

**Prilog informaciji za izveštaj o naučnoistraživačkom radu na
Univerzitetu u Nišu.
2006 I 2007 godina - *Katica (Stevanovic) Hedrih***

I. Organizacija naučnih skupova

1* Naučni seminar Projekta ON144002 Matematičkog instituta SANu i i Centra za nelinearnu dinamiku i aktivne konstrukcije Mašinskog fakulteta u Nišu pod nazivom:

**Nelinearna dinamika - Milutin Milanković - (MM)
Nonlinear Dynamics - Milutin Milankovic**

Ovaj naučni seminar pod ovim imenom rado od 2005 godine i nastavak je rada Seminara Teorijske i primenjene mehanike koji je radio u periodu 1975 do 2005. , prvo kao seminar Katedre za mehaniku i automatiku, a zatim Katedre za mehaniku Mašinskog fakulteta u Nišu. Učesnici ovog seminara su istraživači sa predmetnog projekta i istaknuti naučnici iz zemlje i inostranstva, kao i mladi istraživači. Najnoviji podaci o programu rada Seminara se mogu naći na linkovima:

<http://www.masfak.ni.ac.yu/sitegenius/topic.php?id=863>

<http://www.mi.sanu.ac.yu/seminars/seminar16.htm>

<http://www.mi.sanu.ac.yu/colloquiums/collsems.htm>

Finansijski podržan od:

Project ON 144002 -Theoretical and Applied Mechanics of the Rigid and Solid Bodies. Mechanics of Materials (2006-2010)

Projekt ON144002 Teorijska i primenjena mehanika krutih i čvrstih tela. Mehanika materijala.

Support: Ministry of Sciences and Environmental Protection of Republic of Serbia

<http://www.mi.sanu.ac.yu/projects/projects.htm>

Rukovodilac Seminara **Nelinearna dinamika - Milutin Milanković** –j e Prof. dr Katica (Stevanović) Hedrih

2* Centar za nelinearnu dinamiku i aktivne konstrukcije Mašinskog fakulteta u Nišu je bio surorganizator organizacija serije od tri Minisimpozijuma pod nazivom: ***Integritet dinamičkih sistema*** u okviru svetskih i internacionalnih naučnih skupova:

*** WCNA 2004 - Invited Minisymposium - Integrity of Dynamical Systems, Fourth World Congress of Nonlinear Analysts [WCNA-2004](#) , Hyatt Regency Orlando under the auspices of the [International Federation of Nonlinear Analysts \(IFNA\)](#)**

Organizer Katica (Stevanovic) Hedrih

<http://www.masfak.ni.ac.yu/sitegenius/topic.php?lang=SR&id=525>

*** The European Conference of Fracture (ECF16) - Minisymposium: Integrity of Dynamical Systems 2006 'The 16th European Conference of Fracture (ECF16), Alexandroupolis , Greece, site of the Democritus University of Thrace, July 3-7, 2006. under the auspices of the European Structural Integrity Society (ESIS).**

Organizer Katica (Stevanovic) Hedrih

<http://www.masfak.ni.ac.yu/sitegenius/topic.php?lang=SR&id=746>

<http://ecf16.civil.duth.gr>

U naučnom programu su učestvovali I istraživači sa projekta ON144002, pored učesnika iz celog sveta.

*** Booklet of Abstracts - Minisymposium - Integrity of Dynamical Systems- ECF16, Edited by Katica (Stevanović) Hedrih, Centre for Nonlinear Dynamics and Active Structures, Faculty of Mechanical Engineering University of Niš, 2006.p.324. ISBN 86-80587-57-5. BarCod 9 788680 587578. COBIS. SR - ID 130756620. UDK 531:01 /048); 530:182(048); 530:42 (048); 53:005.745 (100)**

*** Minisymposium – IDS - Integrity of Dynamical Systems - APM Saint Petersburg 2007
Minisymposium: Integrity of Dynamical Systems-IDS APM 2007 Advanced Problems in Mechanics, Summer School. [APM 2007 Advanced Problems in Mechanics, Russia, St.](#)**

Petersburg June 20 - 28, 2007. Institute for Problems in Mechanical Engineering of the Russian Academy of Sciences

Organizer Katica (Stevanovic) Hedrih

<http://www.masfak.ni.ac.yu/sitegenius/topic.php?id=961>

http://apm-conf.spb.ru/2007/scientific_program.php

<http://apm-conf.spb.ru/>

<http://www.ipme.ru/>

Booklet of Abstracts - APM 2007 – Integrity of Dynamical Systems – Editor Katica (Stevanović) Hedrih, Izdavač Mašinski fakultet u Nišu

3* Centar za nelinearnu dinamiku i aktivne konstrukcije Mašinskog fakulteta u Nišu je bio surorganizator organizacije Minisimpozijuma pod nazivom: **Analička dinamika diskretnih naslednih sistemam, prvog takve vreste u svetu,** u okviru internacionalnog naučnog simpozijuma održanog u Kini:

Minisymposia - Analytical mechanics of the hereditary discrete systems , Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China,p-198.

Organizer Katica (Stevanovic) Hedrih

<http://www.2007isnd.com/>

<http://www.2007isnd.com/main.htm>

<http://www.2007isnd.com/HEREDITARYSYSTEMS.html>

Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary Systems – Editor Katica (Stevanović) Hedrih, Izdavač Mašinski fakultet u Nišu - zam - Minisymposia - Analytical mechanics of the hereditary discrete systems Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China,p-198. <http://www.2007isnd.com/>

II. Učešće u radu naučnih seminara

4* **Predavanje po pozivu i gostovanje na Seminaru Shanghai'skog univerziteta:**

Imala sam čast da icipstvujem u radu **Seminara mehanike na prestiznom Shanghai University** po pozivu profesora dr Li Qun Chena, i bila sam gost na službenom rucku upriličenom u tu svrhu na Institutu za primenjenu matematiku i mehaniku Shanghai Univerziteta. Održala sam predavanje po pozivu pred stotinak sluzalaca, a naslov održanog predavanja je:

Hedrih (Stevanović), K., (2007), **Transversal vibrations of the axially moving multi belt system**, Invited Seminar Lecture - 840, Scientific Seminar Instituta primenjene matematike i mehanike Shanghai University, 29. Oktobar 2007 u 13,30h do 13 h.

I to he bilo 840-to predavanje na tom seminaru mehanike, na ovom prestiznom Univerzitetu, koji je organizator znacajne naucne konferencije ICNM Interational Conference on Nonlinaer Mechanics ciji je pChair man znameniti svetski naucnik akademik Chien rektor tog Univerziteta.

5* Učešće i radu svečanog skupa - akademije **Vojnotehničkog instituta Vojske Srbije** koja je bila posvećena radu i naučno-stručnim rešultatima vojnog instituta VTI povodom 59. godina rada i postojanja. Jedan sam od četiri dobitnika značajne plakete i povelje **"ARHIMED"** koja je novoustanovljena za značajne rezultate u oblasti naučnog rada naučni rad i to smatram veoma visokim i značajnim prizbanjem.

6* Na Seminaru mehanike, Odeljenja za mehaniku Matematickog institute SANU održala sam menoriajalno predavanje povodom 150-togodisnjice od rođenja velikana svetske, ruske i Ukrajinske nauke o stabilnosti Aleksandra Mihajlovica Ljapunova. Naslov predavanja je:

Hedrih (Stevanović), K., (2007), **Pojmovi nelinearne dinamike I Aleksandar Mihajlovich Ljaopunov**, WEB site Matematickog instituta SANU, Beograd, 17. oktobra 2007. http://www.mi.sanu.ac.yu/colloquiums/mechcoll_programs/mechcoll.oct2007.htm

III* Učešće na naučnim skupovima u zemlji i inostranstvu u 2006/07 godini.

I*

The International Summer School , "Advanced Problems in Mechanics", 20 - 28 June, 2007, St. Petersburg, Russia, Russian Academy of Sciences.

Invited Organizer of Minisymposium Integrity of Dynamical Systems

The Conference is organized by the Institute for Problems in Mechanical Engineering of the Russian Academy of Sciences (IPME RAS) under the patronage of the Russian Academy of Sciences (RAS).

www.apm-conf.spb.ru

Address of the Organizing Committee:

Institute for Problems in Mechanical Engineering RAS

Bolshoy pr. V.O., 61, St. Petersburg, 199178, Russia

E-mail: apm@apm-conf.spb.ru

U svojstvu organizatora, po pozivu, Minisimpozijuma Theory and Applications, Measures of the Dynamical Integrity I sa predavanjima na početku (otvaranju) i na kraju (zatvaranju) Minisimpozijuma. Naslovi tih predavanja su:

[1] Hedrih (Stevanović), K., (2007), **Multifrequency and infinite frequency regimes and Lyapunov exponents as the measures of the hybrid system dynamic integrity**, *Proceedings of the International Summer School APM –Advanced Problem in Mechanics, Saint Petersburg 2007.*, pp. 157-169. (Minisymposia IDS – Closing Lecture)

[2] Goroshko O.A. and Hedrih (Stevanović), K., (2007), **Construction of the Lagrange mechanics of the hereditary systems**, Minisymposium Opening Lecture, *Proceedings of the International Summer School APM –Advanced Problem in Mechanics, Saint Petersburg 2007.*, pp. 133-156. (Minisymposia IDS - Opening Lecture)

II*

8th HSTAM International Congress on Mechanics will take place at the University of Patras in Patras, Greece during 12-14 July, 2007. Hellenic Society for Theoretical and Applied Mechanics (HSTAM), member of IUTAM

Invited lecture Hybrid Systems and Hybrid Dynamics: Theory and Applications, by Katika (Stevanović) Hedrih

<http://www.hstam2007.upatras.gr>.

Sa plenarnim predavanjem po pozivu pod nazivom:

[1] Hedrih (Stevanović), K., (2007), **Hybrid Systems and Hybrid Dynamics: Theory and Applications**, *Invited Plenary Lecture*, 8th HSTAM International Congress on Mechanics, Patras, 12 – 14 July, 2007, Greece, Proceedings, Edited by N. Bazwos, D.L. Karabalis, D. Polyzos, D.E. Beskos and J. T. Katsikadelis, Volume I, pp. 77-86.

III*

8-й МІЖНАРОДНИЙ СИМПОЗИУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ (МСУІМЛ — 8), ISUMEL Lvov International Symposium Ukrainian Mechanical Engineers in Lvov 2007. Nacionalniy Universitet Lvivska Politehnika, Institut inženjerno mehaniki ta transportu, Ukrainske tovaristvo mehaniki ruinovaniza materialovi Redakcija Žurnalu "Mašinoznavstvo"

sa 40 minutnim plenarnim predavanjem po pozivu pod nazivom:

Hedrih (Stevanović), K., (2007), **Hybrid system dynamics, with thermo-rheological hereditary elements**. Plenary Lecture, **8-й МІЖНАРОДНИЙ СИМПОЗИУМ УКРАЇНСЬКИХ ІНЖЕНЕРІВ-МЕХАНІКІВ У ЛЬВОВІ (МСУІМЛ — 8), ISUMEL Lvov International Symposium Ukrainian Mechanical Engineers in Lvov 2007.**

i sa članstvom u Naučnom komitetu Simpozijuma, kao i naučnom besedom na svečanom otvaranju u "Aktavom Zalu" Politehnike, a u svojstvu jednog od članova Naučnog komiteta i učesnika Simpozijuma od prvih održanih istog.

Napomena: (oštampan jednostranični apstrkt., dvopjezično; predviđeno je da rad bude publikovan u časopisu krajem 2008. godine.).

IV*

Fourteenth International Workshop on Dynamics & Control, Moscow Zvenigorod, Russia, May 28-June 2, 2007. Dedicated to Professor Angelo Miele (Italy) on the occasion of his 85th birthday

sa 30 minutnim, u plenumu, predavanjem po pozivu pod nazvom:

Invited paper: Hedrih (Stevanović), K., (2007), **The Control in Nonlinear Dynamical Systems with Triggers of a Coupled Singularities**, Invited Participation, The 14th International Workshop on Dynamics & Control to be held on May 28–June 2, 2007, in Zvenigorod – Moscow, Russia, Abstracts, 2007, p. 40. *Institute for Problems in Mechanics of the Russian Academy of Sciences and Steklov Mathematical Institute of the Russian Academy of Sciences.*

i sa predsedavanjem sednicom u plenumu (Session Th-4) 31. maja 2007., kao i zapaženim naučnim kometarima, pitanjima i naučnim diskusijama.

Napomena: (oštampan jednostranični apstrkt., predviđeno je da rad bude štampan kao poglavlje u monografiji "Dynamics & Control" u izdanju izdavača naučnih publikacija "Nauka" iz Moskve sredinom ili krajem 2008. godine.).

V*

Prvi srpski (26 JU-Jugoslovenski JDM) kongres Mehanike, koji je održan na Kopaoniku od 10. do 13. aprila 2007.g.u organizaciji Srpskog društva za mehaniku (nastavljača Jugoslovenskog društva za mehaniku- JDM) sa internacionalnim karakterom i službenim engleskim jezikom

sa 30 minutnim, održanim u plenumu, predavanjem po pozivu pod nazvom:

Invited paper: Hedrih (Stevanović), K., **Hybrid System Dynamics**, *Proceedings, First International Congress of Serbian Society of Mechanics*, Editors: D. Šumarac and D. Kuzmanović, Srpsko društvo za mehaniku, 10-13, April, 2007, pp. 79-84.

<http://www.ssm.org.yu/congress2007/authors.html>

<http://www.ssm.org.yu/congress2007.html>

i sa članstvom u Naučnom komitetu Kongresa, kao i sa predsedavanjem u radu jedne sednice sekcije "Opšta mehanika". Učestvovala sam i sa zapaženim naučnim kometarima i diskusijama, kao i postavljala pitanja u toku rada sekcija kojima sam prisustvovala.

VI*

Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China <http://www.2007isnd.com/>

U svojstvu organizatora, po pozivu, **Minisimpozijuma - Analytical mechanics of the hereditary discrete systems** nastupia sam sa predavanjima na početku (otvaranju) i na kraju (zatvaranju) **Minisimpozijuma**. Naslovi tih predavanja su:

[1] Goroshko O.A. and Hedrih (Stevanović), K., (2007), *Advances in development of the Lagrange mechanics of the hereditary systems*, Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China <http://www.2007isnd.com/>
Oleg Alexandrovich Goroshko and Katica (Stevanović) Hedrih, Advances in development of the analytical dynamics of the hereditary discrete systems, *Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary System*, pp..27-34.

[2] Hedrih (Stevanović), K., (2007), *Analogy between dynamics of thermo-rheological and piezo-rheological pendulums*, Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China <http://www.2007isnd.com/>
Katica (Stevanović) Hedrih, *Analogy between dynamics of thermo-rheological and piezo-rheological pendulums*, *Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary System*, pp..46.

Pre početka Simpozijuma, održana je radna večera, u okviru koje je održan sastanak Editorial Boarda međunarodnog časopisa **International Journal Nonlinear Sciences and Numerical Simulation**, čiji sam član od osnivanja časopisa, koji je u 2005 godini imao **impact factor 2,386, dok je u 2006 godini dostiogo impact factor od 4,586.**

Pripremila sam i uredila za štampu i oštampala publikaciju pod nazivom:

Booklet of Abstracts - IDND 2007 – Analytical Dynamics of Discrete Hereditary Systems – Editor Katica (Stevanović) Hedrih, **Izdavač Mašinski fakultet u Nišu - zam - Minisymposia - Analytical mechanics of the hereditary discrete systems**
Second International Symposium on Nonlinear Dynamics, 27-30 Oct.,2007, Shanghai, China,p-198. <http://www.2007isnd.com/>

VII*

Conference on Differential Geometry.Lagrange and Hamilton Spaces. Dedicated to Acad. Prof. Dr. Radu Miron at his 80th anniversary, September 3-8, 2007. A.I.Cuya, University, Faculty of Mathematics, Iasi, Romania.

Sa predavanjem po pozivu organizatorom u trajanju od 45 min. Naziv predavanja je:

Hedrih (Stevanović), K., (2007), *Tensor equations of the dynamics of the discrete systems with hereditary and vrep light elements*, Conference on Differential Geometry.Lagrange and Hamilton Spaces. Dedicated to Acad. Prof. Dr. Radu Miron at his 80th anniversary, September 3-8, 2007, **A.I.Cuya, University, Faculty of Mathematics, Iasi, Romania.. Book of Abstracts**, pp. 18'22.

I sa presedavanjem jednom plenarnom zasedanju.

U okviru skupa je održana svečanost jubileja 80 godina akademika Radu Mirona pa sam nastupila i sa jednom besedom na tom skupu/

VIII*

6th Recent German-Greek-Polish Symposium, Recent Advances in Mechanics, September 17-21 2007, Alexandroupolis, Greece

Ucesce je po pozivu kao host HSTAM i GGP

Sa plenarnim predavanjem po pozivu pod nazivom:

Hedrih (Stevanović), K., (2007), *Energy Transfer in Hybrid System Dynamics*, Invited Participation, **6th Recent German-Greek-Polish Symposium, Recent Advances in Mechanics, September 17-21 2007, Alexandroupolis, Greece**, **Book of Abstracts**, pp. 47'8.

I sa presedavanjem jednom plenarnom zasedanju.

IX*

2th INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2007" in HONOR of ALEXANDER MIKHAILOVICH LYAPUNOV 150th ANNIVERSARY at the NATIONAL TECHNICAL UNIVERSITY "KHARKOV POLYTECHNICAL INSTITUTE", KHARKOV, UKRAINE

2th ND-KhPI 2007 - Nonlinear Dynamics Conference, to be held from 25 until 28 September, 2007, in Kharkov, Ukraine.

<http://users.kpi.kharkov.ua/infiz/conf/index.html>

Yuri Mikhlin <muv@kpi.kharkov.ua> <Yuri_Mikhlin@mail.ru>

Gayane Rudnyeva <gayane@kpi.kharkov.ua>

one-page Abstract before February 17th, 2007.

May 31, 2007 Registration, Submission of manuscripts for peer review

Sa plenarnim predavanjem po pozivu pod nazivom:

Hedrih (Stevanović), K., (2007), *Vector and Tensor Methods in Classical Mechanics*, The **2th INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2007"**, in HONOR of ALEXANDER MIKHAILOVICH LYAPUNOV 150th ANNIVERSARY, at the NATIONAL TECHNICAL UNIVERSITY "KHARKOV POLYTECHNICAL INSTITUTE", KHARKOV, UKRAINE, **Book of Abstracts**, pp. 41.

i jedni uvodnim sekcijskim saopštenjem pod nazivom:

Goroshko O.A. and Hedrih (Stevanović), K., (2007), *Dynamics of the discrete hereditary systems*, The 2th INTERNATIONAL CONFERENCE "NONLINEAR DYNAMICS - 2007", in HONOR of ALEXANDER MIKHAILOVICH LYAPUNOV 150th ANNIVERSARY , at the NATIONAL TECHNICAL UNIVERSITY "KHARKOV POLYTECHNICAL INSTITUTE" , KHARKOV, UKRAINE , , Book of Abstracts, pp. 67.

I sa predsedavanjem jednom plenarnom zasedanju.

U okviru skupa je otkrivena spomen bista akademiku Alaksandru Mihajlovicu Lyapunovu i ucesnicima podeljena jubilarna moneta sa likom znamenitog naucnika.

Na kraju Simpozijuma odrzan je okrugli sto o daljim pravcima istrazivanja u oblast nelinearne dinamike i ja sam po pozivu organizatpra odrzala jednu besedu na tu temu, koja je dobro prihvacena.

X*

Imala sam cast da icesstvujem u radu *Seminara mehanike na prestiznom Shanghai University* po pozivu profesora dr Li Qun Chena, i bila sam gost na sluzbenom rucku uprilicenom u tu svrhu na Institutu za primenjenu matematiku i mehaniku Shanghai Univerziteta. Odrzala sam predavanje po pozivu pred stotinak sluzalaca, a naslov odrzanog predavanja je:

Hedrih (Stevanović), K., (2007), *Transversal vibrations of the axially moving multi belt system*, Invited Seminar Lecture - 840, Scientific Seminar Instituta primenjene matematike i mehanike Shanghai University, 29. Oktobar 2007 u 13,30h do 13 h.

I to he bilo 840-to predavanje na tom seminaru mehanike, na ovom prestiznom Univerzitetu, koji je organizator znacajne naucne konferencije ICNM Interational Conference on Nonlinaer Mechanics ciji je pChair man znameniti svetski naucnik akademik Chien rektor tog Univerziteta.

XI*

Na skušpu Termičara, koji je organizovao Mašinski fakultet održala sam kratko predavanje - saopštenje (Contributed Lecture) pod nazivom;

Hedrih (Stevanović), K., (2007), *Random oscillations and parametric resonance in thermo-rheological multi-pendulum szstem*, Zbornik apstrakata , 15-ti Simpozijum termičara Srbije, Soko Banja 2007, p. 96.

XII*

6th European Solid Mechanics Conference - ESMC 2006, 28 August – 1 September, 2006, Budapest, Hungary, <http://esmc2006.mm.bme.hu/>

sa radovima:

1* Katica (Stevanović) Hedrih, **TRANSVERSAL FORCED VIBRATIONS OF AN AXIALLY MOVING SANDWICH DOUBLE BELT SYSTEM**

2* Katica (Stevanović) Hedrih and Julijana Simonović, **FREE TRANSVERSAL VIBRATIONS OF A DUBLE CIRCULAR PLATE SYSTEM**

i predsedavanjem u sekciji i predsedavanjem u sekciji Session Multibody Systems.

XIII*

The FDA'06 - 2nd IFAC Workshop on Fractional Differentiation and its Applications, 19 - 21 July, 2006, Porto, Portugal, <http://www.gecad.isep.ipp.pt/FDA06/>

sa radom:

KATICA (STEVANOVIĆ) HEDRIH, TRANSVERSAL VIBRATIONS OF AN AXIALLY MOVING SANDWICH DOUBLE BELT SYSTEM WITH CREEP LAYER

i kopredsedavanjem u sekciji Mathematical tools I.

Tamo sam uspešno izložila rad pod nayivom:

Hedrih (Stevanović), K., (2006c), *Transversal vibrations of the axially moving double belt system with creep layer*, Preprints, 2nd IFAC Workshop on Fractional Differentiation and its Applications, 19-21 July, 2006, Porto, Portugal, pp.230-235. +CD. IFAC WS 2006 0007 PT, ISBN 972-8688-42-3, 978-972-8688-42-4.ISBN . <http://www.iser.ipp.pl>

i kopredsedavanjem u sekciji Mathematical tools I.

<http://www.gecad.isep.ipp.pt/FDA06/>.

XIV*

The 9th International Conference on Tensor Society pn Differential Geometry Functional and Complex Informatics and their Applications, Sapporo, September 4-8, 2006. Hokkaido Tokai University Sapporo

sa 45 minutnim predavanjem u okviru koga sam izložila rad:

1* Katica (Stevanović) Hedrih, **TENSOR EQUATIONS OF THE DYNAMICS OF THE DISCRETE SYSTEMS WITH HEREDITARY AND CREEP LIGHT ELEMENTS**

i predsjedavanjem u sekciji i predsjedavanjem u jednoj od plenarnih sesija konferencije.

XV*

The 16th European Conference of Fracture (ECF16), Alexandroupolis, Greece, site of the Democritus University of Thrace, July 3-7, 2006. <http://ecf16.civil.duth.gr>

Katica (Stevanovic) Hedrih - organizator Minisimpozijuma: Minisymposium - Integrity of Dynamical Systems (Theory, Applications and Experiments) - (Phenomenology, Analogy, Nonlinear oscillations and Chaos, Stability, Clock Models of Structures: Paradigms of Nonlinear Phenomena, noise and Fracture Dynamics, Theory of stress and strain state of deformable bodies, Models of different material, Control Oscillations of Active Structure and Fracture, Applications and Experiments). i član Naučnog komiteta kongresa.

U periodu od 2. jula do 8. jula boravila sam u Alexandroupolis-u u Grčkoj radi učešća u Evropskoj konferenciji iz mehanike loma sa originalnim nazivom: **The 16th European Conference of Fracture (ECF16), Alexandroupolis, Greece, site of the Democritus University of Thrace, July 3-7, 2006. Predsednik naučnog odbora je bio E.E.Gdoutos. <http://ecf16.civil.duth.gr>**

Bila sam član naučnog komiteta ove značajne evropske konferencije.

Takođe sam po pozivu bila i **organizator Minisimpozijuma Integritet dinamičkih sistema: Minisymposium - Integrity of Dynamical Systems (Theory, Applications and Experiments) - (Phenomenology, Analogy, Nonlinear oscillations and Chaos, Stability, Clock Models of Structures: Paradigms of Nonlinear Phenomena, noise and Fracture Dynamics, Theory of stress and strain state of deformable bodies, Models of different material, Control Oscillations of Active Structure and Fracture, Applications and Experiments).**

Učestvovala radu konferencije ECF16 i Minisimpozijuma **Integrity of Dynamical Systems** sa polučasovnom uvodnom besedom o minisimpozijumima o integritetu dinamičkih sistema i odgovarajućom prezentacijom, kao i sa 45 minutnim predavanjem po pozivu pod nazivom:

Measurements of the Dynamical System Integrity and Fracture Mechanics by Katica (Stevanovic) Hedrih

Hedrih (Stevanović), K., (2006c), Measurements of Dynamical System Integrity and Fracture Mechanics, **Fracture of Nano and Engineering Materials and Structures (p. 1416), Edited by E.E. Gdoutos**, Proceedings of the 16th European Conference of Fracture (p. 1416), Springer 2006, pp. 793-794, plus CD 1-15. ISBN 1-4020-4971-4, BARCOD 9 781402 049712. <http://ecf16.civil.duth.gr>

* **Booklet of Abstracts - Minisymposium - Integrity of Dynamical Systems- ECF16, Edited by Katica (Stevanović) Hedrih, Centre for Nonlinear Dynamics and Active Structures, Faculty of Mechanical Engineering University of Niš, 2006.p.324. ISBN 86-80587-57-5. BarCod 9 788680 587578. COBIS. SR - ID 130756620. UDK 531:01 /048); 530:182(048); 530:42 (048); 53:005.745 (100)**

XVI*

**IFNA - INTERNATIONAL CONFERENCE ON HYBRID SYSTEMS AND APPLICATIONS
B. I. MOODY HALL , UNIVERSITY OF LOUISIANA AT LAFAYETTE , MAY 22 to MAY 26, 2006**

Sponsored by
University of Louisiana at Lafayette
IFNA (International Federation of Nonlinear Analysts)
Lafayette Convention and Visitors Commission and
Elsevier

<http://cos.fit.edu/math/ichsa/>

Hedrih (Stevanović), K., (2006c), učesnik po **pozivu sa 45 minutnim predavanjem** pod nazivom: **Dynamics of Coupled Systems.**

Hedrih (Stevanović), K. (2006), **Dynamics of coupled systems**, The International Conference of Hybrid Systems and Applications, date: May 22-26, 2006, Place: The University of Louisiana, Lafayette, LA, USA, 45 minutno predavanje po pozivu predsednika IFNE i predsednika naučnog odbora konferencije. Organizator IFNA i Elsevier-Journal Nonlinear Analysis.

XVII*

Medjunarodna konferencija Savremeni problemi u građevinarstvu
Current Problems in Civil Engineering
Građevinski fakultet u Subotici, Univerziteta u Novom Sadu, 2 i 3. jun 2006.

Katica R. (Stevanović) Hedrih, DYNAMICS OF SANDWICH STRUCTURES (DINAMIKA SENDVIČ STRUKTURA)

XVIII*

Naučni skup ‘‘60 godina Matematičkog instituta SANU’’, 13 - 15 decembar 2006.
Hedrih (Stevanović), K., (2006), *40-to minutno predavanje po pozivu* pod nazivom:

ENERGY OSCILLATIONS IN THE SUBSYSTEM DYNAMICS OF THE HYBRID SYSTEM OSCILACIJE ENERGIJE U DINAMICI PODSISTEMA HIBRIDNOG SISTEMA

To the Memory of my Professors

Tatomir P. Andjelic and Danilo P. Raskovic

First Heads of the Department of Mechanics at Mathematical Institute SASA

by

Katica (Stevanovic) Hedrih

Takodje, ali kao rukovodilac projekta iz osnovnih istraživanja održala sam i predavanje pod nazivom
Project 144002 -Theoretical and Applied Mechanics of the Rigid and Solid Bodies. Mechanics of Materials (2006-2010) (Teorijska i primenjena mehanika krutih i čvrstih tela. Mehanika materijala.)

Support: *Ministry of Sciences and Environmental Protection of Republic of Serbia*

Institution Coordinator: *Mathematical Institute Serbian Academy of Sciences and Arts.*

Project Leader: *Katica (Stevanović) Hedrih*

Researchers: 37.

Researcher months: *approximately 160 months.*

XIX*

**International Conference "Actual Problems of Applied Mathematics and Mechanics", devoted 80-anniversary from birthday Ac. Rvachev V.L, on October 23-26,2006 in Kharkov.*

Član naučnog odbora konferencije i sa radom.

Hedrih (Stevanović), K. (2006), DYNAMICS OF THE AXIALLY MOVING SANDWICH MULTI BELT SYSTEM, International Conference "Actual Problems of Applied Mathematics and Mechanics", devoted 80-anniversary from birthday Ac. Rvachev V.L, on October 23-26,2006 in Kharkov., Član naučnog odbora konferencije i sa radom.

XX*

SEECM 06 –First South-East European Conference on Computational Mechanics, Kragujavac 2006.

Hedrih (Stevanović) K. and Simonović, J., (2006), *Characteristic Eigen Numbers and Frequencies of the Transversal Vibrations of Sandwich System*, SEECM 06 –First South-East European Conference on Computational Mechanics, Proceedings, Editors – M. Kojic and M Papadrakakis, Kragujevac, pp. 90-94. + CD. <http://www.seecm.kg.ac.yu>. ISBN 86-81037-13-7, COBISS.SR-ID 131758092, udc 531/533(082)

IV. Poglavlja u monografijama međunarodnog značaja u 2005. i 2006:

A. 1. The Publications are listed under 2005. but was published at end of 2005. or in beginning of 2006.

[1] Hedrih (Stevanović) K., (2005), Partial Fractional Order Differential Equations of Transversal Vibrations of Creep-connected Double Plate Systems, in Monograph - Fractional Differentiation and its Applications, Edited by Alain Le Mahaute, J. A. Tenreiro Machado, Jean Claude Trigeassou and Jocelyn Sabatier, **U-Book**, pp. 289-302. **R51**

[2] Hedrih (Stevanović) K., (2005), *Nonlinear Dynamics of a Heavy Material Particle Along Circle which Rotates and Optimal Control, Chaotic Dynamics and Control of Systems and Processes in Mechanics* (Eds: G. Rega, and F. Vestroni), p. 37-45. IUTAM Book, in Series *Solid Mechanics and Its Applications, Edited by G.M.L. Gladwell, Springer.*, 2005, XXVI, 504 p., Hardcover ISBN: 1-4020-3267-6. **R51**

[3] Hedrih (Stevanović) K., (2005), *Homoclinic Orbits Layering in the Coupled Rotor Nonlinear Dynamics and Chaotic Clock Models*, SM17 – Multibody Dynamics (M. Geraldin and F. Pfeiffer), p. Lxiii – CD - SM10624, Mechanics of the 21st Century (21st **ICTAM**, Warsaw 2004) - CD ROM INCLUDED, edited by Witold Gutkowski and Tomasz A. Kowalewski, IUTAM, **Springer 2005**, ISBN 1-4020-3456-3, Hardcover., p. 421+CD. ISBN-13 978-1-4020-3456-5 (HB), ISBN-10 1-4020-3559-4(e-book), ISBN-13-978-1-4020-3559-3 **R51**

[4] Hedrih (Stevanović) K., (2007), *The Control in Nonlinear Dynamical Systems with Triggers of a Coupled Singularities*, I, Edited by F. Chernousco, Monograph Dynamics and Control, Moscow (in preparation)

V. Radovi u časopisima sa visokim impact faktorom – Publikovani u 2006 i 2007

[1] Hedrih (Stevanović) K., (2006), *Transversal Vibration of a Parametrically Excited Beam: Influence of Rotatory Inertia and Transverse Shear on Stochastic Stability of Deformable Forms and Processes*, ©Freund Publishing House Ltd. *International Journal of Nonlinear Sciences and Numerical Simulation*, 7(1), 117-124, 2006. **Impact Factor 2,345 . (u 2005.) i 4,396 (u 2006), (vidi KOBSON) * ISSN 1565-1339**

- [2] Hedrih (Stevanović) K., (2006), *Transversal Vibrations of Double-Plate Systems*, *Acta Mechanica Sinica*, Springer, (2006) 22, pp. 487-501 (hard cover and on line).
- [3] Hedrih (Stevanović) K., Vukota Babović, Dragan Šarković, (2006), An auxiliary size distribution model for the ultrasonically produced water droplets, *Experimental Thermal and Fluid Science*, Elsevier, Volume 30, Issue 6, June 2006, Pages 559-564 <http://www.elsevier.com/locate/etfs>
- [4] Hedrih (Stevanović) K., (2006), *Modes of the Homogeneous Chain Dynamics*, *Signal Processing*, Elsevier, 86(2006), 2678-2702. ISSN: 0165-1684 www.sciencedirect.com/science/journal/01651684
- [5] Hedrih (Stevanović), K., (2007), *Dynamics of coupled systems*, *Journal Nonlinear Analysis: Hybrid Systems and Applications*, Elsevier (corrected proof, in press) [doi:10.1016/j.nahs.2006.06.003](https://doi.org/10.1016/j.nahs.2006.06.003)
- [6] Hedrih (Stevanović), K., (2007), Energy analysis in a nonlinear hybrid system containing linear and nonlinear subsystems coupled by hereditary element, *Nonlinear Dynamics*, Springer Netherlands, ISSN 0924-090X (Print) 1573-269X, (Online), Volume 51, Numbers 1-2 / January, 2008, pp. 127-140. DOI 10.1007/s11071-007-9197-2, SpringerLink Date, Tuesday, January 30, 2007.
- [7] Hedrih (Stevanović), K., (2007), *Transversal vibrations of the axially moving sandwich belts*, *Archive of Applied Mechanics*, Springer, (2007) 77, pp. 523-539/ DOI 10.1007/s00419-006-0105-x
- [8] Hedrih (Stevanović), K., (2006), The transversal creeping vibrations of a fractional derivative order constitutive relation of nonhomogeneous beam, *Mathematical Problems in Engineering*, Special issue : Nonlinear Dynamics and their Applications in engineering sciences, Guest Editor: Jose Manoel Barthesar, Volume 2006 (2006), Article ID 46236, 18 pages, www.hindawi.com doi:10.1155/MPE/2006/46236, Volume 2006, No. 5, pp. 61-78.
- [9] Hedrih (Stevanović) K. and Gadžić S., (2007), *On a model of the material particle dynamics and of inert mass depending of velocity*, *Tensor*, N.S., Vol. 68, No. 1 (2007) pp.51645. #8
- [10] Hedrih (Stevanović), K., (2007), *Transversal forced vibrations of the axially moving sandwich belt system*, *Archive of Applied Mechanics*, Springer, DOI: 10.1007/s00419-007-0187-.....i jos nekoliko u procesu dobijanja DOI broja

VI Članstvo u inostranim akademijama nauka

- * Akademija nauka visokih skola i univerziteta Ukrajine Kijev
- * Akademija nelinearnih nauka Moskva

VII Članstvo u redakcijama časopisa, uredništvima, naučnim društvima

Project Leader Katica (Stevanović) Hedrih

Editorial of Journals:

Editor in Chief of the Following Journals:

Facta Universitatis (1990-2001)

Facta Universitatis Series Mechanics, Automatic Control and Robotics, University of Niš (1991-)

Member of Editorial Board of the Following Journal:

International Journal of Nonlinear Sciences and Numerical Simulations, Freund Publishing House LTD (from 1999-) impact factor 2,345 in 2005 and 4,386 in 2006.

Facta Universitatis Series Living and Working Environmental Protection, University of Niš (2001-)

Nauka Tehnika Bezbednost (Science Technique Security), Institut bezbednosti, Beograd (2001-)

Journal of Non Linear Modelling in Science and Engineering, <http://www.demon.co.uk/cambsci/ijnms.html>

Scientific Technical Review

Prihvatila sam I poyive da budem clan redakcija nekoliko novih casopisa u osnivanju koji se odnose na nove naucne oblasti nauka
(Nelinearna dinamika)

Associate Editor

Mathematical Problems in Engineering, Hindawi Publishing Corp. <http://www.hindawi.com/>

The European Union Control Association Conference Management System

Expert FP6 and FP7 (Registered)

Referee of Following Journals and Information Data-Base:

Archive of Applied Mechanics - Manuscript Central Account Info (SY-23)-Springer, (4 recenzije u 2006)

Nonlinear Dznamics, Springer više recenzija u 2006

Workshop Preprints/Proceedings No 2006-2 IFAC workshop on Fractional Differentiation and its Applications FDA 06, Porto (desetak recenzija)

The European Union Control Association (32 recenzija u 2996)

ESIS European Conference of fracture 2006 (31 recenziju u 2006)

Zentralblatt fur Mathematik und ihre Grenzgebiete Berlin (desetak recenzija u 2006)

Journals Theoretical and Applied Mechanics, JDM, Beograd.(1975-1997, 2003-)

Facta Universitatis Series Mechanics, Automatic Control and Robotics, University of Niš (1990-)

Facta Universitatis Series Living and Working Environmental Protection, University of Niš (1995-)

Facta Universitatis Series Mechanical Engineering, University of Niš (1993-)

Neurosciences letters, Elsevier,

Journal of Sound and Vibrations, Elsevier,

European Polymer Journal, Elsevier,

FME Transaction, Faculty of Mechanical Engineering Universitz of Belgrade,

Material Letters, Elsevier,
Journal Nonlinear Analysis - Theory, Methods and Applications, Series B: Real-world Applications, Pergamon Press,
Signal Processing, Elsevier,
Journal of Porous Materials, Springer
ENOC 2005, EuroMech
and other.

Scientific Societies:

American Academy of Mechanics
Member of GAMM – Germany (since 1972)
Member of Tensor Society - Japan
Member of International ASME – International American Society of Mechanical Engineers USA
Member of European Society for Mechanics – EuroMech
Member of M.C.Chaki Centre for Mathematics and Mathematical Sciences – Calcutta, India
Member of SSM'JDM
Member of SITJ
Member of JUPIM

VIII. Učešće projektima SANU i NANU (Ukrajina) i u inostranim istraživačkim projektima (u početj fazi)

1. Projekat SANU i NANU (Ukrajina)- potpisam ugovor

Hedrih (Stevanović) Katica

Teme

** Qualitative, analytical and asymptotical theory of differential and functional-differential equations, ciji su nosioci Matematički institut NANU (Kiev) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Samolenko i O.M.Sarkovski)*

** Investigation of periodical, asymptotical motions and oscillations of complicated mechanical systems and connected problems of chaotic regimes appearance in nonlinear systems, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Kovaljov)*

** Forced oscillations research for hybrid mechanical systems with application to classical and celestial mechanics, ciji su nosioci Institut za primenjenu matematiku i mehaniku NANU (Donetsk) i Matematički institut SANU (Beograd) (Rukovodioci projekata sa ukrajinske strane A.M. Kovaljov)*