

Skupovi – Najava



Events – Announcement



NT2F10

DESETA MEĐUNARODNA KONFERENCIJA NOVE TENDENCIJE U ZAMORU I LOMU

„Projektovanje materijala i konstrukcija prema zamoru i lomu“ – Mec, Francuska, 30.8–1.9.2010.

ISTORIJA NT2F KONGRESA

Kongres NT2F je 2000. god. osnovala Laboratorija za mehaničku pouzdanost (u Mecu) kao godišnji sastanak „Evropskog instituta za zamor i lom bez granica“ (WWIFF).

Održani su sledeći kongresi:

- NT2F1 Mec (Francuska) april 2001.
- NT2F2 Hamamet (Tunis) maj 2003.
- NT2F3 Ningbo (Kina) novembar 2003.
- NT2F4 Alep (Sirija) maj 2004.
- NT2F5 Bari (Italija) maj 2005.
- NT2F6 Kranj (Slovenija) maj 2006.
- NT2F7 Miskolc (Mađarska) maj 2007.
- NT2F8 Ankaran (Slovenija) oktobar 2008.
- NT2F9 Beograd (Srbija) oktobar 2009.

TEME NT2F10

Zamor i lom uglavnom nastaju iz grešaka koje prouzrokuju koncentraciju napona. Zbog razloga sigurnosti, još od Irvina, tradicionalni pristup mehanike loma prihvata da su sve greške oblika prslina. Da bi se izbegla prekomerna sigurnost, savremena je tendencija da se razmatra stvarni geometrijski oblik greške, a naročito njena oštrina. Sa tog stanovišta prslina može da se posmatra kao specijalni slučaj zarez. Ovaj novi pristup, poznat pod nazivom „*mehanika loma iz zarez*“, privukao je pažnju naučnika koji se bave problemima zamora i loma i danas se intenzivno razvija.

Jedan od odgovora na održivi razvoj je primena vodonika kao energenta. Transport i skladištenje vodonika stvaraju velike probleme u pogledu sigurnosti i pouzdanosti opreme zbog pojave vodonične krstosti materijala pod uticajem difuzije vodonika, jer se koriste visoki pritisci za skladištenje istog ekvivalenta u pogledu energetske vrednosti za vozila, a postoji i opasnost od procurivanja pre loma.

Intenzivni razvoj i masovna primena nano-konstrukcija i nano-tehnologija otvorili su sledeća dva nova pitanja. Prvo pitanje je „*kako utvrditi sigurnost i pouzdanost nano-konstrukcija*“. Drugo je pitanje „*da li teorijski pristup mehanike loma, koji se zasniva na atomskom modelu, može da se koristi i za probleme vrha prslina, inicijacije i rasta prslina u nano-materijalima*“.

Još uvek je potpuno otvoreno pitanje transfera osobina materijala na konstrukciju u eksploataciji. Nedavno su uvedeni novi parametri transferabilnosti, na primer T napon ili A3 parametar. Ostaje i dalje otvoreno pitanje univerzalnog parametra koji može da opiše uticaj veličine (dimenziju), ometene deformacije (krutost) i vrste opterećenja.

Poslednjih decenija je cena titana i njegovih legura značajno smanjena. Ovi materijali su sada dostupni ne samo za naoružanje, avijaciju i svemirsku opremu, već i za brodove, posude pod pritiskom i proteze. Specijalni propisi i uputstva su sada potrebni za opštu primenu ovih materijala.

NT2F10

TENTH INTERNATIONAL CONFERENCE NEW TRENDS IN FATIGUE AND FRACTURE

“Materials and Structures Design Against Fatigue and Fracture” – Metz, France, Aug. 30–Sept. 1, 2010

HISTORY of NT2F CONGRESS

The Congress NT2F was founded in 2000 by the Laboratoire de Fiabilité Mécanique (Metz) as an annual meeting of the “Without Walls European Institute on Fatigue and Fracture” (WWIFF).

The congress was held successively:

- NT2F1 Metz (France) April 2001
- NT2F2 Hammamet (Tunisia) May 2003
- NT2F3 Ningbo (China) November 2003
- NT2F4 Aleppo (Syria) May 2004
- NT2F5 Bari (Italy) May 2005
- NT2F6 Kranj (Slovenia) May 2006
- NT2F7 Miskolc (Hungary) May 2007
- NT2F8 Ankaran (Slovenia) October 2008
- NT2F9 Belgrade (Serbia) October 2009

NT2F10 OBJECTIVES

Fatigue and fracture initiation generally emanates from defects, which act as stress concentrators. For conservative reasons and since Irwin, the traditional fracture mechanics approach considers all defects as crack-like defects. In order to prevent any over-conservatism, the present trend is to consider the actual geometry of a defect and particularly its acuity. From this point of view, a crack is considered as a special case of a notch. This new approach, known as *Notch Fracture Mechanics*, has received a new interest from scientists in the field of fatigue and fracture and is at present under constant development.

One of the answers to sustainable development is to use hydrogen as an energy vector. Transport and storage of hydrogen induce a series of severe problems of safety and reliability of equipment due to hydrogen embrittlement of materials under hydrogen diffusion, applying very high pressure for storage of the same energy equivalent for vehicles, and risk of ignition due to leak before break.

Fast development and extensive application of nano-structures and nano-technologies has given rise to two new questions. The first one is “*how to assess safety and reliability of nano-structures*”. The second one is “*whether theoretical approach of fracture mechanics based on an atomic model, can cover problems of crack tip, crack initiation and propagation in nano-materials*”.

The question of transferring materials properties to actual structures is always an open question. New transferability parameters have been recently developed such as T stress or A3 parameter. A remaining question is to get an universal parameter, which is able to describe scale effects, constraint effect and loading mode.

Price of titanium and titanium alloys has drastically reduced during the last decade. It is now possible to use this material not only in weapons, aeronautics and space structures, but also for ships, pressure vessels and prostheses. Specific codes and guidelines for a large diffusion of this material are now necessary.

Izražena potreba za energijom je uslovlila izgradnju brojnih i vrlo dugačkih naftovoda i gasovoda velikog prečnika, koji su izloženi visokim pritiscima i zbog toga su izrađeni od čelika mnogo više klase čvrstoće nego ranije. Zbog toga je neophodno da se promene tradicionalno korišćeni faktori sigurnosti i pouzdanosti kod tako zahtevne opreme uzimajući u obzir nove radne uslove.

Detaljna obaveštenja mogu se naći na

http://www.lfm.univ-metz.fr/nt2f10/nt2f10_booklet.pdf

ili preko kancelarije DIVK (<http://divk.org.rs>).

The exponential demand of energy has led to construction of numerous and very long oil and gas pipelines of larger diameter, working at higher service pressure and made with a new class of high strength steels than it was formerly done. Traditional safety factors for safety and reliability of such a sensitive equipment need to be modified to take into account new working conditions.

For more detailed information please contact

http://www.lfm.univ-metz.fr/nt2f10/nt2f10_booklet.pdf

or the DIVK office (<http://divk.org.rs>).



IV Međunarodna konferencija NOVE TEHNOLOGIJE SPAJANJA NAPREDNIM MATE- RIJALIMA, Temišvar, Rumunija, 10–11. juna 2010.

U organizaciji:

Nacionalnog instituta za istraživanje i razvoj zavarivanja i ispitivanja materijala – ISIM, Temišvar

Rumunske Akademije tehničkih nauka – Odeljenje u Temišvaru

Univerzitet POLITEHNICA u Temišvaru

Glavne teme obuhvataju:

- Nove tehnologije spajanja i mikrozavarivanje
- Modeliranje i simulacija procesa zavarivanja
- Specifični problemi u spajanju naprednim materijalima
- Kvalitet zavarenog spoja i struktura zavara

Za dodatne informacije posetite <http://www.isim.ro/tima10>, a možete se obratiti i kancelariji DIVK na e-mail: kancelarija@divk.org.rs

The 4th International Conference INNOVATIVE TECHNOLOGIES FOR JOINING ADVANCED MATERIALS, Timișoara, Romania, June 10–11, 2010

Organised by:

National R&D Institute for Welding and Material Testing – ISIM Timișoara

Romanian Academy for Technical Sciences – Timișoara Subsidiary
POLITEHNICA University of Timișoara

Main topics:

- New joining technologies and microwelding
- Modelling and simulation of welding processes
- Specific problems in advanced materials joining
- Quality of welded joints and welded structure

For further information please visit <http://www.isim.ro/tima10> or contact DIVK office at kancelarija@divk.org.rs



18. EVROPSKA KONFERENCIJA O LOMU Lom materijala i konstrukcija od mikro do makro nivoa – Dresden, Nemačka, 30.8–3.9.2010.

Osamnaesta evropska konferencija o lomu, ECF18, pripada nizu dobro prihvaćenih biennialnih međunarodnih konferencija koje se održavaju pod okriljem Evropskog društva za integritet konstrukcija, ESIS (ranije Evropske grupe za lom EGF) još od 1976. ECF18 se smatra i ICF međunarodnom konferencijom Međunarodnog kongresa o lomu, koja se održava svake četvrte godine, (o ICF videti <http://www.ICF12.com>).

U 2010. godini će ECF18 organizovati DVM Nemački savez za razvoj i ispitivanje materijala u ime Nemačke nacionalne grupe za lom u lepom istorijskom gradu Drezdenu. Namena je konferencije da omogući široku platformu za naučnu i tehnološku komunikaciju, diskusiju i aktivnosti za sve koji su zainteresovani za široko područje integriteta konstrukcija, mehanike loma i zamora. Teme konferencije će pokriti sve značajne fundamentalne aspekte i praktične primene koje se tiču čvrstoće, integriteta, trajnosti i pouzdanosti tehničkih materijala, komponenti i konstrukcija.

Specijalna pažnja će biti usmerena na sagledavanje loma i zamora na različitim nivou razmera, polazeći od nano veličina atomske strukture do makro veličina konstrukcijskih komponenti. Tako integrisani pristup uslovljava saradnju eksperata u fizici,

18TH EUROPEAN CONFERENCE ON FRACTURE Fracture of Materials and Structures from Micro to Macro Scale – Dresden, Germany, Aug. 30–Sept. 3, 2010

The Eighteenth European Conference on Fracture, ECF18, belongs to the well-established series of Biennial International Conferences held under the auspices of the European Structural Integrity Society, ESIS (formerly the European Group on Fracture EGF), since 1976. ECF18 is also designated as an ICF Interquadrennial Conference of The International Congress on Fracture (ICF: see <http://www.ICF12.com>).

In 2010 ECF18 will be organised by DVM Deutscher Verband für Materialforschung und -prüfung e.V. on behalf of the German National Group on Fracture in the beautiful historical city of Dresden. The objective of the conference is to provide a world wide platform for scientific and technological communication, discussion and activities for all those interested in the broad range of structural integrity, fracture mechanics and fatigue. Conference topics will focus on all important fundamental aspects and practical applications concerning strength, integrity, durability and reliability of engineering materials, components and structures.

Special emphasis will be given to a multi-scale understanding of fracture and fatigue, starting from the nano-scale of atomistic structures up to the macro-scale of engineering components. Such

nauci o materijalima i tehnici. Težnja je konferencije da okupi istraživače iz različitih tehničkih disciplina, kao što su mašinstvo, građevinarstvo, energetika, proizvodnja automobila i transportnih sredstava, vazduhoplovstvo, geotehnika, mikroelektronika, bioinženjerstvo i druge oblasti u kojima dolazi do pojave loma i potrebe da se lom predupredi, kako bi se razmenila iskustva i postiglo što potpunije sagledavanje problema.

Pozivamo istraživače i eksperte iz prakse u ovoj oblasti, angažovane u akademskim, industrijskim i državnim institucijama. Posebno se podstiče učešće mladih istraživača. Konferencija će sadržati pozivna i plenarna predavanja međunarodno priznatih naučnika, kao i oralne prezentacije i forum za iscrpne diskusije u okvirima naših disciplina.

Detaljna obaveštenja mogu se naći na:

http://www.ecf18.de/medien/content/file/ECF18_2nd_Circular_February_2010.pdf ili preko kancelarije DIVK (<http://divk.org.rs>).

an integrated approach requires collaboration between physicists, materials scientists and engineers. The conference aims to bring together researchers from various engineering disciplines as mechanical engineering, civil engineering, power plant engineering, automotive and transportation, aerospace, geotechnique, microelectronics, bioengineering and other branches, all faced with failure phenomena and their prevention, in order to exchange their experiences and to gain a more comprehensive understanding.

We invite researchers and practitioners in this field from academic, industrial and government organisations. Especially young scientists are encouraged to attend the conference. The conference will comprise invited Honour & Plenary lectures by outstanding international scientists and contributed oral presentations and a forum for robust discussions at the cutting-edge of our discipline.

For more detailed information please contact:

http://www.ecf18.de/medien/content/file/ECF18_2nd_Circular_February_2010.pdf or DIVK office (<http://divk.org.rs>).



NT2F9

Deveta međunarodna konferencija NOVEU TENDENCIJE U ZAMORU I LOMU „Otkazi materijala i konstrukcija usled zamora i loma“ Beograd, 12–14. oktobar 2009.

Deveta međunarodna konferencija *Nove tendencije u zamoru i lomu* NT2F9 – *Otkazi materijala i konstrukcija usled zamora i loma*, održana je od 12. do 14. oktobra 2009. u Beogradu, Srbija, pod pokroviteljstvom Ministarstva za nauku i tehnološki razvoj Srbije. Konferenciju su organizovali Univerzitet u Beogradu (Tehnološko-metalurški fakultet–TMF i Mašinski fakultet–MF), Društvo za integritet i vek konstrukcija (DIVK) i Laboratorija za mehaničku pouzdanost i sigurnost Nacionalnog tehničkog univerziteta, Mec.

Teme NT2F9 su pokrivala teorijski, eksperimentalni i numerički aspekt, a razvrstane su u četiri simpozijuma.

SIMPOZIJUM A – Prsline i oštećenja

- na makro, mezo i nano nivou;
- nastanak i rast;
- otkrivanje;
- veličina i položaj.

SIMPOZIJUM B – Naponi i deformacije

- merenje;
- raspodela;
- numerička analiza;
- promenljivi i višeosni naponi.

SIMPOZIJUM C – Materijali

- čelik;
- ostali konstrukcioni metalni materijali;
- plastika i kompozitni materijali;
- biomaterijali;
- nano materijali.

SIMPOZIJUM D – Konstrukcije

- integritet;
- sigurnost;
- pouzdanost;
- uticaj okoline;
- nano konstrukcije;
- ponašanje zavarenih spojeva;
- kodovi i direktive pri projektovanju.

NT2F9

Ninth International Conference NEW TRENDS IN FATIGUE AND FRACTURE “Failures of Materials and Structures by Fatigue and Fracture” Belgrade, October 12–14, 2009

The Ninth International Conference *New Trends in Fatigue and Fracture* NT2F 9 – *Failures of materials and structures by fatigue and fracture* was held from October 12 to 14, 2009, in Belgrade, Serbia, under auspices of the Ministry of Science and Technological Development of Serbia. The Conference was organised by the University of Belgrade (Faculty of Technology and Metallurgy–TMF and Faculty of Mechanical Engineering–MF), Soc. for Struc. Int. and Life (DIVK) and Laboratoire de fiabilité mécanique de l'école nationale d'ingénieurs de Metz.

The topics of NT2F9 covered theoretical, experimental and numerical aspects, divided into four symposia.

SYMPOSIUM A – Cracks and Defects

- at macro, micro and nano level;
- initiation and growth;
- detection;
- significance assessment (size and location).

SYMPOSIUM B – Stress and Strain

- measurement;
- distribution;
- numerical analysis;
- variable and multiaxial stresses;

SYMPOSIUM C – Materials

- steel;
- other metallic structural materials;
- plastics and composites;
- biomaterials;
- nano materials.

SYMPOSIUM D – Structures

- integrity;
- safety;
- reliability;
- environment;
- nano structures;
- welded joints behaviour;
- design codes and directives.

U radu NT2F9 učestvovalo je 72 naučnika iz 16 zemalja. Izložena je 59 radova (po simpozijumima A-14, B-12, C-15, D-18). Štampan je CD-ROM sa prezentacijama. Odabrani radovi će biti objavljeni u časopisu „Integritet i vek konstrukcija“ posle recenzija.



Profesor Gi Plivinaž pozdravlja učesnike NT2F9
Professor Guy Pluinage addresses NT2F9 participants

Altogether 72 participants from 16 countries followed the NT2F9, and 59 contributions were presented (in symposia A-14, B-12, C-15, D-18). Presentations were printed on CD-ROM. Selected reviewed papers will be published in “Structural Integrity and Life”.



Predsednik Organizacionog odbora Ljubica Milović otvara NT2f9
President of Organising Committee Ljubica Milović opens NT2f9



Učesnici NT2F9 na rastanku
NT2F9 participants on departure



Predsednik DIVK profesor Aleksandar Sedmak zatvara NT2F9
DIVK President professor Aleksandar Sedmak closes NT2F9

DEVETA GODIŠNJA SKUPŠTINA DRUŠTVA ZA INTEGRITET I VEK KONSTRUKCIJA (DIVK)

Deveta godišnja skupština Društva za integritet i vek konstrukcija održana je 26. marta 2010. u Svečanoj sali Instituta za ispitivanje materijala (IMS), Bulevar vojvode Mišića 43 u Beogradu.

Dnevni red

1. Izveštaj Upravnog odbora o radu društva u 2009. godini
2. Izveštaj o radu časopisa „Integritet i vek konstrukcija“ u 2009.
3. Finansijski izveštaj za 2009. godinu
4. Izveštaj Nadzornog odbora
5. Usvajanje novog statuta DIVK
6. Preregistracija DIVK
7. Plan rada za 2010. godinu

Upravni odbor bio je u sastavu: predsednik, prof. dr Aleksandar Sedmak, Mašinski fakultet Univerziteta u Beogradu, potpredsednik, dr Zijah Burzić, Vojnotehnički institut, Beograd, dr Miodrag Arsić i mr Dragan Jaković, Institut za ispitivanje materijala, Beograd, prof. dr Katarina Gerić, Fakultet tehničkih nauka, Univerzitet u Novom Sadu, Jano Kurai, dipl. maš. inž., CertLab, Pančevo, doc. dr Milorad Zrilić, Tehnološko-metalurški fakultet Univer

NINTH ANNUAL MEETING OF THE SOCIETY FOR STRUCTURAL INTEGRITY AND LIFE (DIVK)

The Ninth Annual Meeting of the Society for Structural Integrity and Life was held on March 26, 2010, in the Ceremonial Hall of the Institute for Materials Testing (IMS), Belgrade.

Agenda:

1. Governing Board report on the activities in the year 2009
2. Journal “Structural Integrity and Life” editorial report for 2009
3. Financial report for 2009
4. Supervisory Board report
5. New DIVK statute and bylaw
6. DIVK Re-registration
7. Plan of activities in 2010

The Governing Board assembled by: president, Prof. Dr Aleksandar Sedmak, Faculty of Mechanical Engineering, University of Belgrade, vice-president, Dr Zijah Burzić, Military Technical Institute (VTI), Belgrade, Dr Miodrag Arsić and Mr Dragan Jaković, Institute for Materials Testing (IMS), Belgrade, Prof. Dr Katarina Gerić, Faculty of Technical Sciences, University of Novi Sad, Jano Kurai, Dipl. Mech. Eng., CertLab, Pančevo, Doc. Dr Milorad Zrilić,

ziteta u Beogradu, Miodrag Pavišić, dipl. građ. inž., PM Lucas, Beograd, Vasilije Sarić, dipl. inž. tehnologije, JKP Beogradske elektrane, Beograd, docent dr Mersida Manjgo, Mašinski fakultet u Mostaru, BiH.

Održano je 6 sednica tokom 2009. godina na kojima je, osim tekućih pitanja, pažnja poklonjena konferenciji NT2F9 (održanoj po prvi put u Srbiji, oktobra 2009. godine).

Na vreme su izašla iz štampe sva tri broja časopisa IVK za 2009. godinu. DIVK je prijavio časopis IVK za evaluaciju pri Thomson Scientific, koji je u stavu Thomson-Reuters, radi stavljanja na međunarodnu SCI listu naučnih časopisa.

Prikazan je Finansijski izveštaj za 2009. i Izveštaj Nadzornog odbora DIVK, koji je prethodno usvojeni na sednici UO DIVK.

Plan rada DIVK u 2010. godini

1. Upravni odbor – redovni rad
2. Raditi na kvalitetu časopisa pred uvrštavanja na SCI listi
3. Administracija DIVK – redovni rad
4. Članstvo – omasoviti i aktivirati
5. Pomažući članovi – omasoviti i aktivirati
6. Monografija
7. XI Međunarodna letnja škola mehanike loma
8. Konferencija NT2F10, 30. avgust 2010, Mec, Francuska
9. Konferencija ECF18, 30. avgusta, 2010, Drezden, Nemačka
10. Inovacione tehnologije u spajanju savremenih materijala, od 11. juna, 2010, Temišvar, Rumunija
11. Forumi, seminari (Integritet i vek mostova – slučaj „Gazela“)

U odnosu na prethodnu godinu bitna izmena je promena sedišta DIVK. UO je zaključio da je u cilju efikasnijeg rada DIVK, posebno administracije, potrebno preseliti (delimično) kancelariju na Mašinski fakultet Univerziteta u Beogradu, soba 502, V sprat.

Na spisku je ukupno 288 članova, od kojih je 177 aktivno, a 113 je na vreme izmirilo članarinu za 2009. Članom DIVK se smatra svako ko popuni pristupnicu i koga UO primi za člana, ali samo aktivni članovi se vode u tekućoj evidenciji i imaju niz pogodnosti (primerak časopisa IVK, izdanja DIVK, snižene kotizacije itd.). Na listi za slanje obaveštenja nalazi se 201 osoba.

Pomažući članovi u 2009. godini su:

JKP Beogradske elektrane, Beograd
EPS Direkcija za strategiju i investicije, Beograd
JP TENT, Obrenovac
CERTLAB, Pančevo
Institut GOŠA, Beograd
GOŠA FOM, Smederevska Palanka
PMC Inženjering
NIS Naftagas, Zrenjanin
KONMAT, Beograd
Institut IMS, Beograd
HIP Petrohemija, Pančevo
Zavod za zavarivanje, Beograd
Prva petoletka – NIC, Trstenik

Podsećamo da je juna 2008. na Zlatiboru održana 10. Međunarodna letnja škola mehanike loma, 21 predavač (bilo je sedmor novih), 44 učesnika iz Srbije, Bosne i Hercegovine, Republike Srpske, Slovenije, Amerike i Nemačke. Monografija na engleskom jeziku je izdata 2009. Kratka promocija – Stojan Sedmak., oktobar 2009.

DIVK Forumi su imali sledeće teme: Parametri plastičnosti, duktilnosti i žilavosti materijala u oceni integriteta konstrukcija; Nedoumice u proceni veka sa stanovišta zamora; Zamor pri cikličnom opterećenju sa promenljivim amplitudama; Nedoumice u analizi inicijacije rasta prslina; Neki aspekti histerezisnog ponašanja konstrukcije čeličnih dampera u polju zamora zemljotresnim malocikličnim opterećenjem.

Fac. of Techn. and Metal., Univ. of Belgrade, Miodrag Pavišić, Dipl. Civ. Eng., PM Lucas Belgrade, Vasilije Sarić, Dipl. Eng. Tech., JKP Beogradske elektrane, Doc. Dr Mersida Manjgo, Fac. of Mech. Engng., Univer. in Mostar, Bosnia and Herzegovina.

Six meetings took place in 2009, on which, beside the current issues, most attention was paid to the NT2F9 Conference.

All three issues of the IVK journal were published on time. At the beginning of 2009 DIVK has applied the IVK journal to Thomson Scientific (Thomson-Reuters) evaluation, in the effort of SCI list ranking.

The financial report for 2009 and DIVK Supervisory Board report, previously accepted by UO DIVK, were adopted.

Plan of DIVK activities in 2010

1. The Governing Board – current activities
2. Efforts on the Journal quality for SCI list ranking
3. Administration – current activities
4. Membership – to broaden and activate
5. Donors – to broaden and activate
6. Monograph
7. The 11th International Fracture Mechanics Summer School
8. NT2F10 Conference, Aug. 30, 2010, Metz, France
9. ECF18, Aug. 30, 2010, Dresden, Germany
10. Innovative technologies for joining advanced materials, held in June 10-11, 2010, Timisoara, Romania
11. Forums, seminars (Integrity and life of bridges – Case “Gazela”)

Our headquarter address has changed. UO has decided, in order to obtain more efficiency of DIVK activity, especially administration, to move our head office to the Faculty of Mechanical Engng., University of Belgrade, Room 502, 5th floor.

The membership list contains 288 members in total, 177 active and 113 individual members paid fee for 2009. A DIVK member may be regarded anyone that applies for membership if admitted as member by the UO. Active members are on the list of benefits (one copy of the journal Structural Integrity and Life, DIVK publications, reduced participation fees. Information list contains 201 names.

Supporting donor DIVK members in 2009 are:

JKP Beogradske elektrane, Beograd
EPS Direkcija za strategiju i investicije, Beograd
JP TENT, Obrenovac
CERTLAB, Pančevo
Institute GOŠA, Smederevska Palanka
GOŠA FOM, Smederevska Palanka
PMC Inženjering, Beograd
NIS NAFTAGAS, Zrenjanin
KONMAT, Beograd
Institut IMS, Beograd
HIP Petrohemija, Pančevo
Zavod za zavarivanje, Beograd
Prva petoletka – NIC, Trstenik

The 10th International Fracture Mechanics Summer School was held in June, 2008, on Zlatibor with 21 lecturers (of which seven for the first time) and 44 attendees from Serbia, Bosnia and Herzegovina, Republic of Srpska, Slovenia, United States, and Germany. The monograph was published in English in 2009. A short promotion was held by Prof. Dr Stojan Sedmak in October 2009.

DIVK Forums were held with the following topics: Plasticity, ductility and toughness material parameters in structural integrity assessment; Ambiguities in life assessment from the aspect of fatigue; Fatigue from cyclic loads with changing amplitudes; Ambiguities in analysing crack growth initiation; Some aspects of hysteretic behaviour of steel structure damper in the field of fatigue from low-cycle earthquake loads.



JUBILEJ POVODOM OSAMDESETOG ROĐENDANA STOJANA SEDMAKA

Saradnici i bivši studenti profesora Stojana Sedmaka su, u okviru aktivnosti DIVK, 9. novembra 2009. godine, organizovali proslavu njegovog osamdesetog rođendana na Tehnološko-metalurškom fakultetu (TMF). Njegovu biografiju i rezultate ostvarene tokom dugog niza godina aktivnosti je prikazala docent TMF Ljubica Milović, njegov asistent i bliski saradnik. Ovde su izloženi u najkraćim crtama.

Stojan Sedmak se rodio 9. novembra 1929. godine u Kratovu, Makedonija. Maturirao je 1948. godine u Prvoj muškoj gimnaziji u Beogradu, a diplomirao je na Mašinskom fakultetu Univerziteta u Beogradu 1954.

Odmah po diplomiranju zaposlio se u fabrici „Slavko Rodić“ u Bugojnu, gde je radio do 1958, kada je prešao u Sarajevo (Fabrika motora „FAMOS“), a od 1961. radi u Vojnotehničkom institutu (VTI) Beograd, kao konstruktor guseničnih i točkaških vozila. Na TMF prelazi 1966. kao asistent za mašinske elemente kod prof. Bogdana Grujića. Za redovnog profesora je izabran 1981.

Magistrirao je 1969. na Prirodno-matematičkom fakultetu, osek za mehaniku („Neki problemi koncentracije napona u dvodimenzionoj teoriji elastičnosti“), a doktorirao je 1977. na Mašinskom fakultetu u Beogradu („Uticaj prslina i zareza na pojavu loma pri elastičnoj i plastičnoj deformaciji“).

Predavao je predmete iz oblasti metalurškog, hemijskog, i grafičkog inženjerstva, i mehaniku loma, mehaniku materijala i zavarivanje na magistarskim studijama Tehnologija i metalurgija zavarivanja, koje je na TMF 1973. uveo sa prof. Aleksandrom Radovićem.

Pedagošku aktivnost je pratila i intenzivna saradnja sa privredom i naučno-istraživački rad. Posebno mesto ima saradnja sa Industrijom „GOŠA“ i sa VTI, koja traje bez prekida od 1973.

Teorijska i preliminarne eksperimentalna istraživanja krto g loma su bila osnova za uvođenje mehanike loma u praktičnu primenu, koja se pokazala vrlo korisnom kao pomoć u realizaciji projekta zavarivanja cevovoda reverzibilne HE Bajina Bašta od čelika SUMITEN 80, nazivnog napona tečenja 700 MPa. Jedinствен je eksperiment počeo sa dva modela kritičnog segmenta cevovoda, koji su sledeći dva različita koncepta realizovale firme METALNA i GOŠA u periodu 1977-1982. Rezultati ovih ispitivanja su omogućili potpunije sagledavanje mečing efekta i značaja heterogenosti zone uticaja toplote u pogledu mehaničkih karakteristika.

Daljem razvoju primene mehanike loma je doprineo polugodišnji boravak prof. Majkla Vnuka 1979-80 kao gosta TMF i prof. S. Sedmaka. Vnuk je predložio da se organizuje Međunarodna letnja škola mehanike loma (IFMASS). Podrška je dobijena od generalnog direktora Industrije GOŠE, Tihoslava Tošića i Prva međunarodna letnja škola mehanike loma (IFMASS 1) „Uvod u mehaniku loma i konstruisanje sa sigurnošću od loma“ je održana od 30. juna do 3. jula 1980. u Smederevskoj Palanci. Do sada je IFMASS održan 10 puta, praćen sa monografijama, u čijem je uređivanju uvek učestvovao prof. S. Sedmak.

Uspeh IFMASS 1 i razvoj istraživanja mehanike loma doveo je do realizacije američko-jugoslovenskog projekta „Mehanika loma zavarenih spojeva“ (1982-1992), a prof. S. Sedmak je bio glavni istraživač sa jugoslovenske strane. Saradnici projekta su bili sa: TMF-Beograd, FTN-Nov i Sad, Mašinski fakultet-Maribor, Energoinvest-Sarajevo, Đuro Đaković-Slavonski Brod i Mašinski fakultet-Skopje, sa jugoslovenske strane, i američki partner Nacionalni institut za standarde i tehnologiju (NIST–National Institute for Standards and Technology), Boulder, Kolorado.

Profesor S. Sedmak je ostvario brojne međunarodne veze na ličnoj, društvenoj i na bilateralnoj osnovi sa institucijama u mnogim zemljama (Francuska, Rumunija, Slovenija, Bugarska,

JUBILEE OF THE EIGHTIETH BIRTHDAY OF STOJAN SEDMAK

Associates and former students of Professor Stojan Sedmak in DIVK activities on November 9th 2009 have organised a celebration of his eightieth birthday at The Faculty of Technology and Metallurgy (TMF). His biography and achievements over the years of activities were presented by TMF docent Ljubica Milović, his assistant and close associate. Here are the achievements exposed to the shortest lines.

Stojan Sedmak was born on November 9th 1929 in Kratovo, Macedonia. He graduated in 1948 from the First Men's Grammar High School in Belgrade, and had received diploma from the Faculty of Mechanical Engineering in 1954.

Immediately after graduation he began work at the factory “Slavko Rodić” in Bugojno, where he worked until 1958, when he moved to Sarajevo (Engine factory “FAMOS”), and since 1961 he has been working in the Military Technical Institute (VTI) in Belgrade, as well as designer of caterpillar and tracked vehicles. In 1966 he is assistant to Professor of Mechanical elements Bogdan Grujić at TMF. He was appointed full professor in 1981.

Master's degree was achieved in 1969 at the Faculty of Natural Sciences, Department of Mechanics (“Some problems of the stress concentration in twodimensional theory of elasticity”) and a PhD in 1977 at the Faculty of Mechanical Engineering in Belgrade (“The impact of crack and fracture point to the emergence of the elastic and plastic deformation”).

He taught courses in metallurgy, chemical, and graphic engineering mechanics and fracture mechanics of materials and welding on master studies of welding technology and metallurgy, which he introduced at TMF in 1973 with Prof. Aleksandar Radović.

Pedagogical activity is accompanied by intensive cooperation with industry and scientific research work. A special place has collaboration with Industry “GOSA” and VTI, which had lasted without interruption since 1973.

Preliminary theoretical and experimental research fracture were the basis for introducing fracture mechanics into practical application, which proved very useful to support the implementation of the project pipeline welding reversible HE Bajina Bašta steel SUMITEN 80, rated voltage strength 700 MPa. The unique experiment began with two models of a critical segment of the pipeline, realised by METALNA and GOSA companies, according to two different concepts, in the period 1977-1982. Results of these studies enabled a more complete understanding of matching effect and importance of heterogeneity of the heat-affected zone in terms of mechanical characteristics.

Further development of the application of fracture mechanics has been contributed by Prof. Michael Wnuk half-year stay in 1979-80 as TMF guest professor and S. Sedmak. Wnuk had recommended the International Summer School of Fracture Mechanics (IFMASS) to be organised. Support came from the Director General of GOŠA Tihoslav Tošić and First International Summer School of Fracture Mechanics (IFMASS 1) “Introduction to fracture mechanics and construction of the security of fracture” was held from June 30 to July 3, 1980 in Smederevska Palanka. So far IFMASS was held 10 times, followed by monographs, where Prof. S. Sedmak was always involved in the editing.

Success of IFMASS 1 and research and development of fracture mechanics led to the implementation of the US-Yugoslav project “Fracture Mechanics of the Welded Joint” (1982-1992), and Professor Sedmak was Main researcher from Yugoslav side. Collaborators of the project were: TMF-Belgrade, Faculty of Tech. Sciences-Nov i Sad, Fac. of Mech. Engng.-Maribor, Energoinvest-Sarajevo, Đuro Đaković-Slavonski Brod and Mech. Engng.-Skopje, from the Yugoslav side, and an American partner, the National Inst. of Stand. and Tech. (NIST), Boulder, Colorado.

Mađarska, Hrvatska, Nemačka, Austrija), pored IFMASS i navedenog projekta. Posebno je značajna aktivnost u Evropskom društvu za integritet konstrukcija (*European Structural Integrity Society-ESIS*), tako da je S. Sedmak 1992. bio organizator Devete evropske konferencije o lomu (ECF9). U sklopu tih aktivnosti S. Sedmak je:

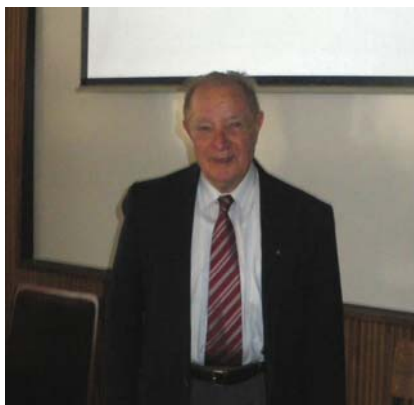
- od 1989. do 2000. urednik časopisa „Zavarivanje i zavarene konstrukcije“;
- od 1996. do 2000. predsednik Jugoslovenskog saveza za zavarivanje;
- počasni član Rumunskog društva za zavarivanje;
- predsednik nacionalne ispitne komisije po programu IIW;
- osnivač DIVK i predsednik od 2001. do 2007;
- od 2005-2007. urednik časopisa „Integritet i vek konstrukcija“;
- član izdavačkih odbora 7 međunarodnih časopisa;
- počasni član – savetnik Akademije inženjerskih nauka Srbije AINS od 2005;

Opus obuhvata:

- 7 knjiga i udžbenika; zbornik radova 9. evropske konferencije o lomu (1992, Varna, Bugarska);
- 10 monografija mehanike loma i integriteta konstrukcija uređenih na osnovu predavanja na IFMASS1 do IFMASS 10;
- poglavlje „O J integralu i ispitivanju J integrala“ u monografiji „Nelinearna mehanika loma“, urednik M. Vnuk, Springer, 1990;
- poglavlje „Zavareni cevovodi izrađeni od čelika visoke čvrstoće i primena parametara mehanike loma u oceni integriteta konstrukcija“ u monografiji „Sigurnost, pouzdanost i rizik cevovoda za vodu, naftu i gas“, urednik G. Pluinage, Springer, 2007;
- autor i koautor preko 250 naučnih i stručnih radova objavljenih u domaćim i međunarodnim časopisima;
- rukovođenje 9 naučno-istraživačkih projekata o ponašanju materijala i zavarenih konstrukcija u eksploataciji, parovodima i o kriterijumima za revitalizaciju;
- autor je 37 elaborata i studija, 8 investicionih programa i 7 ekspertiza.

Značajna je saradnja prof. S. Sedmaka i sa bivšim studentima. Mnogi od istraživanih i rešenih problema bili su sadržaj 17 doktorskih disertacija i 14 magistarskih teza. Saradnja je nastavljena i u kasnijem periodu, tako da na proslavi jubilarnog rođendana učestvovali brojni njegovi studenti:

- prof. dr Todor Adžiev, Skopje, (1988)
 - prof. dr Janko Legat, Maribor, (1988)
 - prof. dr Ivan Glavardanov, (1989)
 - prof. dr Boris Aberšek, (1991)
 - prof. dr Miodrag Arsić, Beograd (1995)
 - prof. dr Zijah Burzić, Beograd, (1995)
 - prof. dr Vencislav Grabulov, Beograd. (1995)
 - prof. dr Katarina Gerić, Novi Sad, (1997)
 - mr Antun Fertilio, Pančevo (1976),
- uz veliki broj saradnika, prijatelja i rodbine.



Prof. Stojan Sedmak na proslavi 80. rođendana
Prof. Stojan Sedmak, at his 80-birthday tribute

Prof. S. Sedmak has established a number of international connections based on his personal, social, and bilateral basis with institutions in many countries (France, Romania, Slovenia, Bulgaria, Hungary, Croatia, Germany, Austria) beside IFMASS and the mentioned project. The Activity in European Structural Integrity Society (ESIS) is particularly important, so that S. Sedmak was the organiser of the Ninth European Conference on Fracture (ECF9) in 1992. As part of these activities S. Sedmak is:

- 1989-2000, editor of journal “Welding and Welded Structures”;
- 1996-2000, president of the Yugoslav Welding Federation;
- Honorary Member of the Romanian Welding Society;
- President of the National inspection commission IIW programme;
- DIVK founder and president from 2001 to 2007;
- 2005-2007, editor of “Structural Integrity and Life”;
- Editorial board member of seven international journals;
- Honorary Member - Advisor to the Academy of Engineering Sciences of Serbia AINS, since 2005.

His opus includes:

- 7 books and textbooks, Proceedings of the 9th European Conference on Fracture (1992, Varna, Bulgaria);
- 10 monographs of fracture mechanics and structural integrity arranged on the basis of lectures IFMASS1 to IFMASS 10;
- Chapter “On J integral and J integral testing” in the monograph “Nonlinear Fracture Mechanics”, Editor M. Vnuk, Springer, 1990;
- Chapter “Welded steel pipe made of high strength and use of fracture mechanics parameters to assess the structural integrity” in monograph “Safety, reliability and risk of pipelines for water, oil and gas”, Ed. G. Pluinage, Springer, 2007;
- Author and co-author of over 250 scientific and expertise papers published in national and international journals;
- Management of 9 research projects on the behaviour of materials and welded structures in operation, steamline and the criteria for revitalisation;
- Author of 37 surveys and studies, 8 and 7 investment expertise.

Significant collaboration Professor S. Sedmak has made with his former students. Many investigated and solved problems were the contents of 17 PhD theses and 14 master theses. Cooperation continued in the later stage, so to celebrate the anniversary of his birthday, a number of his ex-students had attended:

- Prof. Dr Todor Adžiev, Skopje, (1988)
- Prof. Dr Janko Legat, Maribor, (1988)
- Prof. Dr Ivan Glavardanov, (1989)
- Prof. Dr Boris Aberšek, (1991)
- Prof. Miodrag Arsić, Belgrade (1995)
- Prof. Dr Zijah Burzić, Belgrade, (1995)
- Prof. Dr Vencislav Grabulov, Belgrade. (1995)
- Prof. Dr Katarina Gerić, Novi Sad, (1997)
- Mr. Antun Fertilio, Pančevo (1976),

with a large number of associates, friends and relatives.



Prof. Sedmak i dekan TMF prof. dr Ivanka Popović
Prof. Sedmak and TMF dean Prof. Dr Ivanka Popović



Dr Ljubica Milović sa prof. Sedmakom
Dr Ljubica Milović with Prof. Sedmak



Saradnici i rodbina na proslavi
Associates and relatives at the tribute



Prof. dr Majkl Wnuk uručuje sertifikat
Prof. Dr Michael Wnuk presenting the certificate



Prof. Dr Jovo Jarić



Prof. dr Dorin Dehelean uručuje diplomu
Prof. Dr Dorin Dehelean, delivered a diploma



Prof. Dr Dragoslav Šumarac



Nekadašnji student prof. dr Katarina Gerić uručuje epistolu
Former student Prof. Dr Katarina Gerić presenting an epistola



Stojan Sedmak sa suprugom Matildom i prof. dr Todor Adžiev (u sredini)
Sedmak with wife Matilda in the company of Prof. Dr Todor Adžiev (centre)

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DIVK seminar



DIVK Seminar

INTEGRITET I VEK MOSTOVA – SLUČAJ „GAZELA“ Projekti sanacije i ocena integriteta čelične konstrukcije drumskog mosta preko reke Save u Beogradu, „Gazela“ April–maj 2010.

Osnovni cilj: Predlog DIVK: Šta još treba uraditi na revitalizaciji mosta „Gazela“

Integritet i vek mostova – slučaj „Gazela“ I deo

1. Tihoslav Tošić: Ojačavanje čelične konstrukcije Gazele pre prvog ispitivanja pod probnim opterećenjem
2. Aleksandar Bojović, Delfin Inženjering: Projekat sanacije čelične konstrukcije mosta Gazela sa elementima proračuna
3. Nenad Jakovljević: Mostprojekt, Beograd: Projekat sanacije betonskih prilaznih konstrukcija mosta Gazela

Integritet i vek mostova – slučaj „Gazela“ II deo

1. Miodrag Pavišić: Procena integriteta konstrukcije Gazele bazirana na riziku
2. Bojan Arandelović: Prijem, pregled i praćenje stanja mostovskih konstrukcija

Integritet i vek mostova – slučaj „Gazela“ III deo

1. Zijah Burzić: Ispitivanje parametara zamora zavarene konstrukcije Gazele
2. Božidar Delić: Diskusija o tehnologiji zavarivanja

Integritet i vek mostova – slučaj „Gazela“ IV deo

Prof. dr Aleksandar Sedmak, predsednik DIVK: Ocena integriteta zavarene konstrukcije mosta Gazele.

Detaljnije o Seminaru o sanaciji mosta preko reke Save u Beogradu „Gazela“ ima na veb strani DIVK <http://divk.org.rs> i biće u narednom broju časopisa „Integritet i vek konstrukcija“.

BRIDGE STRUCTURAL INTEGRITY AND LIFE – CASE STUDY “GAZELA” Repair projects and structural integrity assessment of steel structure of the bridge across Sava river in Belgrade “Gazela” April – May 2010

The basic goal: DIVK recommendation: What else has to be done concerning the revitalisation of the bridge “Gazela”

Bridge structural integrity and life – case study “Gazela” part I

1. Tihoslav Tošić: Strengthening the Gazela steel structure before the first loading trial test
2. Aleksandar Bojović, Delfin Engineering: Repair project of Gazela bridge steel structure with some calculation estimates
3. Nenad Jakovljević: Mostprojekt, Belgrade: Repair project of concrete entrance structures on bridge “Gazela”

Bridge structural integrity and life – case study “Gazela” part II

1. Miodrag Pavišić: The estimation of structural integrity and life of the Gazela based on risk
2. Bojan Arandelović: Acceptance, inspection and monitoring of bridge structures

Bridge structural integrity and life – case study “Gazela” part III

1. Zijah Burzić: Testing the fatigue parameters of the Gazela welded structure
2. Božidar Delić: Welding technology discussion

Bridge structural integrity and life – case study “Gazela” part IV

Prof. Dr Aleksandar Sedmak, president of DIVK: Structural integrity estimation of “Gazela” bridge welded structure.

For more Details on the seminar on repairing the bridge over the Sava River in Belgrade, “Gazela”, please visit DIVK website: <http://divk.org.rs> and in the following issue of the journal “Structural Integrity and Life”.

