and unstable growth of crack tip precipitates</p> <p>(Wureguli Rehemani, <u>Per Ståhle</u>, Ram N. Singh and Martin Fisk)</p> <p>532</p>



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium

Wednesday, 29th - **Session 5 (morning), Parallel 5, 11.00 - 13.30 h**

Room		Nikola Tesla B
Chair		Mohsen Dadfarnia, Motomichi Koyama and Milos Djukic
Track		HE Special Symposium, Session 5 – Hydrogen mapping and novel critical experiments, Hydrogen-materials interactions, part II
5.1	11.00 – 11.20	Invited talk: Assessment of hydrogen embrittlement via in-situ imaging techniques in high Zn Al-Zn-Mg alloys (<u>Hiroyuki Toda</u> , Hang Su, Kazuyuki Shimizu, Hiro Fujihara, Kyosuke Hirayama, Akihisa Takeuchi and Kentaro Uesugi) 246
5.2	11.20 – 11.40	Invited talk: Understanding the hydrogen embrittlement by novel critical experiments (Bjørn Rune Rogne, Yun Deng, Tarlan Hajilou, Di Wan, Xu Lu, Dong Wang and <u>Afrooz Barnoush</u>) 465
5.3	11.40 – 11.55	Effect of hydrogen on the motion of dislocations during nanoindentation (<u>Jianying He</u> , Kai Zhao and Zhiliang Zhang) 191
5.4	11.55 – 12.10	The crucial defects induced in austenitic stainless steel upon hydrogen embrittlement by positron annihilation spectroscopy (<u>Masanori Fujinami</u> , Akari Komatsu and Luca Chiari) 224
5.5	12.10 – 12.25	Crack initiation of a 7XXX aluminium alloy in humidity analysed via Slow Strain Rate Testing (<u>Elisabeth Schwarzenböck</u> , Levke Wiehler, Theo Hack and Christian Engel) 240
5.6	12.25 – 12.40	Intrinsic ductility as a precursor to ductile fracture (<u>Predrag Andric</u> and William Curtin) 340
5.7	12.40 – 12.55	High energy X-Ray diffraction measurements of strain and dislocation density near steel fatigue cracks grown in hydrogen (<u>Matthew Connolly</u> , Peter Bradley, Damian Lauria, Andrew Slifka and Elizabeth Drexler) 439
5.8	12.55 – 13.10	Hydrogen embrittlement in advanced high strength steels and ultra high strength steels: a new investigation approach (Antonello Cherubini, Linda Bacchi, Serena Corsinovi, Michele Maria Tedesco, Marco Beghini and <u>Renzo Valentini</u>) 219
5.9	13.10 – 13.25	The influence of hydrogen desorption on micromechanical properties and tribological behavior of iron and carbon steels (Vasyl Pokhmurskii, Myroslav Khoma, Vasyl Vynar, <u>Chrystyna Vasylyv</u> , <u>Nadiia Ratska</u> , T. Voronyak and I. Stasyshyn) 329

HE Special Symposium

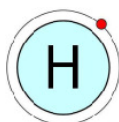
Thursday, 30th - Session 6 (morning), Parallel 6, 11.00 - 13.30 h

Room		Nikola Tesla B
Chair		Xavier Feaugas, Antonio Alvaro and Milos Djukic
Track		HE Special Symposium, Session 6 – Hydrogen embrittlement mechanism: Experiments and models
6.1	11.00 – 11.20	<p style="text-align: center;">Invited talk: Plasticity-induced intergranular and “quasi-cleavage” fracture of lath martensitic steels in hydrogen (Mohsen Dadfarnia, Akihito Nagao, Brian P. Somerday, Petros Sofronis and Robert O. Ritchie)</p> <p style="text-align: right;">311</p>
6.2	11.20 – 11.40	<p style="text-align: center;">Invited talk: Multi-scale analyses of the different interactions between defects and hydrogen: on the contribution of the elastic fields (Xavier Feaugas, Guillaume Hachet, Jiaqi Li, Arnaud Metsue and Abdelali Oudriss)</p> <p style="text-align: right;">231</p>
6.3	11.40 – 11.55	<p>The synergistic interplay of the localized plasticity (HELP) and decohesion (HEDE) mechanisms of hydrogen embrittlement in steels: effects on macromechanical properties (Milos Djukic, Gordana Bakic, Bratislav Rajcic, Vera Sijacki Zeravcic, Aleksandar Sedmak, Radivoje Mitrovic and Zarko Miskovic)</p> <p style="text-align: right;">541</p>
6.4	11.55 – 12.10	<p>Localized plasticity and associated cracking in stable and metastable high-entropy alloys pre-charged with hydrogen (Kenshiro Ichii, Motomichi Koyama, Cemal Cem Tasan and Kaneaki Tsuzaki)</p> <p style="text-align: right;">213</p>
6.5	12.10 – 12.25	<p>Features of the hydrogen-assisted cracking mechanism in the low-carbon steel at ex- and in-situ hydrogen charging (Evgeniy Merson, Pavel Myagkikh, Vitaliy Poluyanov, Dmitriy Merson and Alexei Vinogradov)</p> <p style="text-align: right;">333</p>
6.6	12.25 – 12.40	<p>Modelling of hydrogen embrittlement with a discrete dislocation plasticity coupled cohesive zone approach (Haiyang Yu, Edmund Tarleton and Alan Cocks)</p> <p style="text-align: right;">339</p>
6.7	12.40 – 12.55	<p>A hydrogen embrittlement model based on hydrogen-microvoid interactions (Haiyang Yu, Jim Stian Olsen, Jianying He, Edmund Tarleton, Alan Cocks and Zhiliang Zhang)</p> <p style="text-align: right;">338</p>
6.8	12.55 – 13.10	<p>Effect of vanadium-alloying on hydrogen embrittlement of austenitic high-nitrogen steels (Galina G. Maier, Elena G. Astafurova, Valentina A. Moskvina, Evgeny V. Melnikov, Sergey V. Astafurov, Alexander G. Burlachenko and Nina K. Galchenko)</p> <p style="text-align: right;">306</p>
6.9	13.10 – 13.25	<p>Investigations into the hydrogen embrittlement susceptibility of T24 boiler tubing in the context of stress corrosion cracking issues of T24 welds (Evy De Bruycker, Staf Huysmans and Frédéric Vanderlinden)</p> <p style="text-align: right;">55</p>

HE Special Symposium

Thursday, 30th - **Session 7 (afternoon), Parallel 7, 14.30 - 19.00 h**
Round table and panel discussions

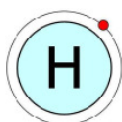
Room	Nikola Tesla B	
Chair	Milos Djukic, William Curtin and Zhiliang Zhang	
Track	HE Special Symposium, Session 7 – Round table and panel discussions	
14.30 – 14.40	Introduction – Opening of the HE Special Symposium Round table with panel discussions	
Topic - Session 7.1	Hydrogen-materials interactions: New insights	
Chair	Kim Verbeken, Dan Eliezer, Kenichi Takai, Gilbert Hénaff, Milos Djukic, Afrooz Barnoush and Antonio Alvaro	
7.1 14.40 – 15.25	Session 7.1 – Round table and panel discussions	
Topic - Session 7.2	Multiscale modelling of hydrogen embrittlement	
Chair	William Curtin, Zhiliang Zhang, Alan Cocks, Jun Song, Xavier Feaugas, Eunan J. Mceniry and Mohsen Dadfarnia	
7.2 15.25 – 16.10	Session 7.2 – Round table and panel discussions	
16.10 – 16.25	<i>Break</i>	
Topic - Session 7.3	The coexistence of different hydrogen embrittlement mechanisms and their simultaneous effects	
Chair	Milos Djukic, Mohsen Dadfarnia, May L. Martin, Zhiliang Zhang, Kim Verbeken, Afrooz Barnoush and Motomichi Koyama	
7.3 16.25 – 17.10	Session 7.3 – Round table and panel discussions	
Topic - Session 7.4	Hydrogen mapping and novel critical experiments	
Chair	Hiroyuki Toda, Afrooz Barnoush, Zhiliang Zhang, Motomichi Koyama, May L. Martin and Masanori Fujinami	
7.4 17.10 – 17.55	Session 7.4 – Round table and panel discussions	
17.55 – 18.10	<i>Break</i>	
Topic - Session 7.5	Hydrogen embrittlement research in Japan: Current perspective and future trend	
Chair	Kaneaki Tsuzaki, Kenichi Takai, Hiroyuki Toda, Masanori Fujinami, Ryosuke Matsumoto, Shinya Taketomi and Motomichi Koyama	
7.5 18.10 – 18.55	Session 7.5 – Round table and panel discussions	
18.55 – 19.00	Closing of the HE Special Symposium, Round table and panel discussions	



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium
Poster presentations, Special sessions
Wednesday, 29th - Poster session, 14.30 - 16.00 h

Room		Lavander - Poster session
P1	14.30 - 16.00	Effect of hydrogen charging current density on hydrogen concentration and hydrogen-induced defects in the low-carbon steel (Evgeniy Merson, Vitaliy Poluyanov, Pavel Myagkikh, Dmitriy Merson and Alexei Vinogradov)



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium Invited speakers (1)

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



Xiao Zhou, **William Curtin** and Jun Song,

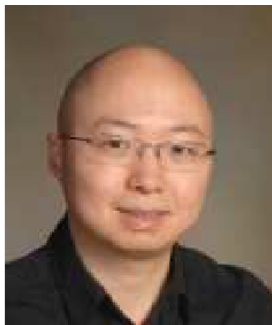
Hydrogen diffusion along grain boundaries: Atomistic simulations and mechanistic model

S2.1, Monday, 27th - Session 2, Nikola Tesla B, 16.15 -16.35 h

More about Professor William Curtin:

<https://people.epfl.ch/william.curtin?lang=en>, <https://lamm.epfl.ch/Research>

Jun Song, Associate Professor, McGill University, Department of Mining and Materials Engineering, Montreal, Quebec, Canada



Xiao Zhou, William Curtin and **Jun Song**,

Hydrogen diffusion along grain boundaries: Atomistic simulations and mechanistic model

S2.1, Monday, 27th - Session 2, Nikola Tesla B, 16.15 -16.35 h

More about Jun Song, Associate Professor: <https://www.mcgill.ca/materials/people/faculty/jun-song>

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

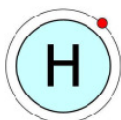


Haiyang Yu, Jim Stian Olsen, Jianying He and **Zhiliang Zhang**,

Hydrogen-microvoid interaction: bridging the gap between hydrogen embrittlement and ductile failure

S2.2, Monday, 27th - Session 2, Nikola Tesla B, 16.35 -16.55 h

More about Professor Zhiliang Zhang: <https://www.ntnu.edu/employees/zhiliang.zhang>



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" (**HE Special Symposium**), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium Invited speakers (2)

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 insitu imaging techniques in high Zn Al-Zn-Mg alloys

S5.1, Wednesday, 29th - Session 5, Nikola Tesla B, 11.00 - 11.20 h

More about Professor Hiroyuki Toda: <http://hyoka.ofc.kyushu-u.ac.jp/search/details/K004938/english.html>

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



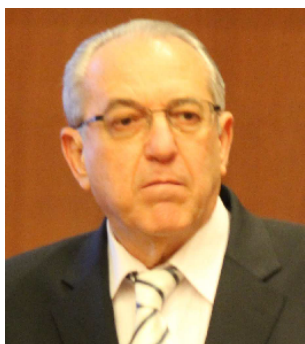
Bjørn Rune Rogne, Yun Deng, Tarlan Hajilou, Di Wan, Xu Lu and Dong Wang and **Afrooz Barnoush**,

Understanding the hydrogen embrittlement by novel critical experiments

S5.2, Wednesday, 29th - Session 5, Nikola Tesla B, 11.20 - 11.40 h

More about Professor Afrooz Barnoush: <https://www.ntnu.edu/employees/afrooz.barnoush>

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

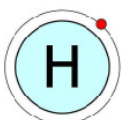


Dan Eliezer and Ravit Silverstein,

Recent studies of hydrogen embrittlement in structural materials

S1.1, Monday, 27th - Session 1, Nikola Tesla B, 11.00 - 11.20 h

More about Professor Dan Eliezer: <http://www.ise.bgu.ac.il/engineering/PersonalWebSite1main.aspx?id=tssuiMtj>



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" (**HE Special Symposium**), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

HE Special Symposium Invited speakers (3)

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, Illinois, USA



Mohsen Dadfarnia, Akihide Nagao, Brian P. Somerday, Petros Sofronis and Robert O. Ritchie,

Plasticity-induced intergranular and "quasicleavage" fracture of lath martensitic steels in hydrogen

S6.1, Thursday, 30th - Session 6, Nikola Tesla B, 11.00 - 11.20 h

More about Dr. Mohsen Dadfarnia: <https://mechanical.illinois.edu/directory/profile/dadfarni>

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



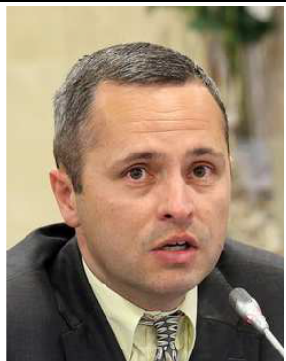
Xavier Feaugas, Guillaume Hachet, Jiaqi Li, Arnaud Metsue and Abdelali Oudriss,

Multi-scale analyses of the different interactions between defects and hydrogen: on the contribution of the elastic fields

S6.2, Thursday, 30th - Session 6, Nikola Tesla B, 11.20 - 11.40 h

More about Professor Xavier Feaugas: <https://lasie.univ-larochelle.fr/FEAUGAS-Xavier>

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

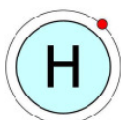


Tom Depover and **Kim Verbeken**,

Understanding the interaction between a steel microstructure and hydrogen: the key to develop more hydrogen resistant materials?

S4.1, Tuesday, 28th - Session 4, Nikola Tesla B, 16.15 - 16.35 h


More about Professor Kim Verbeken: <https://biblio.ugent.be/person/801001351993>



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" (**HE Special Symposium**), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia


HE Special Symposium Invited speakers (4)

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

	<p>Kenichi Takai and Hiroshi Suzuki,</p> <p>Trapping states of hydrogen and hydrogen embrittlement of high strength steels</p> <p>S3.1, Tuesday, 28th - Session 3, Nikola Tesla B, 11.00 - 11.20</p>
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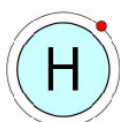
More about Professor Kenichi Takai: http://rscdb.cc.sophia.ac.jp/Profiles/58/0005711/prof_e.html

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

	<p>Motomichi Koyama, Takeshi Eguchi, Kenshiro Ichii, Cemal Cem Tasan and Kaneaki Tsuzaki,</p> <p>A new concept for prevention of hydrogeninduced mechanical degradation: viewpoints of metastability and high entropy</p> <p>S4.2, Tuesday, 28th - Session 4, Nikola Tesla B, 16.35 - 16.55 h</p>
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More about Motomichi Koyama, Assistance Professor:

<http://hyoka.ofc.kyushu-u.ac.jp/search/details/K005262/english.html>



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

ECF22 Plenary Lecture by Prof. William Curtin, Co-chair of the HE Special Symposium

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



William Curtin,

Mechanisms of Hydrogen Embrittlement: Insights from Atomistic Studies

Plenary 6, Thursday, 30th, Ivo Andric ballroom, 9.00 - 10.30 h

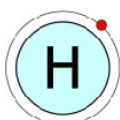
Professor William Curtin earned a 4 yr. ScB/ScM degree in Physics from Brown University in 1981 and a PhD in theoretical physics from Cornell University in 1986. After gaining a BS and an MS in Physics then a PhD in theoretical physics, he left the academic world for industry, working in the Applied Physics Group of BP (British Petroleum). After seven years at BP, he came back to the academic world. He settled down at Virginia Tech and for five years held a position as professor attached to two engineering departments: materials science and engineering mechanics. He joined the solid mechanics group at Brown in 1998. Brown had an international reputation in solid mechanics. He joined École polytechnique fédérale de Lausanne - EPFL as the Director of the Institute of Mechanical Engineering in 2011 and as Full Professor in 2012. He is a Head of Laboratory for Multiscale Mechanics Modeling – LAMMM, EPFL. Professor Curtin was a Guggenheim Fellow in 2005, has published over 200 technical papers that have received over 5600 citations, and has been the Principal Investigator on over \$33M of funded research.

Links – More about Professor William Curtin:

<https://people.epfl.ch/william.curtin?lang=en>

<https://lammm.epfl.ch/Research>

<http://sti.epfl.ch/page-70562-en.html>



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" (**HE Special Symposium**), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

Announcement - The Special Issue of Engineering Fracture Mechanics Journal devoted to the HE Special Symposium, ECF22 Conference

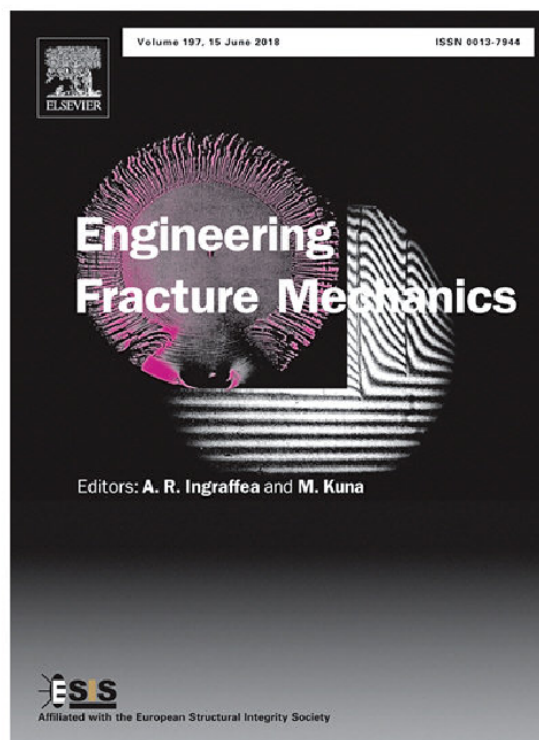
After consulting the three Co-Editors-in-Chief (A.R. Ingraffea, M. Kuna and X.Q. Feng) of Engineering Fracture Mechanics (EFM) journal by Elsevier, it's our pleasure to inform you that our proposal for the Special Issue of Engineering Fracture Mechanics is accepted.

The Special Issue of Engineering Fracture Mechanics (EFM) Journal (Impact Factor: 2.580 – 2017) will be devoted to the selected papers presented at the Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" (HE Special Symposium), within the framework of the 22nd European Conference on Fracture - ECF22 (HE Special Symposium, ECF22 - <http://www.ecf22.rs/minisymp.html> - click on More Info...).

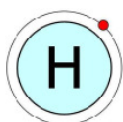
HE Special Symposium - Announcement, Invited speakers (11) and the Participants list: <http://www.ecf22.rs/docs/vodonicni%20simp.pdf>

The title of the Special Issue (SI) of Engineering Fracture Mechanics (EFM) journal as to appear on Science Direct / in print:

"Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework"



**The Special Issue (SI)
of Engineering Fracture
Mechanics (EFM):
"Recent Advances on
Hydrogen Embrittlement"
Understanding and Future
Research Framework"**



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

The SI of EFM Guest Editors:

- Milos B. Djukic, Associate Prof. (Managing Guest Editor of the SI), Department of Engineering Materials and Welding, University of Belgrade, Faculty of Mechanical Engineering, Serbia (The chair of the HE Special Symposium, ECF22 - <http://www.ecf22.rs/minisymp.html> - click on More Info...),
- Prof. William Curtin, École Polytechnique Fédérale de Lausanne (EPFL), Switzerland (Member of EFM Editorial Advisory Board and the co-chair of the HE Special Symposium, ECF22),
- Prof. Zhiliang Zhang, Norwegian University of Science & Technology NTNU, Trondheim, Norway (Member of EFM Editorial Advisory Board and the co-chair of the HE Special Symposium, ECF22) and
- Prof. Aleksandar Sedmak, Department of Engineering Materials and Welding, University of Belgrade, Faculty of Mechanical Engineering, Serbia (The Chair of ECF 22 - <http://www.ecf22.rs/>).

The number of expected papers to be published in this Special Issue is 15-22.

The SI of EFM - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" Announcement:

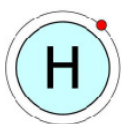
- The selected authors of papers presented at the HE Special Symposium, during ECF22 conference, will be invited by the EFM SI Guest Editors to submit the full papers for publication in the SI of EFM - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework".
- With publications related to ECF22, there are special agreements between EFM, ESIS and the ECF22 chairman Prof. Aleksandar Sedmak: **All papers of this conference will be published first in the proceedings: "Procedia Structural Integrity" as short version (max. 6 pages).**
- A Special Issue will be made out of selected contributions (the decision will be made by the SI Guest Editors after the ECF22 conference), and the mandatory requirement is: The content of the full publication in EFM must contain more than 50% new stuff to be accepted as original research contribution.
- Authors have to submit together with their EFM paper their former short version published in the ECF22 proceeding.

We are looking forward to seeing you in Belgrade during ECF22.

Best regards,

Milos Djukic, William Curtin and Zhiliang Zhang

Organizers of the ECF22 HE Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" with a round table and panel discussions. (<http://www.ecf22.rs/docs/vodonicni%20simp.pdf>)



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](http://www.ecf22.rs/docs/vodonicni%20simp.pdf)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

List of Countries (19), Participants and Authors (163), HE Special Symposium, ECF22

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
1. Japan								
1	<u>Ryosuke Matsumoto</u>		2.3					7.5
2	Shunki Nagase		2.3, 2.4					
3	<u>Shinya Taketomi</u>		2.3, 2.4					7.5
4	<u>Tsubasa Kumamoto</u>			3.5				
5	Kenichi Takai			Invited talk: 3.1				7.1, 7.5
6	Hiroshi Suzuki			3.1				
7	Motomichi Koyama			3.4, 3.5	Invited talk: 4.2		6.4	7.3, 7.4, 7.5
8	<u>Temma Sano</u>			3.5				
9	<u>Shigeru Hamada</u>			3.5				
10	<u>Hiroshi Noguchi</u>			3.5				
11	Kaneaki Tsuzaki			3.5	4.2		6.4	7.5
12	<u>Daisuke Sasaki</u>			3.5, 3.6				
13	Yuki Tampa			3.6				
14	Toru Kato			3.6				
15	Takeshi Eguchi				4.2			
16	<u>Kenshiro Ichii</u>				4.2		6.4	
17	<u>Jean-Gabriel Sezgin</u>				4.6			
18	Osamu Takakuwa				4.6			
19	Hisao Matsunaga				4.6			
20	Junichiro Yamabe				4.6			
21	Hiroyuki Toda					Invited talk: 5.1		7.4, 7.5
22	Hang Su					5.1		
23	Kazuyuki Shimizu					5.1		
24	Hiro Fujihara					5.1		
25	Kyosuke Hirayama					5.1		
26	Akihisa Takeuchi					5.1		
27	Kentaro Uesugi					5.1		
28	<u>Masanori Fujinami</u>					5.4		7.4, 7.5
29	Akari Komatsu					5.4		
30	Luca Chiari					5.4		

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2. Norway								
1	<u>Haiyang Yu</u>		2.2					
2	<u>Jim Stian Olsen</u>		2.2				6.7	
3	<u>Jianying He</u>		2.2			5.3	6.7	
4	Zhiliang Zhang		Invited talk: 2.2			5.3	6.7	7, 7.2, 7.3, 7.4
5	<u>Antonio Alvaro</u>			3.2				7.1
6	<u>Di Wan</u>			3.2		5.2		
7	<u>Vigdis Olden</u>			3.2				
8	Afroz Barnoush			3.2		Invited talk: 5.2		7.1, 7.3, 7.4
9	<u>Kai Zhao</u>					5.3		
10	<u>Bjørn Rune Rogne</u>					5.2		
11	<u>Yun Deng</u>					5.2		
12	<u>Tarlan Hajilou</u>					5.2		
13	<u>Xu Lu</u>					5.2		
14	<u>Dong Wang</u>					5.2		
14	<u>Alexei Vinogradov</u>					5.2	6.5	

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
3. France								
1	<u>Yann Charles</u>		2.5					
2	<u>Monique Gaspérini</u>		2.5					
3	<u>Kevin Ardon</u>		2.5					
4	<u>S. Ayadi</u>		2.5					
5	<u>Sofiane Benannoune</u>		2.5					
6	<u>Jonathan Mougenot</u>		2.5					
7	<u>Tomoki Shinko</u>				4.3			
8	<u>Damien Halm</u>				4.3			
9	<u>Guillaume Benoit</u>				4.3			
10	<u>Gilbert Hénaff</u>				4.3			7.1
11	Xavier Feaugas						Invited talk: 6.2	7.2

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
3. France								
12	Guillaume Hachet						6.2	
13	Jiaqi Li						6.2	
14	Arnaud Metsue						6.2	
15	Abdelali Oudriss						6.2	

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
4. Russia								
1	A. M. Polyanskiy	1.2						
2	<u>V. A. Polyanskiy</u>	1.2						
3	K.P. Frolova	1.2						
4	Yu.A. Yakovlev	1.2						
5	<u>Evgeniy Merson</u>						6.5	
6	Pavel Myagkikh						6.5	
7	Vitaliy Poluyanov						6.5	
8	Dmitriy Merson						6.5	
9	<u>Galina G. Maier</u>						6.8	
10	Elena G. Astafurova						6.8	
11	Valentina A. Moskvina						6.8	
12	Evgeny V. Melnikov						6.8	
13	Sergey V. Astafurov						6.8	
14	Alexander G. Burlachenko						6.8	
15	<u>Nina K. Galchenko</u>						6.8	

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
5. USA								
1	<u>Matthew Connolly</u>					5.7		
2	Peter Bradley					5.7		
3	Damian Lauria					5.7		

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
5. USA								
4	Andrew Slifka					5.7		
5	Elizabeth Drexler					5.7		
6	<u>Mohsen Dadfarnia</u>						Invited talk: 6.1	7.2, 7.3
7	Akihide Nagao						6.1	
8	Brian P. Somerday						6.1	
9	Petros Sofronis						6.1	
10	Robert O. Ritchie						6.1	
11	May L. Martin							7.3, 7.4
12	Ravit Silverstein	1.1						
13	Cemal Cem Tasan				4.2		6.4	

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
6. Ukraine								
1	<u>Hryhoriy Nykyforchyn</u>	1.6						
2	Oleksandr Tsyrulnyk	1.6						
3	Olha Zvirko	1.6						
4	<u>Alexander Balitskii</u>	1.8						
5	V. Kolesnikov	1.8				5.9		
6	Vasyl Pokhmurskii					5.9		
7	Myroslav Khoma					5.9		
8	Vasyl Vynar					5.9		
9	<u>Chrystyna Vasylyv</u>					5.9		
10	<u>Nadiia Ratska</u>					5.9		
11	T. Voronyak					5.9		
12	I. Stasyshyn					5.9		

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7. Germany								
1	<u>Eunan J. McEniry</u>		2.6					7.2
2	Tilman Hickel		2.6					
3	Joerg Neugebauer		2.6					
4	<u>Xiaofei Guo</u>			3.3				
5	Stefan Zaefferer			3.3				
6	Wolfgang Bleck			3.3				
7	Fady Archie			3.3				
8	<u>Elisabeth Schwarzenböck</u>					5.5		
9	Levke Wiehler					5.5		
10	Theo Hack					5.5		
11	Christian Engel					5.5		

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8. Italy								
1	<u>Gabriella Bolzon</u>	1.7						
2	Marco Talassi	1.7						
3	<u>Giovana Gabetta</u>	1.5						
4	F. Pagliari	1.5						
5	Antonello Cherubini					5.8		
6	Linda Bacchi					5.8		
7	Serena Corsinovi					5.8		
8	Michele Maria Tedesco					5.8		
9	Marco Beghini					5.8		
10	<u>Renzo Valentini</u>					5.8		

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9. Belgium								
1	Tom Depover			3.7	4.1			
2	<u>Kim Verbeken</u>			3.7	Invited talk: 4.1			7.1, 7.3
3	<u>Evy De Bruycker</u>						6.9	
4	Staf Huysmans						6.9	
5	Frédéric Vanderlinden						6.9	
6	A. Laureys			3.7				
7	L. Claeys			3.7				
8	<u>M. Pinson</u>			3.7				

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10. Serbia								
1	<u>Milos Djukic</u>						6.3	7, 7.1, 7.3
2	Gordana Bakic						6.3	
3	Bratislav Rajcic						6.3	
4	Vera Sijacki Zeravcic						6.3	
5	Aleksandar Sedmak						6.3	
6	Radivoje Mitrovic						6.3	
7	Zarko Miskovic						6.3	

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11. India								
1	Sami Elaoud	1.3						
2	<u>Dhiraj K. Mahajan</u>				4.4			
3	Rajwinder Singh				4.4			
4	Amanjot Singh				4.4			
5	Vishal Singh				4.4			
6	Ram N. Singh				4.7			

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12. Canada								
1	Xiao Zhou		2.1					
2	<u>Jun Song</u>		Invited talk: 2.1		4.5			7.2
3	<u>Tuhin Das</u>				4.5			
4	E. Legrand				4.5			
5	S. V. Brahimi				4.5			
6	S. Yue				4.5			

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13. Spain								
1	<u>P. González</u>	1.4						
2	S. Cicero	1.4						
3	J.A. Álvarez	1.4						
4	B. Arroyo	1.4						

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14. Sweden								
1	Wureguli Reheman				4.7			
2	<u>Per Ståhle</u>				4.7			
3	Martin Fisk				4.7			

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15. United Kingdom								
1	<u>Haiyang Yu</u>		2.2				6.6, 6.7	
2	Edmund Tarleton						6.6, 6.7	
3	<u>Alan Cocks</u>						6.6, 6.7	7.2

	Authors, The names of those who will present papers are underlined.	Monday 27 - Session 1 (morning) 11.00 - 13.30	Monday 27 - Session 2 (afternoon) 16.15 - 18.00	Tuesday 28 - Session 3 (morning) 11.00 - 13.30	Tuesday 28 - Session 4 (afternoon) 16.15 - 18.10	Wednesday 29 - Session 5 (morning) 11.00 - 13.30	Thursday 30 - Session 6 (morning) 11.00 - 13.30	Thursday 30 - Session 7 (afternoon) 14.30 - 19.00
16. Switzerland								
1	<u>William Curtin</u>		Invited talk: 2.1			5.6		7, 7.2
ECF22 Plenary Lecture: William Curtin, Mechanisms of Hydrogen Embrittlement: Insights from Atomistic Studies, Plenary 6, Thursday 30, Ivo Andric ballroom, 9.00 -10.30								
2	<u>Predrag Andric</u>					5.6		

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17. Tunisia								
1	<u>Zahreddine Hafi</u>	1.3						
2	<u>Sami Elaoud</u>	1.3						

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18. Israel								
1	<u>Dan Eliezer</u>	Invited talk: 1.1						7.1

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19. Kazakhstan								
1	<u>N. Rezgui</u>	1.5						

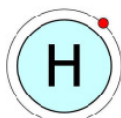
HE Special Symposium - Timetable, Room: Nikola Tesla B

Monday, 27th - Session 1, Parallel 1 (morning), 11.00 - 13.30 h Hydrogen embrittlement, industrial case studies	Tuesday, 28th - Session 3, Parallel 3 (morning), 11.00 - 13.30 h Hydrogen-materials interactions, part I (steels)	Wednesday, 29th - Session 5, Parallel 5 (morning), 11.00 - 13.30 h Hydrogen mapping and novel critical experiments, Hydrogen-materials interactions, part II	Thursday, 30th - Session 6, Parallel 6 (morning), 11.00 - 13.30 h Hydrogen embrittlement mechanism: Experiments and models
Monday, 27th - Session 2, Parallel 2 (afternoon), 16.15 - 18.00 h Hydrogen embrittlement modelling	Tuesday, 28th - Session 4, Parallel 4 (afternoon), 16.15 - 18.10 h Materials mechanical response	-	Thursday, 30th - Session 7, Parallel 7 (afternoon), 14.30 - 19.00 h Round table and panel discussions

Belgrade, Serbia, 13.08.2018.

Milos Djukic, William Curtin and Zhiliang Zhang

Organizers of the ECF22 HE Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" with a round table and panel discussions, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia



The Special Symposium - "Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework" ([HE Special Symposium](#)), ECF22, Hotel Metropol Palace, Room: Nikola Tesla B, 27. to 30. August, 2018, Belgrade, Serbia

ECF22
BELGRADE, SERBIA, 26-31.8.2018