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Datum: 01-12-2020

UNIVERZITET CRNE GORE

Senat

Centar za doktorske studije

U prilogu akta dostavljamo predlog Odluke o imenovanju mentora i komentora studentu doktorskih studija Arsu Ivanoviću, koji je utvrđen na LIV sjednici Vijeća dana 24.11.2020.godine.

DEKAN

Prof. dr Predrag Miranović

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Datum: 27-11-2020

Na osnovu člana 64 Statuta Univerziteta Crne Gore, a u vezi sa članom 29 stav 1 Pravila studiranja na doktorskim studijama Univerziteta Crne Gore, Vijeće Prirodno-matematičkog fakulteta na LIV sjednici održanoj 24.11.2020.godine, donijelo je

ODLUKU

I

Predlažemo Senatu i Centru za doktorske studije Univerziteta Crne Gore prof. dr Jovana Mirkovića, redovnog profesora Prirodno-matematičkog fakulteta Univerziteta Crne Gore za mentora studentu doktorskih studija, studijski program Fizika Arsu Ivanoviću, a za komentora profesora Abdelrahim Hassanien sa Instituta Jožef Stefan u Ljubljani.

II

Dokumentacija o ispunjenosti uslova za imenovanje mentora i komentora i Potvrda o studiranju Arsa Ivanovića predstavlja sastavni dio Odluke.

III

Odluka se dostavlja Senatu UCG i Centru za doktorske studije na dalje postupanje

DEKAN

Prof. dr Predrag Miranović

UCG

MENTORSTVO

PREDLOŽENI MENTOR/I			
	Titula, ime i prezime	Ustanova i država	Naučna oblast
Prvi mentor	Prof. Dr Jovan Mirković	UCG, Crna Gora	Fizika čvrstog stanja
Drugi mentor	Prof. Dr Abdelrahim Hassanien	Jožef Štefan Institut, Slovenija	Fizika kondenzovanog stanja
Sjednica Vijeća organizacione jedinice na kojoj je izvršeno predlaganje mentora			

KOMPETENCIJE MENTORA (pet objavljenih radova u relevantnim časopisima)		
Prvi mentor	1	Jovan Mirkovic, Alexandre Buzdin, Takanari Kashiwagi, Takashi Yamamoto,Kazuo Kadowaki / Crossover from Crossing to Tilted Vortex Phase in Bi2Sr2CaCu2O8+δ Single Crystals near ab-plane // Physica C: Superconductivity and its applications, Physica C 484 (2013) 77–80.
	2	S.E. Savel'ev, J. Mirković, and K. Kadowaki / The London theory of crossing-vortex lattice in high anisotropic layered superconductors // Phys. Rev. B. (ISSN:1098-0121), Vol. 64, 94521 (2001).
	3	J. Mirković, K. Kimura and K. Kadowaki / Moving Vortex States Studied by Current Flow in Single Crystal Bi2Sr2CaCu2O8+δd // Phys. Rev. Lett. (ISSN: 0031- 9007), Vol. 82, 2374 (1999).
	4	Jovan Mirković, Emiko Sugahara and Kazuo Kadowaki / Vortex Lattice Melting Transition in Oblique Magnetic Fields in Single Crystals Bi2Sr2CaCu2O8+d // Physica B (ISSN:0921-4526), 284-288, p. 717, 2000.
	5	Jovan Mirković and Kazuo Kadowaki / Vortex Dynamics in Low Magnetic Fields in Single Crystal Bi2Sr2CaCu2O8+d // Physica C (ISSN: 0921-4534), v. 341-348 pp. 1273 (2000).
Drugi mentor	1	"Atomic Structure and Electronic Properties of Single-Wall Carbon Nanotubes Probed by Scanning Tunneling Microscope at Room Temperature" A. Hassanien, M. Tokumoto, Y. Kumazawa, H. Kataura, Y. Maniwa, S. Suzuki, and Y. Achiba. Applied Physics Letters, 73, 3839-3841 (1998).
	2	"Scanning tunneling microscopy and spectroscopy study of carbon nanotubes" A. Hassanien and M. Tokumoto; Molecular Materials, 13: (1-4) 51-58 (2000).
	3	"Superconductivity in Just Four Pairs of (BETS)2-GaCl4 Molecules" K. Clark, A. Hassanien, S. Khan, K.-F. Braun, H. Tanaka, and S.-W. Hla, Nature Nanotechnology, 5, 261 – 265 (2010).
	4	" Smeared d-Wave Anisotropy in a Monolayer Organic Superconductor", A. Hassanien, Advanced Electronic Materials, doi.org/10.1002/aelm.201800247 (2018).

	5	Spontaneous Antiferromagnetic Ordering in a Single Layer of (BETS)2GaCl4 Organic Superconductor, Abdou Hassanien, Biao Zhou, and Akiko Kobayashi, Adv. Electron. Mater. 2020, 2000461

PODACI O MAGISTRANDIMA I DOKTORANDIMA

	Broj magistranada		Broj doktoranada	
	trenutno	ukupno	trenutno	ukupno
Prvi mentor	/	/	/	/
Drugi mentor	/	1	1	8

Datum i ovjera (pečat i potpis odgovorne osobe)

U (navesti grad),
(navesti datum)

MP

DEKAN

УНИВЕРЗИТЕТ ЦРНЕ ГОРЕ

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Датум, 21.02.2008 г.

Ref:
Date,

Na osnovu člana 75 stav 2 Zakona o visokom obrazovanju (Sl.list RCG br. 60/03.) i člana 18 Statuta Univerziteta Crne Gore, Senat Univerziteta Crne Gore, na sjednici održanoj 21.02.2008. godine, donio je

O D L U K U
O IZBORU U ZVANJE

Dr JOVAN MIRKOVIĆ bira se u akademsko zvanje **redovni profesor** Univerziteta Crne Gore za predmete: Osnovi fizičkog eksperimenta I i II, Istorija i filozofija fizike na **Prirodno-matematičkom fakultetu** i Fizika na nematičnim fakultetima.

REKTOR,

Prof.dr Ljubiša Stanković

europass

Europass Curriculum Vitae

Personal information

Surname(s) / First name(s)	**Mirković Jovan**
Address(es)	University Office: Faculty of Science and Mathematics, University of Montenegro, George Washington Str. bb, 81 000, Podgorica, Montenegro Montenegrin Science Promotion Foundation PRONA Office: Studentska, lamela 10/29, 81 000 Podgorica, Montenegro
Telephone(s)	+382 20 220 615 (office); Mobile +382 67 491 502; +382 69 491 502
Fax(es)	+382 20 244 608 (office)
E-mail	mirkovic@ucg.ac.me (office)
Nationality	Montenegrin
Date of birth	July 31, 1961
Gender	Male

Desired employment / Occupational field

Physics – research and education

Work experience

Dates	**2008 – present**
Occupation or position held	**Full professor**
Main activities and responsibilities	Education and research in physics, materials science and nanotechnologies Teaching courses: • Experimental Physics (Faculty of Sciences and Mathematics, Department of Physics) • Biophysics (Department of Biology) • History and Philosophy of Physics (Department of Physics) • Modern Physics - Solid State Physics (Department of Physics) – Graduate School • Automatic Data Acquisition (Department of Physics) – Graduate School • General Physics (Faculty of Mechanical Engineering) • Biophysics (Faculty of Medicine) • Biophysics (School of Dental Medicine) • Dental materials – physics contest (School of Dental Medicine) • Physics and Philosophy (Faculty of Economics) • The Japanese Economy (Faculty of Economics) • Low temperature physics and superconductivity

Name and address of employer	Faculty of Science and Mathematics University of Montenegro, George Washington Str. bb, 81 000, Podgorica, Montenegro Visiting professor, Graduate School of Pure & Applied Sciences, University of Tsukuba, Japan
Type of business or sector	**Public sector - High Education**
Dates	2005 - 2010
Occupation or position held	Associate professor
Main activities and responsibilities	Teaching courses: • Experimental Physics (Faculty of Natural Sciences and Mathematics – FNSM, Department of Physics) • Chapters of Modern Physics - Solid State Physics (FNSM, Department of Physics) – MSc level • Automatic Data Acquisition (FNSM, Department of Physics) – MSc level • Physics and Philosophy (Faculty of Economics) • The Japanese Economy (Faculty of Economics) 2003 COE 21st Century Researcher, University of Tsukuba, JAPAN; 2003-2005 Researcher, 21st Century Center of Excellence Program, University of Tsukuba 2006 Visiting Professor, University of Tsukuba, Japan Research in Superconductivity and Nano-engineering; S&T in Montenegro; Science popularization. Projects: • „Theoretical and experimental investigation of thermodynamic and transport properties of superconductors Ministry of Eucation and Science", Montenegro, 2005-2007, • „Introduction to Experimental Physics", Course development program (CDP+), WUS-Austria, 2004 • Multidisciplinary Centre for Experimental Study, WUS-Austria, 2003.
Name and address of employer	Faculty of Science and Mathematics, University of Montenegro, George Washington Str. bb, 20 000, Podgorica, Montenegro
Type of business or sector	Public sector – High Education
Dates	**1997- 2002**
Occupation or position held	Assistant professor
Main activities and responsibilities	Teaching courses: • Introduction to experimental physics (Faculty of Science and Mathematics, Department of Physics) • Physics (Faculty of Electrical Engineering) • Physics (Faculty of Civil Engineering) Research in vortex dynamics of high-temperature superconductors. 1997-2000 CREST (JST) Researcher, Institute of Materials Science, University of Tsukuba
Name and address of employer	Faculty of Natural Sciences and Mathematics, University of Montenegro, Georg Washington Str bb 81 000, Podgorica, Montenegro
Type of business or sector	Public sector – High Education
Dates	**1996**
Occupation or position held	1996 Post-doctoral STA fellow, National Research Institute for Metals, Tsukuba, Japan

Main activities and responsibilities	Research – experimental study of vortex dynamics in high-temperature superconductors.
Name and address of employer	Science and Technology Agency of Japan, National research Institute for Metals, Tsukuba,
Type of business or sector	Public sector – Scientific Research
Dates	**1991 - 1994**
Occupation or position held	Researcher
Main activities and responsibilities	Research – electromagnetic properties of ceramic and melted high-temperature superconductors
Name and address of employer	Moscow State University "M. V. Lomonosov", Faculty of Physics, Russia
Type of business or sector	All Russian Electric Engineering Institute, Moscow, Russia
	Public sector – Education and Research
Dates	**1987-1990**
Occupation or position held	Research fellow
Main activities and responsibilities	Teaching assistant Teaching courses / experimental and theoretical exercises: • Physics - Faculty of Electrical Engineering, Faculty of Civil Engineering, Faculty of Metallurgy and Technology, Faculty of mathematics and Natural Sciences – Biology Department
Name and address of employer	Institute of Mathematics and Physics, University of Veljko Vlahovic, Montenegro, Cetinjski put bb, 81 000, Titograd, Montenegro
Type of business or sector	Public sector – High Education

Education and training

Dates	1996
Title of qualification awarded	PhD in Physics
Principal subjects/occupational skills covered	Condensed Matter Physics – High Temperature Superconductors
Name and type of organisation providing education and training	Moscow State University "M. V. Lomonosov", Faculty of Physics, Russia
Level in national or international classification	PhD
Title of qualification awarded	BSc in Physics (4 years studies)
Principal subjects/occupational skills covered	Physics
Name and type of organisation providing education and training	Institute of Mathematics and Physics, University of Veljko Vlahovic, Titograd, Montenegro, Yugoslavia
Level in national or international classification	BSc

Personal skills and competences

Scientific disciplines:

- Physics
- Solid State Physics.

Specific research subjects:

- Experimental solid state physics
- Superconductivity
- Nanotechnology

Experience:

- Project Management
- Foresight analysis
- Science communication

Mother tongue(s) **Montenegrin**

Other language(s)

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
Russian	C2	Independent user	C2	Independent user	C1	Independent user	C1	Independent user	B2	Independent user

(*) Common European Framework of Reference for Languages

Social skills and competences Chairperson at scientific conferences; Montenegro team leader at the 42nd and 43rd International Physics Olympiad; Mentorships (BSc, MSc, PhD).

Organizational skills and competences President of Montenegrin Science Promotion Foundation PRONA; president of the National Committee of IAESTE; member of National UNESCO Commission; member of Board of Foundation Young Inventor Program for Montenegro; member of National Council for Cooperation of NGOs and Government; Member of Parliament of Montenegro 1985-89; President, Physics Program Committee for Public Elementary and High Schools; Long track record of science communication and work with young talents. Montenegro team leader, 42nd and 43rd International Physics Olympiad; Chairman of organizing committee of scientific conferences on nanoscience in Montenegro in 2008, 2009, 2011 and 2016; President of organizing committee of Summer Science School for Young Talents 2008-2012; Program Director of the Science Festival – Researchers' Night in Montenegro 2009 – 2015; Founder: The Japanese Corner; Astronomy Club; Science News Portal..

Computer skills and competences Computer skills:

- Operating systems: Windows
- Office Automation: MS Office (Word, Excel ...)
- Presentation skills: MS PowerPoint

Driving licence B type (car driving) since September 6, 1988

Additional information 2014-2018 The first Ambassador of Montenegro to Japan

Annexes Annex 1: Jovan Mirkovic: Bibliography
Annex 2: Jovan Mirkovic: List of projects

Annex1 Jovan Mirkovic: Bibliography

Books and Monographs

[1] **Jovan Mirković:** „With science to the future", chapter in the book: „Montenegro in XXI Century - in the Era of Competitiveness: Science and Technology", Editor Jovan Mirkovic, Montenegrin Academy of Sciences and Arts, Special editions: Monographies and Studies, Volume 73, Tom 11, ISBN 978-86-7215-249-4, COBISS.CG-ID 16240400, Podgorica, 2010, p. 17-24.

[2] **Jovan Mirković:** „Knowledge based decision-making", chapter in the book: „Montenegro in XXI Century - in the Era of Competitiveness: Science and Technology", Editor Jovan Mirkovic, Montenegrin Academy of Sciences and Arts, Special editions: Monographies and Studies, Volume 73, Tom 11, ISBN 978-86-7215-249-4, COBISS.CG-ID 16240400, Podgorica, 2010, p. 311-330.

[3] Kutlača Đuro, **Jovan Mirković**, Sandra Tinaj: "Key Directions and Interdisciplinarity", chapter in the book: "Montenegro in XXI Century - in the Era of Competitiveness: Science and Technology", Editor Jovan Mirkovic, Montenegrin Academy of Sciences and Arts, Special editions: Monographies and Studies, Volume 73, Tom 11, pp 111-166, ISBN 978-86-7215-249-4, COBISS.CG-ID 16240400, Podgorica, 2010

[4] **J. Mirković** and K. Kadowaki / *Dynamical Resistivity Behavior above and below Vortex Lattice Melting Transition in Single Crystalline $Bi_2Sr_2CaCu_2O_{8+\delta}$* // Advances in Superconductivity XI, p. 557, Springer, 1999 (ISBN-10: 4431702563).

[5] Radovan Ognjanovic, **Jovan Mirkovic**, "Selected Topics of Physics", The Institute for textbooks and educational teaching resources, Podgorica, Montenegro, 2012, ISBN 978-86-303-1721-7.

PhD Dissertation: "*Experimental study of static and low-frequent electromagnetic properties of ceramic and melted high-temperature superconductors.*", Moscow State University "M.V. Lomonosov", Russia, 1996.

International scientific journals

[1] **J Mirkovic**, S Savelev, I Kakeya, T. Kashiwagi, B. Markovic, K Kadowaki / *Tilted vortex lattice in irradiate $Bi_2Sr_2CaCu_2O_{8+\delta}$ single crystals* // Journal of Physics Conference Series 667(1):012007 (2016).

[2] T. Kashiwagi,T. Yamamoto, H. Minami, M. Tsujimoto, R. Yoshizaki, K. Delfanazari,T. Kitamura,C. Watanabe, K. Nakade, T. Yasui, K. Asanuma, Y. Saiwai, Y. Shibano, T. Enomoto,1 H. Kubo, K. Sakamoto, T. Katsuragawa,1 B. Marković, **J. Mirković**, R. A. Klemm, and K. Kadowaki / *Efficient Fabrication of Intrinsic-Josephson-Junction Terahertz Oscillators with Greatly Reduced Self-Heating Effects* // Physical Review Applied 4(5), Nov. 2015, DOI: 10.1103/Phys. Rev. Applied. 4.054018

[3] T. Kashiwagi, K. Nakade B. Markovic Y. Saiwai H. Minami, T. Kitamura K. Ishida S. Sekimoto K. Asanuma T. Yasui Y. Shibano M. Tsujimoto T. Yamamoto , J. **Mirkovic**, K. Kadowaki // Reflection type of terahertz imaging system using a high-Tc superconducting oscillator // Applied Physics Letters 104(2):022601-022601-5 · January 2014, DOI: 10.1063/1.4861602

[4] T. Kashiwagi, K. Nakade, Y. Saiwai, H. Minami, T. Kitamura, C. Watanabe, K. Ishida, S. Sekimoto, K. Asanuma, T. Yasui, Y. Shibano, M. Tsujimoto, T. Yamamoto, B. Markovic **J. Mirkovic**, R. A. Klemm, and K. Kadowaki / *Computed tomography image using sub-terahertz waves generated from a high-Tc superconducting intrinsic Josephson junction oscillator* // Applied Physics Letters 104, 082603 (2014); doi: 10.1063/1.4866898

[5] **Jovan Mirkovic**, Alexandre Buzdin, Takanari Kashiwagi, Takashi Yamamoto,Kazuo Kadowaki / *Crossover from Crossing to Tilted Vortex Phase in $Bi_2Sr_2CaCu_2O_{8+\delta}$ Single Crystals near ab-plane* // Physica C: Superconductivity and its applications, Physica C 484 (2013) 77–80.

[6] **J. Mirkovic**, T. Kashiwagi, T. Saito, T. Yamamoto, K. Kadowaki / Geometry dependent resistivity behavior in mesoscopic Bi2Sr2CaCu2O8+δ single crystals // Physica C 471 (2011) 787–789.

[7] **Jovan Mirkovic**, Takashi Saito, Takanari Kashiwagi, Itsuhiro Kakeya,Yuimaru Kubo, Takashi Yamamoto, Ahmet Oral, Kazuo Kadowaki / Vortex States in Magnetic Fields near ab-plane in Bi2Sr2CaCu2O8+δ Crystal // Physica C 470 (2010) S790–S792

[8] T. Kashiwagi, K. Nakade, B. Markovic, Y. Saiwai, H. Minami, T. Kitamura,C. Watanabe, K. Ishida,S. Sekimoto,K. Asanuma,T. Yasui, Y. Shibano, M. Tsujimoto, T. Yamamoto, **J. Mirkovic**, and K. Kadowaki,/ Reflection type of terahertz imaging system using a high-Tc superconducting oscillator // Applied Physics Letters 104, 022601 (2014)

[9] T. Kashiwagi, K. Nakade, Y. Saiwai, H. Minami, T. Kitamura, C. Watanabe, K. Ishida, S. Sekimoto, K. Asanuma,T. Yasu, Y. Shibano, M. Tsujimoto, T. Yamamoto, B. Markovic, **J. Mirkovic**, R. A. Klemm, and K. Kadowaki / Computed tomography image using sub-terahertz waves generated from a high-Tc superconducting intrinsic Josephson junction oscillator // Applied Physics Letters 104, 082603 (2014)

[10] **Jovan Mirkovic**, Takashi Saito, Takanari Kashiwagi, Takashi Yamamoto, Kazuo Kadowaki / *Crossing Vortex Lattice and Lock-in Vortex State in Mesoscopic $Bi_2Sr_2CaCu_2O_{8+\delta}$ Crystal* // Physica C 470 (2010) S793–S794.

[11] **J. Mirkovic**, Y. Kubo , T. Saitou , I. Kakeya, T. Yamamoto , A. Oral, K. Kadowaki / *Vortex States in Mesoscopic $Bi_2Sr_2CaCu_2O_{8+\delta}$ Crystal in High Magnetic Fields* // Physica C 469, 1119 (2009).

[12] **Jovan Mirkovic**, Sergey Savel'ev, Hirokazu Sato, Franco Nori, Kazuo Kadowaki / *Melting of Vortex Solid in Irradiated $Bi_2Sr_2CaCu_2O_{8+\delta}$ Single Crystals in Tilted Magnetic Fields* // New Journal of Physics (ISSN: 1367-2630) Vol 8, 226 (1-14) (2006).

[13] **J. Mirkovic**, K. Murata, A. Nakano, T. Yamamoto, I. Kakeya, and K. Kadowaki / *The Peak Effect as a Precursor to Lock-in State in $Bi_2Sr_2CaCu_2O_{8+\delta}$ Single Crystal* // AIP Conf. Proc. (ISSN:0094-243X), Volume 850, p. 799 (2006).

[14] **J. Mirkovic**, A. Satou, A. Nakano, T. Yamamoto, I. Kakeya, and K. Kadowaki / *Phase Transition from Crossing Lattice to Tilted Lattice Near ab-plane in $Bi_2Sr_2CaCu_2O_{8+\delta}$ Single Crystal* // AIP Conf. Proc. (ISSN:0094-243X), Volume 850, 2006, p. 801 (2006).

[15] **Jovan Mirković**, Shintaro Hayama, Atsushi Nakano, Krsto Ivanović, Jovan Setrajcic, and Kazuo Kadowaki / *Vortex Phases in $Bi_2Sr_2CaCu_2O_{8+\delta}$ Single Crystals in Tilted Magnetic Fields* // Materials Science Forum (ISSN:0255-5476), Vol. 67, p. 453 (2004).

[16] S. Hayama, T. Yamamoto, I. Kakeya, **J. Mirković**, K. Kadowaki / *Vortex Crossing Lattice Phase Transitions in Single Crystalline $Bi_2Sr_2CaCu_2O_{8+\delta}$* // Physica C (ISSN:0921-4534), Vol. 412-414, p. 478-481, 2004.

[17] Sergey Savel'ev, Franco Nori, **Jovan Mirković**, Kazuo Kadowaki / Vortex latice melting transition under the influence of the c-axis current // Physica C: Superconductivity (ISSN:0921-4534), 388-389, 685 (2003).

[18] Sergey Savel'ev, **Jovan Mirković**, Franco Nori / Fluctuations in the Josephson-pancake combined vortex lattice // Physica C: Superconductivity (ISSN:0921-4534), Vol. 388-389, 653 (2003).

[19] **Jovan Mirković**, Sergey Savel'ev, Kazuo Kadowaki / Suppresion of Surface Barriers in Single Crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$ by In-plane Magnetic Fields // Physica C: Superconductivity (ISSN:0921-4534), Vol. 388-389, 759 (2003).

[20] Kazuo Kadowaki, Shintaro Hayama, Kazuhiro Kimura, Jovan Mirković, Sergey Savel'ev / Phase diagram in highly anisotropic layered superconductors: crossing lattice melting transition // Physica C: Superconductivity (ISSN:0921-4534), Vol. 388-389, 721 (2003).

[21] Jovan Mirković, Sergey Savel'ev, Shin Hayama, Emiko Sugahara, Kazuo Kadowaki / Vortex Phases in Single Crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$ Near ab-plane Studied by c-axis and In-plane Resistivity Measurements // Physica C: Superconductivity (ISSN: 0921-4534), Vol. 388-389, 757 (2003).

[22] J. Mirković, S.E. Savel'ev, E. Sugahara, and K. Kadowaki / Anisotropy of Vortex-Liquid and Vortex-Solid Phases in Single Crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$: Violation of the Scaling Law // Phys. Rev. B (ISSN:1098-0121), 66, 1325, 2002; Virtual Journal of Applications of Superconductivity, Issue October 15, 2002 (http://www.vjsuper.org).

[23] J. Mirković, S.E. Savel'ev, E. Sugahara and K. Kadowaki / Melting Transition in Single Crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$ Studied by the c-axis and in-plane Resistivity Measurements in Parallel Magnetic Fields // Physica C: Superconductivity and its Applications (ISSN:0921-4534), Vol. 378-381, 429 (2002).

[24] J. Mirković, S.E. Savel'ev, E. Sugahara and K. Kadowaki / Dimensionality of Vortex Solid and Liquid Phases in Single Crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$ Studied by the Resistivity Measurements / Physica C: Superconductivity and its Applications (ISSN:0921-4534), Vol. 378-381, 492 (2002).

[25] S.E. Savel'ev, J. Mirković, and K. Kadowaki / Influence of Force-Free Current on Vortex Lattice Melting Transition // Physica C: Superconductivity and its Applications (ISSN: 0921-4534), Vol. 378-381, P1, 496 (2002).

[26] Sergey Savel'ev, Jovan Mirković, and Kazuo Kadowaki / Elasticity of Combined Pancake and Josephson Vortex Lattice // Physica C: Superconductivity and its Applications (ISSN: 0921-4534), Vol. 378-381, P1, 581 (2002).

[27] J. Mirković, S.E. Savel'ev, E. Sugahara and K. Kadowaki / Step-wise Behavior of Vortex-Lattice Melting Transition in Tilted Magnetic Fields in Single Crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$ // Phys. Rev. Letters (ISSN:0031-9007), Vol. 86, 886 (2001).

[28] Jovan Mirković, Emiko Sugahara, Sergey Savel'ev, Kazuo Kadowaki / The non-linear resistivity behavior in the parallel magnetic fields: indication of the vortex smectic phase in $Bi_2Sr_2CaCu_2O_{8+\delta}$ // Physica C (ISSN:0921-4534), Vol. 364-365, 515 (2001).

[29] Jovan Mirković, Sergey Savel'ev, E. Sugahara, Kazuo Kadowaki / Scaling of Vortex Lattice Melting Transition in Single Crystals of $Bi_2Sr_2CaCu_2O_{8+\delta}$ // Physica C (ISSN:0921-4534), 357-360, 450 (2001).

[30] S.E. Savel'ev, J. Mirković, and K. Kadowaki / The London theory of crossing-vortex lattice in high anisotropic layered superconductors // Phys. Rev. B. (ISSN:1098-0121), Vol. 64, 94521 (2001).

[31] Sergey Savel'ev, Jovan Mirković, and Kazuo Kadowaki / The Novel Electrodynamics of Combined Pancake and Josephson Vortex Lattice // Physica C (ISSN:0921-4534), Vol. 357-360, p. 597 (2001).

[32] Sergey Savel'ev, Jovan Mirković, and Kazuo Kadowaki / Free Energy of Vortex System Beyond the Elastic Approximation // Physica C (ISSN:0921-4534), Vol. 357-360, p. 601 (2001).

[33] Jovan Mirković, Sergey Savel'ev, Emiko Sugahara and Kazuo Kadowaki / *Novel Angular Dependence of Vortex Melting Transition in Single Crystal* $Bi_2Sr_2CaCu_2O_{8+d}$ // Physica C (ISSN:0921-4534), Vol. 341-348, p. 1181 (2000).

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[136] A.A. Velikhovskii, V.N. Nikiforov, **J. Mirković**, V. Kovachik, M. Baran, H. Szymczak A.V. Gribanov and Yu.D. Seropegin / *Magnetic Properties of the New Temary Cerium Intermetallic Compound $CeRuS_2$*// 5th European Magnetic Materials and Application Conference, (EMMA`93), Koshice, Slovak Republic, 24-27 Aug. 1993.

[137] V.N. Nikiforov, A.A. Velikhovskii, V. Kovachik, **J. Mirković**, M. Baran, H. Szymczak / *Transport and Magnetic Properties of the New Cerium Ternary Ce-Pt-Ge compounds* // 5th European Magnetic Materials and Application Conference, EMMA93, Koshice, Slovak Republic, 24-27 August 1993 (EMMA93).

[138] D.A. Komarkov, A.A. Zhukov, **J.V. Mirković** / *Current-Voltage Characteristics of $Bi_2Sr_2CaCu_2O_{8+\delta}$ ceramic superconductor* // XX International Conference on Low Temperature Physics, Aug. 4-11 1993, Eugen, Oregon, USA, #L9-5.

[139] D.A. Komarkov, A.A. Zhukov, **J. Mirković** / *Current-Voltage Characteristics between 10^{-13} - 10^{-1} V/cm Measured on High-T_c Ceramics Rings* // Proceedings of European Conference on Applied Superconductivity (EUCAS '93), Gottingen, Germany, Oct. 4 - 9 (1993), Applied Superconductivity, Vol. 1, p. 803.

[140] V.N. Nikiforov, V. Kovacik, A.A. Velikhovskii, **J. Mirković**, I.O. Grischenko, B.A. Shapiev, O.I. Bodak and Yu.D. Seropegin / *Transport and magnetic properties of the new ternary compound $CeRuSi_2$ at low temperatures* // International Conference on Strong Correlated Electronic Systems -92, Sendai, Japan, 7-11 Sept 1992.

[141] A.A. Zhukov, D.A. Komarkov, **J. Mirković** / *Critical Currents Relaxation in Bi-based Ceramic Superconductors* // International Conference on Critical Currents in High-Tc Superconductors, 22-24 April 1992, Vienna, Austria.

[142] A.A. Zhukov, D.A. Komarkov, **J. Mirković**, V.P. Shabatin, V.V. Palachev and A.A. Bush / *Critical Currents in Granular Bi-based Superconductors* // Proc. of Int. Workshop on Chemistry and Technology of High-Temperature Superconductors (MSU-HTSC II), Moscow, USSR, Oct. 14-18. 1991, Vol. 32, p. 33.

National scientific conferences:

[1] Kutlača Đuro, **Jovan Mirković**, Mr. Sandra Tinaj: *"Research and Development and Innovation Activities in Montenegro"*, XVI Scientific conference: "Technology, culture and development: The Western Balkans Countries on Their Way to the European Union, Conference proceeding, ed. Vlastimir Matejić, publishers: NGO «Technology and Society», Mihajlo Pupin Institute, and Faculty of Economics Subotica, pp. 295-303, ISBN 978-86-904137-9-9, COBISS.SR-ID 181574924, UDK 378.014.5(082) 005.94(082), Tivat, Montenegro, September 1-3, 2010.

[2] **J. Mirkovic**, K. Murata, H. Satou, T. Yamamoto, I. Kakeya, K. Kadowaki, S. Save'lev, and F. Nori *// Study of vortex state Vortex Matter in Layered $Bi_2Sr_2CaCu_2O_{8+\delta}$ Superconductors //* Contemporary mathematics, physics and biology, Proceedings of the Workshop devoted to 25th Anniversary of the Faculty of Natural Sciences and Mathematics, 8 -9 September, 2005, Podgorica, Yugoslavia.

PhD Dissertation:

"Experimental study of static and low-frequent electromagnetic properties of ceramic and melted high-temperature superconductors.", Moscow State University "M.V. Lomonosov", Russia, 1996.

Annex 2 Jovan Mirkovic List of projects:

- „Superconducting Nanotechnologies", Ministry of Science, Montenegro, 2018-2019
- Youth Science Forum / Debate Science – HORIZON2020 / 2018-2020
- "Nanoscale Coherent Hybrid Devices for Superconducting Quantum Technologies" (NANOCOHYBRI) CA16218, 2017-2020
- „Physics of Nanostructures", Ministry of Science, Montenegro, 2013-2016
- Physical properties of layered superconductors", Ministry of Science, Montenegro, 2008-2011.
- "Montenegro in XXI Century - in the Era of Competitiveness: Science and Technology", Coordinator, Montenegrin Academy of Sciences and Arts, Podgorica 2009-10.
- „Science and Youth", Montenegrin Science Promotion Foundation PRONA, 2009
- Science Festival - Researchers' Night 2009-2015, Podgorica, Montenegro (Program Director)
- Summer Physics School 2008 - 2010; Summer School of Physics and Mathematics 2011, Ivanova Korita (Program Coordinator)
- Winter Science School 2009 - 2012 (Coordinator)
- Summer School Planet in Your Hands 2011-2013
- Inquiry based science education methods program, 2011
- Students Impact on Quality Assurance of High Education in Montenegro, 2009-10
- „Science and Youth", Montenegrin Science Promotion Foundation PRONA, 2009
- „Theoretical and experimental investigation of thermodynamic and transport properties of superconductors", Ministry of Education and Science", Montenegro, 2005-2007
- „Introduction to Experimental Physics", Course development program (CDP+), WUS-Austria, 2004
- Multidisciplinary Centre for Experimental Study, World University Service - Austria, 2003.

Institut "Jožef Stefan", Ljubljana, Slovenija

Jamova cesta 39, 1001 Ljubljana, p. p. 3000 / Tel.: (01) 477 3900 / Faks: (01) 251 93 85 / www.ijs.si

datum: 30. 11. 2020

POTRDILO O ZAPOSLITVI

Potrjujemo, da je dr. ABDELRAHIM IBRAHIM HASSANIEN, zaposlen na Institutu »Jožef Stefan«, Jamova cesta 39, 1000 Ljubljana za določen čas, od 9. 6. 2014 do 31. 12. 2021.

Sekretarka IJS

Tamara Kotnik, univ. dipl. prav.

Institut "Jožef Stefan" Ljubljana, Slovenija

PERSONAL AND CONFIDENTIAL

Zewail City of Science and Technology hereby appoints Dr. Abdou Hassanien as a Full Professor at the University of Science and Technology and Director of the Center for Nano Technology (CNT) effective August 1, 2015. The Appointee will directly report to the Vice Chair for Academic Affairs. This is a 2 years contract, which can be renewed pending evaluation of teaching, research and services to the City.

1- The Appointee agrees to lead the development of the Center for Nano Technology (CNT), and to teach courses in his field of competence as needed at the University of Science and Technology. Appointee agrees as well to perform other departmental activities pertinent to the academic profession, such as, committee assignments, student advising and appropriate administrative duties.
2- For compensation of the Appointee's services, Zewail City will provide an annual net salary of 456,000 EGP, paid on 12 installments.
3- Tuition is provided for children of the Appointee who is academically qualified for admission to the University of Science and Technology.
4- Appointee and his Spouse and children are entitled to 50 % coverage for medical insurance . The other 50% will be deducted from Appointee's monthly pay. Enrollment is only possible during the first month in service.
5- In conformity with the Social Insurance Regulations, Zewail City is required to issue a check payable to the Social Insurance Authority covering Appointee's and Zewail City's social insurance contributions. It is important to note that both contributions are based on the appointee's gross monthly salary in accordance with Social Insurance Law.
6- It is agreed that this document constitutes the entire agreement between Zewail City of Science and Technology and the Appointee.
7- In case of resignation the Appointee is required to give an advance 2 months notice, the end of service will be complete when he or she performs a complete handover that includes ongoing projects, return of all City's assets and providing all accumulated documents in soft/hard copy format, as requested by the Vice Chair for Academic Affairs office.
8- If the terms of this agreement are acceptable, the Appointee should sign all copies, retain one, and return the other to the office of the Vice Chair for Academic Affairs office.

Vice Chair for Academic Affairs
Name: Sahar Obayya
Signature:
Date: 18-06-2015

I hereby confirm that I accept this contract and its terms.

Appointee Name: Abdou Hassanien
Signature: Hassanien
Date: 18.06.2015

CIRRCULUM VITAE

- Name: Abdelrahim Hassanien
- Current Institution: Jozef Stefan Institute, Ljubljana, Slovenia
- Address: Murnikova 5, SI-1000 Ljubljana
- Cell no.: +386-41-299956
- Email: abdou.hassanien@ijs.si or abdou.hassanien@gmail.com
- Highest academic position: Full Professor, Director of Center of Nanotechnology
- Field of research: Condensed matter Physics
- Focused research area: Nanoscience
- H-index: 15 in 37 refereed publications with 899 citations
(http://www.scopus.com/authid/detail.url?origin=AuthorProfile&authorId=55936393200&zone=)

Most cited article in Nature Nanotechnology 2007 with 245 citations.

Education:

Nov. 1996-May 1997

Post-doctoral fellow at NCSR Demokritos Athens, Greece.
Research Theme: *atomic force microscopy and spectroscopy of cement hardening process in collaboration with TITAN cement company in Athens, Greece.*
Host: Prof. Dr. Fani Milia.

Oct. 1992- Oct. 1996

Ph.D. in Physics, University of Ljubljana, Slovenia
Research Subject: Photo-structural properties epitaxial C_{60} thin films. Molecular resolved properties by scanning probe technique (SPM), transport in TDAE- C_{60} thin films. High quality epitaxial growth of fullerenes thin film.
Thesis advisor: Prof. dr. Dragan Mihailovic
Title: Transport and structural properties of some fullerenes compounds.

Sept. 1991-Sept 1992

Diploma in Theoretical condensed Matter Physics, Abdus Salam international center for theoretical physics, Trieste, Italy.
Research subject: Condensed Matter Physics, surface science, chemisorption of metal atoms on surfaces.
Thesis advisor: Prof. dr. Vijay Kumar
Title: Chemisorptions of Ni on Cu surfaces.

Sept. 1988- May. 1991

M.Sc. in condensed matter physics, University of Ain Shams, Cairo Egypt.

Research subject: Solid State Physics, Chalcogenide glasses, kinetics of amorphous semiconductors phase change versus external impacts such as heat

Host: Prof. Esko Kauppinen and Prof. Peter Liljeroth department of applied Physics, Aalto University, Finland.
Research Theme: Proximity effect of d-wave superconductors, Charge transport in carbon nantotube thin film transistor.

Jan 2017- Dec 2017 (funded by Collaborative Research Center (SFB), 677)

Visiting Professor, Kiel University, Kiel Germany.
Host: Prof. Franz Faupel, Institute for material Science, Kiel University.
Research Theme: Nanoscale mapping of Light harvesting metamaterials.

Oct. 2011 - Oct. 2012:

Visiting Senior researcher at Aalto University, Espoo, Finland.
Research themes: Structure and electronic properties of active carbon nanotube
devices; effect of network morphology on transport properties of carbon nanotube thin film transistor. We also have employed a new technique that combined STM or AFM with HRTEEM to characterized interface properties and their effect on Schottky barrier height. We studied the effect of carbon nanotube contacts on transport properties and performance of thin film transistor.

Major achievement: We have fabricated highly sensitive carbon nanotube thin film transistors and studied the microscopy of contacts and doping effects. The study provided a valuable information on the mechanism of single molecule detection. (Nano Res. 2012, Journal of Chemical Physics C, 2013).
Host: Prof. Esko Kauppinen

Sept. 2007- July 2009

Visiting Professor at Ohio University, Ohio, USA.
Research themes *:* Molecular scale organic superconductivity and dielectric properties of single wall carbon nanotubes.

Major achievement:
1. Nanoscale confined superconducting condensate:
We have fabricated the world smallest superconductor which is just 4 molecular pairs. This discovery opens up a great opportunity to test theories in a clean system thereby unraveling the mechanism and the nature of superconductivity right at the nanoscale.

2. Assaying metallic and semiconducting nanotubes at room temperature:
We have built a facile and fast technique to assay metallic and semiconducting nanotubes based on their dielectric response. We improve techniques further to include gating effects for application in carbon nanotube thin film transistors

Senior research Scientist
Jozef Stefan Institute, Department of Condensed Matter Physics, Slovenia
Research Interest
Scaling and proximity effects in single layer mesoscopic superconductors, Organic charge transfer salts, gating actions in gas and biomolecule sensors, atom and molecule manipulations, flexible electronics, interconnects technology, single molecule functionalization.

December 2015-May 2016.
Professor and Director of Center for Nanotechnology, Zewail City of Science and Technology, Giza, Egypt.
Research Interest:
Microfabrication of flexible nanotube thin film transistor, Nanoscale characterization of catalytic activity, Spatial resolved photovoltaic properties, Biosensors. Near field scanning probe microscopy for mapping nanoscale optical and electrical properties.

Press release:
High resolution imaging of carbon nanotubes at room temperature, AIST
(1999) Selective etching of single wall carbon nanotubes, AIST (2005)
The world smallest superconductor is just 3.5 nm, AIST (2010)

Participation in funded Japanese and European projects:

August 2010-2013:
I have been involved in center of excellence for low carbon technology (CO NOT project) to develop highly efficient energy storage devices. The total funds amounts to 10 million Euros.

April 2004-March 2008

I have been involved in CREST-JST project. A national initiative from the Japanese government to promote basic research on nanomaterials. (Total funds more than 35 million dollars).

April 2002-March 2006

I have been involved in NEDO nanocarbon project. A national initiative from Japanese government to promote basic and applied research of carbon nanotubes and related materials. The project involves about 8 companies (Fujitsu, Mitsubishi, NEC,..etc) and 10 universities around the country. The project leader was Prof. sumio Iijima who has discovered the nanotubes in
1991. (total funding more than 35 million dollars).

April 2003-March 2005

Slovenia Japan bilateral project. In collaboration with Dr. Venturini &Prof. Dr. Dragan Mihailovic. To investigate the atomic scale properties of
dichalcogenide and carbon nanotubes (50, 000 US$)

- Hassanien **(invited talk)**
  "Heteroepitaxial Patterning of $(BETS)_2GaCl_4$ on Ag(111): from Kagome Lattice to Monolayer Superconductor"
  National Institute of Material Science (NIMS), Tsukuba, Japan (21/1/2015).

- A. Hassanien **(invited talk)**
  International Workshop Advances in nanostructured superconductors: materials, properties and theory "La Cristalera" , Miraflores de la Sierra, Madrid, 4 - 7 May (2014).

- Hassanien **(invited talk)**
  Heteroepitaxial growth of organic superconductor on Ag(111)
  Aalto University, Espoo, Finland(13/6/2014).

- Hassanien **(oral Contribution)**
  International conference on "Physics and Applications of Superconducting Hybrid Nano-Engineered Devices" (SHyNeD 2014) Santa Maria di Castellabate, Italy, 31 August to 4 September 2014.

- Hassanien **(invited talk)**
  "Gating action in carbon nanotube thin film transistor"
  Kent State University, Kent, USA (8/1/2014)

- Hassanien **(invited talk)**
  "Proximity in nanoscale superconductors"
  Aalto University, Espoo, Finland (12/12/2013).

- Hassanien **(invited talk)**
  "Gating action in carbon nanotube thin film transistor"
  Espoo, Aalto University 13/12/2013.

- Hassanien **(Oral Contribution)**
  " Spatially Resolved Transport Properties of Pristine and Doped Single-Walled Carbon Nanotube Networks"
  Espoo and Tallinn, NT13, 29/6/2013 (Finland and Estonia)

- Hassanien **(invited talk)**
  "Scaling Effects in Mesoscopic Conductors and superconductors" Florida, ICSS, 17/12/2012, (USA)

- Hassanien **(two invited talks)**
  "Superconductivity at nanoscale" & "spatially resolved electronic properties on mesoscopic materials"
  Marsa Alam, Eg-MRS, 27/11/2012, (Egypt)

- Hassanien **(invited talk)**
  "Optimizing the microstructure of Carbon Nanotube thin film transistor for sensing applications"
  Shenzhen, Nanomedicine, 2/11/2012 (China)

- Hassanien **(invited talk)**

P. Umek, **A. Hassanien**, M. Tokumoto, D. Mihailovic. Carbon, 38: (11-12) 1723-1727 (2000).

6. "Scanning tunneling microscopy and spectroscopy study of carbon nanotubes"

A. Hassanien and M. Tokumoto; Molecular Materials, 13: (1-4) 51-58 (2000).

7. "Doping mechanism in single-wall carbon nanotubes studied by optical absorption" R. Jacquemin, S. Kazaoui, D. Yu, **A. Hassanien**, N. Minami, H. Kataura, Y Achiba. Synthetic metals 115: (1-3) 283-287 (2000).

8. "Atomically resolved scanning tunneling microscopy and spectroscopy of carbon nanotubes" **A. Hassanien**; Proceeding of nanotubes& nanostructures, Sardinia Italy (2000).

9. "Fermi electron wave packet interference images on carbon nanotubes at room temperature" **A. Hassanien**, M. Tokumoto, P. Umek, D. Mihailovic and A. Mrzel Applied Physics. Letters. **78**, 808 (2001).

10. "STM of short Multiwall Carbon nanotubes" **A. Hassanien**, M. Tokumoto, X. Zhao and Y. Ando. Synthetic metals **121**: (1-3) 1197-1198 (2001).

11. "Interference of Electron Waves on Carbon Nanotubes at Room Temperature" **A. Hassanien**, P. Umek, D. Vrbanic, M. Mozetic, P. Venturini, M. Tokumoto, D. Mihailovic, and S. Pejovnik, MRS Proceedings Volume 706 (2001)

12. "Scanning tunneling microscopy of aligned coaxial nanowires of polyaniline passivated carbon Nanotube" **A. Hassanien**, M. Gao, M. Tokumoto and L. Dai; Chem. Phys. Lett **342** (5-6): 479-484 (2001).

13. "Charge density modulation on single wall carbon nanotube at room temperature" **A. Hassanien**, P. Umek, A. Mrzel, D Vrbanic, Mozetic, P. Venturini, M. Tokumoto, D. Mihailovic and S. Pejovnik. Electronic properties of molecular nanostructures, Kirchberg, Austria. AIP Conf. Proc. 591(1) 359 (2001).

14. "Scanning tunneling microscopy of aligned coaxial nanowires of polyaniline passivated carbon nanotube"

A. Hassanien, M. Gao, M. Tokumoto and L. Dai. Electronic Properties of Molecular Nanostructures: XV International Winterschool/Euroconference Kirchberg, Tirol (Austria) AIP Conf. Proc. 591(1) 501 (2001).

15. "Imaging the interlayer interactions of multiwall carbon nanotubes using scanning tunneling microscopy and spectroscopy"

Shandakov, Giulio Lolli, Daniel E. Resasco, Mansoo Choi, David Tománek, and Esko Kauppinen. Nature Nanotechnology 2(3), 156-161 (2007).

27. "Effective, fast, and low temperature encapsulation of fullerene derivatives in single wall carbon nanotubes" A. Mrzel, **A. Hassanien**, Z. Liu, K. Suenaga, Y. Miyata, K. Yanagi, H. Kataura. Surface Science 601 5116–5120 (2007).

28. "Carbon nanotube metrology" A. Jorjo, E. Kaupinnen, **A. Hassanien** book chapter published in Carbon Nanotubes: Advanced Topics in the Synthesis, Structure, Properties and Applications. Edited by Mildred Dresselhaus, Gene Dresselhaus and Ado Jorio (2007).

29. "The Local-scale Study of a NanoBud Structure" Ying Tian, Delphine Chassaing, Albert G. Nasibulin, Paola Ayala, Hua Jiang, Anton S. Anisimov, **Abdou Hassanien**, Esko I. Kauppinen, Physica Status Solidi **245**, 2047 (2008).

30. "A Scanning Probe Microscopy Based Assay for Single-Walled Carbon Nanotube Metallicity" W. Lu, Y. Xiong, **A. Hassanien**, W. Zhao, M. Zheng and L. Chen,.Nano Letters, 9, 1668-1672 (2009).

31. "Superconductivity in Just Four Pairs of $(BETS)_2$-$GaCl_4$ Molecules" K. Clark, **A. Hassanien**, S. Khan, K.-F. Braun, H. Tanaka, and S.-W. Hla, Nature Nanotechnology, **5**, 261 – 265 (2010).

32."Preparation of Atomically Flat Gold Substrates for AFM Measurements" U. Maver, O. Planinsek, J. Jamnik, **A. Hassanien** and M. Gaberscek, Acta Chim. Slov., **59**, 212–219 (2012).

33. "Contactless Characterization of Electronic Properties of Nanomaterials Using Dielectric Force Microscopy" W. Lu, J. Zhang, Y. S. Li, Qi Chen, X. Wang, **A. Hassanien**, and L. Chen, The journal of physical chemistry. C, Nanomaterials and interfaces ,**116**, no. 12, str. 7158-7163 (2012)

34. "Effect of Carbon Nanotube Network Morphology on Thin Film Transistor Performance" M. Y. Timmermans, D. Estrada, A. G. Nasibulin, J. D. Wood, A. Behnam, D. M. Sun, Yutaka Ohno, J. W. Lyding, **A. Hassanien**, E. Pop and E. I. Kauppinen, Nano Res., **5**(5): 307–319 (2012).

35. "A novel facile synthesis and characterization of molybdenum nanowires" Andrej Kovič, Andrej Žnidaršič, Adolf Jesih, Aleš Mrzel, Miran Gaberšček, **Abdou Hassanien**, Nanoscale Research Letters, **7**, 567 (2012).

36. "Spatially Resolved Transport Properties of Pristine and Doped Single-Walled Carbon Nanotube Networks" Andrej Znidarsic, Antti Kaskela, Patrik Laiho, Miran Gaberscek, Yutaka Ohno, Albert G. Nasibulin, Esko I. Kauppinen and **Abdou Hassanien**, J. Phys. Chem. C, **117** (25), pp 13324–13330 (2013).

37. Hydrogen-Driven Cage Unzipping of C_{60} into Nano-Graphenes" Alexandr V. Talyzin Serhiy Luzan, Ilya V. Anoshkin, Albert G. Nasibulin, Esko I. Kauppinen, Andrzej Dzwilewski, Ahmed Kreta, Janko Jamnik, **Abdou Hassanien**, Anna Lundstedt and

6. Ahmed Samy Kreta PhD student at Ljubljana University (AFM techniques on flexible and conducting nanowires, microscopic properties of Li ion batteries, 2017).

7. Tjasa Parkelj, Master student at University of Ljubljana (Low temperature UHV STM spectroscopic techniques on few layers of elemental superconductors on metal surfaces, 2015).

8. Moheb Abdelaziz, PhD students at Kiel University (Plasmonic metamaterials for solar cell applications, 2019).

9. Mehmet Yetik PhD student at Kiel University (Near-Field mapping of light harvesting metamaterials, 2021).

Teaching Experience:

Post graduate teaching:

1. Solid state physics: PhD and Master Students, Ohio University 2007-2009.
2. Advanced lectures on Real space exploration of electronic and structural properties of Nanomaterials for PhD students at Tokyo Institute of technology, Tokyo, Japan (2010-2011).
3. Advanced course on nanoscale microscopy and spectroscopy for master and PhD students at Aalto University, Espoo, Finland (2011-2012).
4. Advanced course on nanoscale microscopy and spectroscopy for master and PhD students at Aalto University, Espoo, Finland (2016-2017).

Undergraduate Teaching:

1. Ain Shams University (Cairo, Egypt):
   Solid state physics 1997-1999
2. Ain Shams University (Cairo, Egypt)

   Solid state electronics: 1987-1991
3. Ohio University (Ohio, USA):
   Guest lecturer, general physics, Solid state physics 2007-2009.
4. Sultan Qaboos University (Oman), General Physics: fall semester of 2015-2016.

REQUEST

TO THE FACULTY OF NATURAL SCIENCES AND MATHEMATICS

I, as a PhD student at the Faculty of Natural Sciences and Mathematics, have chosen prof. Jovan Mirković as my PhD advisor, and prof. Abdelrahim Hassanien from the Jožef Stefan Institute as my co-advisor. Therefore, I request that the Faculty propose these candidates to the Center for doctoral research.

Arso Ivanović

In Podgorica, 9. October 2020

With consent from:

prof. Jovan Mirković

prof. Abdelrahim Hassanien