

**ESIS**  
**European Structural Integrity  
Society**

**ESIS Newsletter #64, July, 2019**

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**EDITORIAL BY THE ESIS  
PRESIDENT**

Dear friends,

we are in the odd year, the year without the ECF event, but this is not a good reason for ESIS to have a rest! Thanks to really active Technical Committees and National Groups, 2019 is full of really interesting events and I suggest you to follow the ESIS Google Calendar in order to be always update (at the end of this editorial you will find the link). In addition, the 6<sup>th</sup> ESIS Summer School will be held in Cracow (Poland,



September 13-15, 2019) and considering the efforts of the organizers (Jaroslaw Galkiewicz, Tomasz Machniewicz, Urszula Janus-Galkiewicz and Pawel Stasz) and the level of the lecturers (Jacques Besson, Meinhard Kuna, Andrzej Neimitz and Zhiliang Zhang) we are sure that it will be a great success!

In these last months, the ESIS ExCo transformed the offer to the ESIS members concerning the paper publishing. Now three different publication "lines" are active:

- The Elsevier International journals affiliated with ESIS (Engineering Failure Analysis, Engineering Fracture Mechanics, International Journal of Fatigue and Theoretical and Applied Fracture Mechanics). We warmly encourage you to publish your articles in these prestigious journals.
- Procedia Structural Integrity (PSI), an open access product focused entirely on publishing full sets of conference proceedings and published by Elsevier.
- A panel of Open Access (OA) journals affiliated with ESIS.

Concerning the last two points, some information are necessary:

- Procedia Structural Integrity: we are happy to inform you that all the issues published in Procedia Structural Integrity are now indexed in Google Scholar, Scopus and ISI WoS. This great result is only due to the quality of the published papers and to the efforts of the Guest Editors ... and to the great scientific community coordinated by ESIS... THANK YOU!!!
- Open Access Journals. Open Access is really a hot topic in the publishing world. It is too hard to summarize in few lines all the details concerning the problems of copyright, predatory journals, "green" or "gold" road to Open Access etc. In the last months, the ESIS ExCo decided to activate a survey to verify the "state of art" in the ESIS countries concerning OA journals (obviously focused on the ESIS topics). At the same time, some criteria were defined for a possible panel of Open Access journals affiliated with ESIS. These criteria are quite simple:
  - all the papers are submitted to a reviewing process;
  - the journal is completely free of charge, both for readers and for authors;
  - the journal should not be published by a professional Publisher;
  - the journal is published in English and is included in DOAJ (Directory of Open Access Journal). Other indexations (e.g., Scopus and ISI) are welcome.

According to these criteria, at the moment two journals are accepted in the panel of the OA journals affiliated with ESIS:

- Frattura ed Integrità Strutturale - Fracture and Structural Integrity (published by the IGF, the Italian Group of Fracture)
- Integritet i vek konstrukcija - Structural Integrity and Life (published by the DIVK, the Serbian Group of Fracture).

The panel is always open to new entries and, please, send us your suggestions using the link you find in the Post Scriptum!

This time I don't want to bother you with a too long Editorial. Just few lines about the ESIS YouTube channel (the link is in the P.S.). In the last months, we increased the subscribers from about 500 to more than 700! In order to increase the channel usefulness, a new section will be activated with the videorecordings of the events organized by the ESIS Technical Committees and by the National Committees. In order to include the event in the ESIS YouTube channel, it will be only necessary that the official language of the event will be English and ... to send the links to me! If you need any technical support or some suggestions, please, do not hesitate to contact us!

Finally, I would like to encourage you to join ESIS. In the ESIS website [www.structuralintegrity.eu](http://www.structuralintegrity.eu) you will find different possibilities, starting from the "Individual membership" (30 euros per year) up to the National Committees member (10 euros per year). Considering the advantages of being an ESIS member you find in the ESIS website ... JOIN US!!

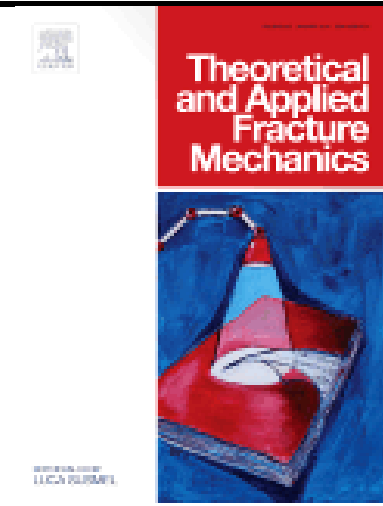
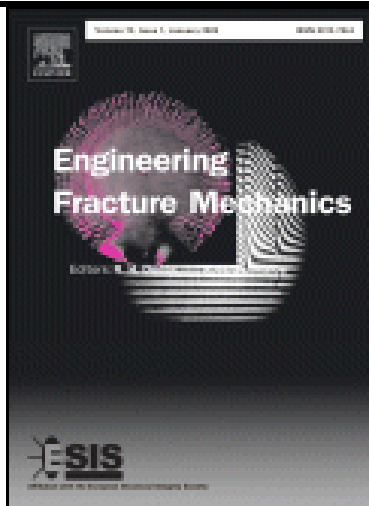
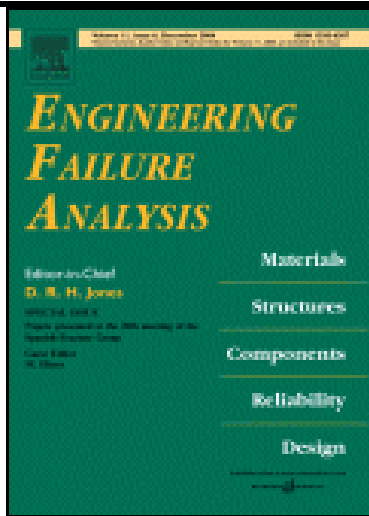
... and, please, do not hesitate to send us you suggestions or proposals to further improve the ESIS activities for our community !!!!

Useful links:

- ESIS Google Calendar:  
<https://calendar.google.com/calendar/embed?src=esisweb.org%40gmail.com&ctz=Europe%2FRome>
- Suggest an OA Journal for the ESIS panel  
<https://forms.gle/EUktcph5zyGZaLzX6>
- ESIS YouTube channel  
<http://www.youtube.com/c/EuropeanStructuralIntegritySociety>

Francesco Iacoviello

**4 Elsevier journals are affiliated with ESIS**



**Special Issues 2018-19**

<b>Journal</b>	<b>Title</b>	<b>Source</b>	<b>Editor</b>	<b>Status</b>
Int J Fatigue	Special section on International Conference on Structural Integrity and Durability 2017, Fatigue of Materials and Structures at all Scales	ICSID 2017	Ž. Božić, L. Banks-Sills, M. Vormwald, D.M. Frangopol	IJF 112-116, July- November 2018
Int J Fatigue	Special Section on International Conference on Structural Integrity 2017	ICSI2017	P. Moreira, P. Tavares, S. Vantadori, A. Carpinteri	IJF 113-118, August 2018- January 2019
Eng Fract Mech	8th ESIS TC4 International Conference- Fracture of Polymers, Composites and Adhesives	8th ESIS TC4 International Conference	B. Blackman, A. Pavan	EFM 203, November 2018
Eng Fract Mech	Fatigue crack paths 2018	Crack path 2018	A. Carpinteri, F.Berto, Y.Hong, Th.Palin-Luc	IJF 121-125, April- August 2019
Theor and Appl Fract Mech	<b>Crack Paths 2018</b>	Crack path 2018	A.Carpinteri, F.Iacoviello, L.Pook, S.Vantadori	TAFM (virtual SI)
Eng Failure Anal	2nd International Conference on Structural Integrity and Durability	ICSID 2018	Ž.Božić, R.Clegg, L.Banks-Sills, F.Berto, F.Iacoviello	EFA

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## National Committees

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### Israel

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The **Israel Structural Integrity Group** held their **Eighth Symposium** on February 11, 2019 at Tel Aviv University. The opening plenary lecture was presented by Professor Rachel Tomlinson from the University of Sheffield on: A journey through full-field experimental fatigue and fracture mechanics. Next, three lectures were given by three graduate students on: Dynamic modeling of prognostics for rotating machinery (Eyal Madar, Ben Gurion University), Stability and strength of frictional interfaces (Michael Aldam), and Fatigue delamination propagation in laminates (Tomer Chocron, Tel Aviv University). The prize of 1,000 Shekels was given to Michael Aldam from the Weizmann Institute of Science.



**Leslie Banks-Sills and Michael Aldam**

After lunch, a business meeting was held in which the new President was elected. **Professor Dov Sherman** from Tel Aviv University will serve as the President for the next two years. Remaining are the Vice President, Abraham Brot, the Secretary/Treasurer, Dana Ashkenazi and a Member at Large Jacob Bortman. Leslie Banks-Sills becomes a Member at Large after serving eight years as President.

Finally, the afternoon session consisted of five lectures on: The dual threat of sudden decompression on the structural integrity of commercial aircraft (Abraham Brot); Review of very high cycle fatigue strength of metals (Yael Buimovich); Monitoring of solder joint integrity using in-situ sensors (Craig Lopatin);



**Dov Sherman, new President of ISIG**

Understanding the strength of soft bioinspired composites (Konstantine Y. Volokh); Macro to micro in fracture: from macroscopic dynamic cleavage energy to microscopic bond breaking mechanism (Dov Sherman).

*Leslie Banks-Sills*

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## Italy

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In the last six months, **the IGF** (Italian Group of Fracture) was focused on **two main activities**:

- IGF journal publication (Frattura ed Integrità Strutturale): two issues were published (January 2019 and April 2019), with 107 published papers and the journal website was further improved, by means of the activation new plugins, like "Online first" and detailed download and view statistics for each published paper.

- organization of IGF 2019 event (Summer School and IGF25).

Concerning the three days **Summer School** (Catania, June 9-11, 2019), twenty five participants followed these lessons:

- Fundamentals of Fracture Mechanics (Luca Susmel)
- Local approaches for design against fracture and fatigue (Filippo Berto)
- Numerical modelling of fracture processes in geomaterials: smeared and discrete approaches (René de Borst)
- Fracture mechanics at nano- and micro scale (Reinhard Pippan)

**The 25<sup>th</sup> International Conference - Fracture and Structural Integrity** (IGF25, Catania, June 12-14, 2019) was really a successful event, with more than 140 participants from many different countries, with the Russian delegation that was the largest one. Two plenary presentations were held by René de

Borst (Computational approaches to fluid flow in fractured and fracturing porous media) and by Neil James (Reminiscences on editing an international journal for 20 Years - How not to make friends and influence people).



**Presentations**



**Reinhard Pippan awarded with the IGF Honorary membership**

René de Borst, Reinhard Pippan and Sergio Reale were awarded with the IGF Honorary memberships. Concerning the new IGF awards ("Manson-Coffin IGF medal" and "Paolo Lazzarin IGF Medal") the 2019 winners are Neil James (Manson-Coffin IGF medal) and Filippo Berto (Paolo Lazzarin IGF Medal).

According to the IGF tradition, both the Summer School and the IGF25 videorecordings are available in the IGF YouTube channel <https://www.youtube.com/c/IGFTube>.

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## Poland

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It's my privilege to inform about the activities of the Polish Group of Fracture Mechanics (PGFM) in 2019.

On September 13-15<sup>th</sup>, 2019 the Polish Group of Fracture Mechanics, affiliated to the Machine Building Committee of the Polish Academy of Sciences, will be hosted **6<sup>th</sup> Summer School of Fracture Mechanics** in Cracow. International 6<sup>th</sup> Summer School has the affiliation of ESIS. The organizer of this event is Kielce University of Technology in Poland and the chairman of the School is prof. Jarosław Gałkiewicz.

The conference web side is: [www.summerschool2019@tu.kielce.pl](http://www.summerschool2019@tu.kielce.pl).

The organizer of this scientific event gives the participants the unique opportunity to learn the fundamentals of fracture mechanics with help of the world-class experts. The lecturers, who confirmed their presence at the School, are as follows:

- **Professor Jacques Besson** at CNRS and head of the "Centre of Materials" CNRS-UMR 7633 in France. His work combines experimental investigations and advanced numerical techniques to better understand failure of materials and structures;

- **Professor Meinhard Kuna** from the Technische Universität Bergakademie Freiberg in Germany, professor of Applied Mechanics and Solid Mechanics. His research is devoted to fundamental and applied problems in fracture mechanics, damage mechanics, fatigue crack growth, constitutive modeling of material behavior on continuum level and on the micromechanical scale;

- **Professor Andrzej Neimitz**, professor at Kielce University of Technology in Poland. His work is involved in various fracture problems: fast crack growth, fracture in creep environment, constraints in elastic-plastic problems, fracture mechanics, modeling in fracture, structural integrity;

- **Professor Zhiliang Zhang**, professor in Mechanics and Materials at the Norwegian University of Science and Technology (NTNU) in Trondheim. Currently he focuses on fracture mechanics, hydrogen embrittlement, interface mechanics, material design and nanomechanics using experimental and multi-scale computational simulation approaches.

Apart from the lectures there will be also a time to see beautiful Cracow - city of the Polish kings with Royal Castle Wawel on the Vistula River banks, dated back to XIV century and other historical sites in the city.



**Royal Castle Wawel**



**Throne Hall**

The 6<sup>th</sup> Summer School held in Cracow will be tightly connected with the second scientific event - **17<sup>th</sup> Polish Conference on Fracture Mechanics** organized by the Polish Group of Fracture Mechanics (ESIS National Committee) on September, 16-19, 2019. The conference venue is Hotel Hucisko located on the route of Polish medieval castles. The organizer of the national conference is Opole University of Technology and Polish Society of Theoretical and Applied Mechanics. Chairman of the conference is Prof. Tadeusz Łagoda.

The conference subject covers:

- Linear and nonlinear fracture mechanics in the description of the materials and structures destruction;
- Mechanisms of fracture of materials at the micro and nano;
- Fracture of the biomaterials, - Modeling of plastic and brittle cracking;
- Fracture mechanics of composites and polymers;
- Cracking of the heterogeneous structures;
- Statistical approach to describe the process of cracking;

- Criteria of materials cracking;
- Forecasting of structural damage;
- Cracking of the materials and constructions loaded with varied amplitude;
- Cracking of the materials and construction dynamically loaded;
- The environmental impact on the process of fracture of materials and structures;
- Experimental methods in fracture mechanics of materials.



**The ruins of one of many medieval castles in the vicinity of the conference venue**

The conference web side is:

[www.kmpkm.po.opole.pl](http://www.kmpkm.po.opole.pl).

The National Conferences on Fracture Mechanics are held every two years and gather the scientific environment from almost all academic centers in Poland. Patronage over the Conference 2019 is held by the Science and Technology Park Opole. Honorary patronage is exercised by the rector of Opole University of Technology as well as the chairmen of the Machine Construction Committee and the Committee of Mechanics of the Polish Academy of Sciences.

Sponsors of the conference are following: Explomet, EthosEnergy, Lenso and Schaltbau - there are the enterprises cooperating with science with the Opole University of Technology.

*Dorota Kocańda*

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## Portugal

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### Activities carried out in 1<sup>st</sup> semester 2019

- SPFIE Website publication [www.spfie.pt](http://www.spfie.pt)
- Some Portuguese researchers attended GEF2019 conference in Sevilla, 3-5 April

### Supported activities foreseen for 2<sup>nd</sup> semester 2019

- IRAS 2019, First International Symposium on Risk Analysis and Safety of Complex Structures and Components, 1-2 July 2019, Porto, Portugal.  
<https://paginas.fe.up.pt/~iras2019/>

- 3<sup>rd</sup> International Conference on Structural Integrity – ICSI – Madeira, Portugal, 2 – 5 September, 2019 - <http://www.icsi.pt/>, Prof. Pedro Moreira: [pmoreira@inegi.up.pt](mailto:pmoreira@inegi.up.pt)

SPFIE is also supporting the ECF23 conference on 27th June to 3 July 2020, in Madeira, Portugal.

<https://ecf23.eu/> and VCSI 2020, which is the First Virtual Conference on Structural Integrity, and it aims to be a forum to present and discuss the most recent innovations, trends, practical challenges encountered and intelligent solutions in fatigue and fracture of materials, <https://www.vcsi1.eu/>.

*Luis Reis*

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## Ukraine

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Sixth International Conference “**Fracture Mechanics of Materials and Structural Integrity**” (FMSI2019) was held in Lviv, Ukraine, from 3 to 6 June 2019 (<http://fmsi2019.ipm.lviv.ua/>). Conference was organized by ESIS, Ukrainian Society on Fracture Mechanics of Materials, Karpenko Physico-Mechanical Institute of the National Academy of Sciences of Ukraine (NASU) and Lviv Polytechnic National University. Conference Chairmen: Prof. Volodymyr Panasyuk, Head of Ukrainian National Group of ESIS (Chairman); Prof. Leonid Lobanov, Head of Department of Physical and Technical Problems of Materials Science of NASU (Co-Chairman); Prof. Yuriy Bobalo, Rector of Lviv Polytechnic National University (Co-Chairman). Traditionally, these conferences have been held in [Lviv](#) since 1987, at [Lviv Polytechnic National University](#) (except the first one).

The Conference brought together leading scientists, researchers and research scholars to share their experience, research results and scientific ideas regarding key areas of fracture and damage mechanics, structural integrity assessment and maintenance. It has become an interactive platform for discussion of recent advances, trends and practical challenges in the field of fracture mechanics and structural integrity. Over 60 participants from Italy, Spain, Greek, France, USA, Canada, Poland, Hungary, Portugal, China, India, Mexico, Argentina and Ukraine attended the Conference.



**Conference participants in the Assembly Hall of Lviv Polytechnic National University**

Former ESIS President Prof. Emmanuel E. Gdoutos, and three Heads of ESIS TC's participated in the Conference: Prof. Jesús Toribio (TC10 “Environmentally Assisted Cracking”), Prof. Petro Yasny (TC13 “Education and Training”), Prof. Peter Trampus (TC17 “Non-Destructive Evaluation”). Welcome Addresses from Prof. Yevhen Paton, President of NASU, have been read by Prof. Leonid Lobanov, and from ESIS President Prof. Francesco Iacoviello – by Prof. Hryhoriy Nykyforchyn, Head of the Organizing Committee.



**FMSI 2019 Opening Ceremony**

Conference programme consisted of four main parts: Fracture and Strength of Materials (four sessions), Environmentally Assisted Cracking (two sessions), Non-Destructive Evaluation (two sessions) and Workshop on Applied Mechanics. The program also included TC10 Meeting dedicated to the memory of Dr. Wolfgang Dietzel, who was Co-Chairman of TC10 for almost 20 years, and recently passed away.

Accepted extended abstracts were published as Book of Abstracts and were available during the Conference. This book contains four chapters in accordance with the Conference programme.

Full papers, after being reviewed, will be published in the issue of Procedia Structural Integrity (Elsevier) within several months after the Conference.

Photo gallery is available at <http://fmsi2019.ipm.lviv.ua/Gallery/index.html>





**Conference session in the Assembly Hall of Lviv Polytechnic National University**

Finally, it should be noted that the Meeting of Ukrainian National Group of ESIS was held just after the closing of FMSI2019. At this Meeting, Professor H. Nykyforchyn was elected a new Head of Ukrainian National Group of ESIS.

*Myroslava Hredil,  
FMSI2019 Secretary*

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## TECHNICAL COMMITTEES

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### TC2: Micromechanisms

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**12<sup>th</sup> Meeting of the TC2 on Micromechanisms** held 25-28 June in Brno - 32 participants. Short papers will be published in *Procedia Structural Integrity* potentially in January 2020. All participants will be invited to submit long papers by end of October, for consideration for publication in a special issue of *TAFM*.

*Andrey Jivkov*

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### TC4: Polymers, Polymer Composites and Adhesives

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**TC4** had their most recent **biannual meeting** in Leoben, hosted by Professor Pinter

at the Montan Universität of Leoben in Austria. The two-day meeting was attended by 25 people, during which there were presentations and detailed discussions on the current technical work areas of the committee.



**Delegates at the ESIS TC4 meeting held at the Montan Universität of Leoben**

There was also an in-depth discussion session and presentations on environmental effects in polymers which greatly benefitted from the Austrian expertise in this area. Contrasting techniques utilising cyclic loading (fatigue) and continuous loading were presented, and the relative effectiveness of these approaches were discussed. Any groups wishing to join this activity on environmental effects in polymers should contact the committee chairs. Additional future technical activities were proposed in the areas of (i) 2D fracture toughness characterisation in composites and (ii) fracture toughness of elastomers.

The next ESIS TC4 International Conference will be held in Switzerland in 2020 (September 6-10, followed by a TC4 meeting on September 10-11) and the call for abstracts is now out.

<https://www.elsevier.com/events/conferences/e-sistc4conference>

*Bamber Blackman*

## TC10: Environmentally Assisted Cracking

TC10 took part in the organization of the **6<sup>th</sup> International Conference "Fracture Mechanics of Materials and Structural Integrity"** under ESIS auspice. The conference was held in Lviv, Ukraine, 03-06 of June, 2019 (<http://fmsi2019.ipm.lviv.ua>). The meeting was hosted by Lviv Polytechnic in a very pleasant location. Environmentally Assisted Fracture was one of the most important problems considered at the Conference, and two special sessions were devoted to this topic.



**Prof. V. S. Raja presents the paper "Developmental strategy for environmentally assisted cracking resistance of copper containing 7xxx series"**



**Prof. Ihor Dmytrakh presents the paper "Specific effects of hydrogen concentration on resistance to fracture of ferrite-pearlitic pipelines steels"**

A TC10 meeting was held during the Conference **to honor the memory of** recently passed away **Dr. Wolfgang Dietzel** (16.08.1946 – 15.11.2018). Wolfgang was the founder and Chairman 20-years long of TC10 up to the year 2011.



**Dr. Olha Zvirko presents the paper "Assessment of in-service degradation of gas pipeline steel taking into account susceptibility to stress corrosion cracking"**

Current TC10 Chairman Prof. Jesús Toribio opened the Meeting and in his opening speech illustrated the great role of Wolfgang in this Technical Committee, in research activities and in favoring the cooperation between countries in the frame of ESIS.



**Prof. Jesús Toribio and Prof. Hryhoriy Nykyforchyn held the Meeting**

Later some Wolfgang's friends spoke at the Meeting, namely Dr. Giovanna Gabetta (Italy), TC10, who served as TC10 Co-chairman with Wolfgang, and Dr. Mimoun Elboudjaini (USA-

Canada), both internationally recognized experts in the field of Environmentally Assisted Cracking. They spoke not only about Wolfgang's high professionalism and management ability, but also about his peculiar human qualities.



**Dr. Giovanna Gabetta at the TC10 Meeting**



**Dr. Mimoun Elboudjaini at the TC10 Meeting**

Finally Prof. Hryhorii Nykyforchyn had a talk "Cooperation of Dr. Wolfgang Dietzel with the ESIS Ukrainian National Group". He mentioned the organization of the TC10 Workshop in Lviv-Truskavets' (Ukraine) in 1999, and Wolfgang's participation in a celebration of 50-Anniversary of Karpenko Institute (2001), in the Second Ukrainian-Greek Symposium on Fracture Mechanics of Materials and Structures (2011) and in the Polish-Ukrainian-German Summer Schools on Fracture Mechanics (1998-2013).



**Dr. W. Dietzel receiving the Award of Merit (ECF20, Trondheim, 2014)**

It should be mentioned here that the significant longstanding contribution of Wolfgang in ESIS activity was celebrated during the ECF20 Conference: the Award of Merit was presented to him.

*Giovanna Gabetta*

*Jesús Toribio*

*Hryhorii Nykyforchyn*

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## **TC14: Integrity of Biomedical and Biological Materials**

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TC 14 organises its **annual Technical Committee Meeting** within the framework of the International Conference on Stents: Materials, Mechanics and Manufacturing ICS3M 2019 in London, UK (see <http://moamrg.co.uk/ICS3M2019>).

The Meeting will be held on Loughborough University London campus, located inside Here East, an inspiring innovation hub in the Queen Elizabeth Olympic Park on 15 July 2017.

*Vadim V. Silberschmidt*

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## **TC15: Structural Integrity of Additively Manufactured Components**

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### **ESIAM19**

The First European Conference on Structural Integrity of Additively Manufactured Materials (ESIAM19) is hosted at [Clarion Hotel &](#)

Congress in [Trondheim](#), Norway, 9 - 10 - 11 September 2019.

**We have received about 200 contributions (oral presentations and posters) from more than 30 countries.**

**Aim of ESIAM19.** Structural integrity, i.e. the fracture and fatigue strength of additively manufactured materials and components is becoming increasingly important with the technology's transition towards major industrial utilization. The conference will provide an overview over current scientific knowledge and stimulate ideas for future research directions in this emerging field. Peer-reviewed contributions will be in the form of a 20-minute presentation or a poster. The agenda will allow for extended discussions and for exploring Trondheim in one of the most pleasant times of the year. ESIAM19 will be the opening event for a yearly international conference series held alternating in Europe and worldwide.

**Background.** Additive manufacturing (AM) techniques offer the potential to economically fabricate customized parts with complex geometries in a rapid design-to-manufacture cycle. Before benefits can be explored in critical load bearing applications, the basic understanding of the mechanical and functional behavior of these materials must be substantially improved at all scales. In particular, a better understanding of fracture and fatigue performance is key. The conference will shed light on the basic physical phenomena of fatigue and fracture of AM materials and develop effective criteria for the design of unprecedented high performing components for next generation automotive, aerospace and biomedical applications.

**Conference Papers.** Peer reviewed publications from conference contributions and discussions will appear in the proceeding of the conference. Extended versions of selected papers will be invited for Special Issues in ESIS affiliated journals.

**Dedicated Section in ECF23** A special section dedicated to TC15 is planned during ECF23, European Conference on Fracture 2020 June 27 - July 3, 2020. Funchal, Madeira, Portugal, <https://www.ecf23.eu/>

**Dedicated Section in ICF15** A special section dedicated to TC15 is planned during ICF15, Atlanta, Georgia, USA June 13-18, 2021 <https://www.icfweb.org/>

**ESIAM22** will be organized again in Europe in 2022 after the successful first edition of 2019.

**Call for abstract is open for ESIAM 2019**

<https://www.esiam.eu/abstract-submission/>

**Welcome to ESIAM19**

[www.esiam.eu](http://www.esiam.eu)

*Filippo Berto*

*Luca Susmel*

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## TC17: Non Destructive Evaluation

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ESIS TC-17 Non-destructive Evaluation (NDE) contributed to the **6<sup>th</sup> International Conference on Fracture Mechanics of Materials and Structural Integrity**, Lviv, Ukraine, 2-6 June, 2019. A strong NDE special session was succeed to build in to the conference program. The NDE special session was composed from altogether 11 presentations. They covered power plant and aircraft applications, residual stress determinations, vibration and fatigue analyses, and emphasized NDE in relation to structural integrity assessment.

*Peter Trampus*

### **Advantages of being an ESIS member**

- ◆ participation in TC activities and access to TC documents;
- ◆ full on-line access to ESIS procedures;
- ◆ full on-line access to former EGF-ESIS books;
- ◆ support for ESIS activity.

**how to renew?**  
see **page 16** or  
[www.structuralintegrity.eu](http://www.structuralintegrity.eu)

### **ESIS Website**

[www.structuralintegrity.eu](http://www.structuralintegrity.eu)

- **become a member of ESIS and take advantage of all the "Members Only" resources on this Web site**
- **register automatically as a Member and pay the fee by PayPal system**
- **obtain your username and password for accessing the private area for downloading EGF-ESIS books and Procedures**
- **exchange new ideas, advancements and documents**

### CALENDAR OF TC MEETINGS & ACTIVITIES

<b>TC12</b>	July 1-2, 2019	TC12 Annual Meeting The First International Symposium on Risk Analysis and Safety of Complex Structures and Components (IRAS 2019)	Porto, Portugal	<a href="https://drive.google.com/file/d/1vq7GIxuPqDGxcw1caXMgTpqAOTJ5ou2Q/view">https://drive.google.com/file/d/1vq7GIxuPqDGxcw1caXMgTpqAOTJ5ou2Q/view</a>
<b>TC14</b>	July 15-17, 2019	TC14 Meeting International Conference on Stents: Materials, Mechanics and Manufacturing	London, UK	<a href="http://moamrq.co.uk/ICS3M2019">http://moamrq.co.uk/ICS3M2019</a>
<b>TC15</b>	September 4-6, 2019	First European Conference Structural Integrity of Additively Manufactured Materials	Trondheim, Norway	<a href="https://www.esiam.eu/">https://www.esiam.eu/</a>
<b>TC11</b>	November 13-15, 2019	TC11: 4th International Workshop on Thermo-Mechanical Fatigue	Berlin, Germany	<a href="https://netzwerke.bam.de/Netzwerke/Navigation/EN/Event-Series/TMF-Workshops/tmf-workshops.html">https://netzwerke.bam.de/Netzwerke/Navigation/EN/Event-Series/TMF-Workshops/tmf-workshops.html</a>
<b>TC4</b>	September 6-10, 2020	TC4 Meeting - Fracture of Polymers, Composites and Adhesives	Les Diablerets, Switzerland	<a href="https://www.structuralintegrity.eu/site/pdf/ESIS%2020_20_Flyer.pdf">https://www.structuralintegrity.eu/site/pdf/ESIS%2020_20_Flyer.pdf</a>

### CALENDAR OF CONFERENCES & WORKSHOPS

July 15-17, 2019	International Conference on Stents: Materials, Mechanics and Manufacturing	London, UK	<a href="http://moamrq.co.uk/ICS3M2019">http://moamrq.co.uk/ICS3M2019</a>
September 13-15, 2019	6th Summer School on Fracture Mechanics	Cracow, Poland	<a href="http://summerschool2019.tu.kielce.pl/">http://summerschool2019.tu.kielce.pl/</a>
June 27-28, 2020	7th Summer School on "Fracture Mechanics and Structural Integrity"	Funchal, Madeira, Portugal	<a href="https://www.ecf23.eu/">https://www.ecf23.eu/</a>
June 29-July 03, 2020	23 <sup>rd</sup> European Conference on Fracture - ECF23	Funchal, Madeira, Portugal	<a href="https://www.ecf23.eu/">https://www.ecf23.eu/</a>

## ESIS Procedures and Documents (free available for ESIS Members at [www.structuralintegrity.eu](http://www.structuralintegrity.eu))

Two kinds of documents are produced by ESIS Technical Committees with the following designatory system: ESIS P2-92 or ESIS P4-92D, where:

1. P means "Procedure", and 2 and 4 are the current numbers, while 92 is the year of issue.
2. D following the year (eg: 92D) means "draft", ie: not yet approved, while
3. D prior to the year (eg: D1-92) means "Document" other than test methods.

<p><b>P1-92</b> <b>ESIS RECOMMENDATIONS FOR DETERMINING THE FRACTURE RESISTANCE OF DUCTILE MATERIALS.</b> Responsible body: TC1 Subcommittee on Fracture Mechanics Testing Standards.</p>
<p><b>P2-92</b> <b>ESIS PROCEDURE FOR DETERMINING THE FRACTURE BEHAVIOUR OF MATERIALS.</b> Responsible body: TC1 Subcommittee on Fracture Mechanics Testing Standards.</p>
<p><b>P3-03D</b> <b>DRAFT UNIFIED PROCEDURE FOR DETERMINING THE FRACTURE BEHAVIOUR OF MATERIAL.</b> Responsible body: TC1 Subcommittee on Fracture Mechanics Testing Standards (UNDER PREPARATION NOT AVAILABLE).</p>
<p><b>P4-92D</b> <b>ESIS RECOMMENDATIONS FOR STRESS CORROSION TESTING USING PRE-CRACKED SPECIMENS.</b> Responsible body: TC10 Committee on Environmental-Assisted Cracking.</p>
<p><b>P5-00/VAMAS</b> <b>PROCEDURE FOR DETERMINING THE OF FRACTURE TOUGHNESS OF CERAMICS USING THE SEVNB METHOD .</b> Responsible body: TC6 Committee on Ceramics.</p>
<p><b>P6-98</b> <b>ESIS PROCEDURE TO MEASURE AND CALCULATE MATERIAL PARAMETERS FOR THE LOCAL APPROACH TO FRACTURE USING NOTCHED TENSILE SPECIMENS.</b> Responsible body: TC8 Committee on Numerical Methods.</p>
<p><b>P7-00</b> <b>ESIS PROCEDURE FOR DYNAMIC TENSILE TESTS</b> Responsible body: TC5 Subcommittee on Dynamic Testing at Intermediate Strain rates.</p>
<p><b>P8-99D</b> <b>ESIS DRAFT CODE OF PRACTICE FOR THE DETERMINATION AND INTERPRETATION OF CYCLIC STRESS-STRAIN DATA.</b> Responsible body: TC11 Committee on High Temperature Mechanical Testing.</p>
<p><b>P9-02D</b> <b>GUIDANCE ON LOCAL APPROACH OF RUPTURE OF METALLIC MATERIALS.</b> (UNDER PREPARATION NOT AVAILABLE).</p>
<p><b>P10-02</b> <b>A CODE OF PRACTICE FOR CONDUCTING NOTCHED BAR CREEP RUPTURE TESTS AND INTERPRETING THE DATA.</b> Responsible body: TC11 High Temperature Mechanical Testing Committee.</p>
<p><b>P11-02</b> <b>TECHNICAL RECOMMANDATIONS FOR THE EXTREME VALUE ANALYSIS OF DATA ON LARGE NONMETALLIC INCLUSIONS</b> Responsible body: TC20 Committee on Inclusions.</p>
<p><b>D1-92</b> <b>FRACTURE CONTROL GUIDELINES FOR STRESS CORROSION CRACKING OF HIGH STRENGTH ALLOYS.</b> Responsible body: TC10 Committee on Environmental Assisted Cracking.</p>
<p><b>D2-99</b> <b>FRACTURE TOUGHNESS OF CERAMICS USING THE SEVNB METHOD; ROUND ROBIN, TEST PROGRAMME.</b> The ESIS TC6 and VAMAS TWA3 developed a test method and conducted a round robin for its validation. D2-99 presents a detailed documentation of this activity. The final form of the test method has appeared as P5-00. Responsible body: TC6 Committee on Ceramics.</p>

