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PROGRAMME / PROGRAMM

SCIENCE AND EDUCATIONAL CHALLENGES FACING EUROPE IN THE NEXT DECADE

*On the occasion of the 250th anniversary of the birth of Alexander
von Humboldt (1769–1859)*

HERAUSFORDERUNGEN FÜR WISSENSCHAFT UND BILDUNG IN EUROPA IM NÄCHSTEN JAHRZEHNT

*Zum 250. Geburtsjubiläum von Alexander von Humboldt (1769–
1859)*

Humboldt College Zagreb, October 10-11, 2019
Humboldt-Kolleg Zagreb, 10. bis 11. Oktober 2019

Programme

Europe is facing major global transnational challenges that cannot be addressed by any single government or institution acting alone. These challenges, trans-institutional in solution, require collaborative actions among governments, international organizations, universities, non-governmental organisations and creative individuals. It is evident that the key role in these changes is to modernize science and education systems without which there would be no economic progress or the preservation of Croatian and European identity.

On the occasion of 250th birth anniversary of Alexander von Humboldt (1769–1859) and Croatian presidency of the European Union in the first half of 2020, Croatian Humboldt Club, University of Zagreb and Croatian Academy of Sciences and Arts joined to organize the Humboldt College conference dedicated to the science and educational challenges of Croatia and European Union for the next decade.

Within this conference, the Croatian Humboldt Club remembers the work of Alexander von Humboldt and pays tribute to the legacy of this cosmopolitan world scholar and highlights its relevance for today's science and education in modern Europe.

Croatian scientists will present their research financed by the Croatian Science Foundation. A number of interesting examples from different fields will be presented, starting from medicine: the complex research pathway from the basic research to the clinical testing of the new drug will be described. The summary of the last five years work on the development of the commercial products in Zagreb's Biocenter will be presented as illustration of the progress in biotechnology. Researchers from the field of humanities shall introduce us to the topic whether Europe needs a multilingual science and education, on the literature between tradition and digitization, on the embodied mind as a shift away from classical cognitivism, etc. Recently Croatia has joined the full memberships of the CERN - such new opportunity for the Croatian physics will be analyzed.

Very important issue for the science in Croatia is joining to European Union. New opportunities in financing of science appeared through European Structural and Investment Funds by foundation of the Centers of Excellence and Centers of Competence that allow the synergy effects of different research groups for more effective research, better focus on targeted issues and achievement of necessary conditions for commercialization of the scientific discoveries. High quality

researchers who joined these centers and high level of their previous and current research projects will be described by an example of infectious disease research in Croatia and by the University of Zagreb's infrastructure for materials research improvement within the project Centre for Advanced Research of Complex Systems. The importance of materials research to the economic development has been also recognized by number of presentations as the key technology advancement. Materials research has generated countless advances in areas such as electronics, information technologies, automotive and aerospace transportation, biomaterials, medicine, energy storage and nanotechnology. Materials present a topic that is both vast in scope and extreme in depth and are forecasted as an extremely fertile arena in the next decade for university research, education, economic development and entrepreneurial impact that spans the sciences, engineering, and is rapidly moving into medicine and agriculture.

The Croatia Humboldt Club has invited scientists from the European countries to present their respective fields of study about the problems and perspectives of science and education in relation to the labor market in Croatia and the European Union. A number of humboldtians, members of Academy, university professors, scientists and other prominent experts from Bulgaria, Macedonia, Serbia, Slovakia, Italia, Germany, USA and Croatia will participate in two roundtable discussions on the science and education challenges facing Europe in the next decade, i.e. how to integrate technology, health, and environment and how to improve education perspective for young scientists. Besides, our guests will present the broad spectrum of interesting themes from the biophotonics as a key technology for precision medicine to the security challenges and solution pathways framework using science and technology convergence paradigm that will offer a series of concrete and achievable solutions and promote the possibility of establishing contacts and networking in certain fields.

Programm

Europa ist mit großen transnationalen und globalen Herausforderungen konfrontiert, denen sich keine Regierung oder Institution im Alleingang stellen kann. Diese Herausforderungen, die nach trans-institutionellen Lösungen verlangen, bedürfen gemeinsamer Unternehmungen von Regierungen, internationalen Organisationen, NGOs, Universitäten und kreativen Einzelpersonen. Es liegt auf der Hand, dass der Modernisierung von Wissenschaft und Bildung eine Schlüsselrolle in den Wandlungsprozessen zukommt, da ohne diese Bereiche kein wirtschaftlicher Fortschritt und auch keine Wahrung

kroatischer und europäischer Identität denkbar ist.

Zum 250. Geburtsjubiläum von Alexander von Humboldt (1769–1859) und in Verbindung mit dem kroatischen Vorsitz im Rat der Europäischen Union (Januar bis Juni 2020) gestalten der Kroatische Humboldtianer-Klub, die Universität Zagreb und die Kroatische Akademie der Wissenschaften und Künste im Format des Humboldt-Kollegs eine Konferenz über die Herausforderungen für Wissenschaft und Bildung in Kroatien und Europa im kommenden Jahrzehnt.

Im Rahmen der Konferenz möchte der Kroatische Humboldtianer-Klub an das Werk Alexander von Humboldts erinnern, das Erbe dieses kosmopolitischen Wissenschaftlers von Weltrang ehren und seine Bedeutung für Wissenschaft und Bildung im Europa der Gegenwart aufzeigen.

Wissenschaftler aus Kroatien werden ihre von der Kroatischen Wissenschaftsstiftung unterstützten Projekte aus unterschiedlichen Forschungsbereichen vorstellen. Die Medizin eröffnet die Reihe: Ein Einblick in den komplexen Weg von der Grundlagenforschung bis zur klinischen Erprobung eines neuen Arzneimittels. Als Einblick in die Fortschritte der Biotechnologie wird die Entwicklung kommerzieller Produkte im Zagreber BIOCentar vorgestellt. Forscher aus dem Bereich der Geistes- und Kulturwissenschaften werden uns unter anderem folgende Fragenkomplexe näherbringen: Mehrsprachigkeit von Wissenschaft und Bildung in Europa; Literatur zwischen Tradition und Digitalisierung; das verkörperte Denken als Abkehr vom klassischen Kognitivismus. Seit kurzem ist Kroatien Vollmitglied des CERN – die neuen Chancen für die Physik in Kroatien werden analysiert.

Ein besonders wichtiger Umstand für die Wissenschaft in Kroatien ist der Beitritt zur Europäischen Union. Die Europäischen Struktur- und Investitionsfonds öffnen neue Möglichkeiten der Wissenschaftsfinanzierung durch die Gründung von Exzellenz- und Kompetenz-Zentren. Daraus ergeben sich Synergieeffekte für eine effektivere Forschung, eine bessere Fokussierung von Fragestellungen und die Schaffung erforderlicher Voraussetzungen für die Vermarktung wissenschaftlicher Entdeckungen. Zwei Beispiele sollen das Forschungsniveau dieser Zentren illustrieren: Ein Forschungsprojekt zu Infektionskrankheiten in Kroatien und die Infrastruktur der Universität Zagreb zur Verbesserung der Materialforschung im Rahmen des Projektzentrums für die Erforschung komplexer Systeme. Die Bedeutung der Materialforschung für die wirtschaftliche Entwicklung wird auch in einer Reihe von Präsentationen als Schlüsselgebiet der technologischen Entwicklung vorgestellt. Die Materialforschung hat unzählige Fortschritte in Bereichen wie Elektronik, Informationstechnologien, Automobil- und

Luftfahrttransport, Biomaterialien, Medizin, Energiespeicherung und Nanotechnologie erzielt. Materialien stellen einen besonders umfangreichen und tiefgreifenden Themenkomplex dar. Es wird prognostiziert, dass dieser Komplex im nächsten Jahrzehnt eine äußerst fruchtbare Arena universitärer Forschung, der Bildung und wirtschaftlicher Entwicklung sein wird, der die Bereiche Wissenschaft und Ingenieurwesen betrifft und sich rasch in Medizin und Landwirtschaft weiter entwickelt.

Der Kroatische Humboldtianer-Klub hat Wissenschaftlerinnen und Wissenschaftler aus europäischen Ländern eingeladen, die ihre einschlägigen Forschungen zu Problemen und Perspektiven von Wissenschaft und Bildung in ihrem Verhältnis zum Arbeitsmarkt in Kroatien und der Europäischen Union vorstellen werden. Außerdem wird eine Reihe von Humboldtianern, Akademie-Mitgliedern, Universitäts-Professoren, Institutsforschern und anderen prominenten ExpertInnen aus Bulgarien, Nordmazedonien, Serbien, Slowakei, Italien, Deutschland, USA und Kroatien an zwei Rundtischgesprächen zu den Herausforderungen für Wissenschaft und Bildung in Europa des kommenden Jahrzehnts teilnehmen. Im Einzelnen geht es um die Integrationsmöglichkeiten von Technologie, Gesundheitswesen und Umwelt sowie um die Verbesserung der Bildungsperspektiven für den wissenschaftlichen Nachwuchs. Unsere Gäste werden außerdem ein breites Spektrum interessanter Themen vorstellen – von der Biophotonik als einer Schlüsseltechnologie in der Präzisionsmedizin bis zu Lösungsansätzen im Bereich von Sicherheits herausforderungen. Zur Anwendung kommt dabei ein Konvergenzparadigma von Wissenschaft und Technologie, dass zu einer Reihe konkreter und erreichbarer Lösungen führt und die Vernetzung bestimmter Wissenschaftsbereiche fördert.

Dr. Mile Ivanda

President, Croatia Humboldt Club

Präsident des Kroatischen Humboldtianer-Klubs

Scientific Committee / Wissenschaftliches Komitee:

- Dr. Mile Ivanda, Ruđer Bošković Institute, Zagreb (Chairmen/Vorsitzender)
- Prof. Dr. Ivo Barić, University of Zagreb / Universität Zagreb
- Prof. Dr. Pavo Barišić, Institute for Philosophy / Institut für Philosophie, Zagreb
- Prof. Emeritus Igor Čatić, University of Zagreb / Universität Zagreb
- Prof. Dr. Davor Dukić, University of Zagreb / Universität Zagreb
- Prof. Dr. Zoran Jašić, University of Zagreb / Universität Zagreb
- Prof. emer. Dr. Alojzije Jembrih, University of Zagreb / Universität Zagreb
- Prof. Dr. Zvonko Kovač, University of Zagreb / Universität Zagreb
- Prof. Dr. Ivan Malčić, University of Zagreb / Universität Zagreb
- Prof. Dr. Milan Pelc, Institute of Art History / Institut für Kunstgeschichte, Zagreb
- Prof. Dr. Ivica Picek, University of Zagreb / Universität Zagreb
- Dr. Hrvoje Skenderović, Institute of Physics / Institut für Physik, Zagreb
- Prof. Dr. Jurica Sorić, University of Zagreb / Universität Zagreb
- Dr. Marina Šekutor, Ruđer Bošković Institute, Zagreb
- Prof. Dr. Valerije Vrček, University of Zagreb / Universität Zagreb

Organiser / Veranstalter:

Croatian Humboldt Club / Kroatischer Humboldtianer-Klub

Co-organizers / Mitorganisatoren:

Croatian Academy of Science and Arts, University of Zagreb / Kroatische Akademie der Wissenschaften und Künste, Universität Zagreb

Conference languages: English and German

Tagungssprachen: Englisch und Deutsch

Thursday, 10. October 2019

Croatian Academy of Sciences and Arts (HAZU) / Kroatische Akademie der Wissenschaften und Künste, Strossmayerov trg 14, Large hall in the HAZU library / Großer Saal in der HAZU-Bibliothek

8:00 – 9:00	Registration / Registrierung
9:00 – 9:45	Greetings / Begrüßung: Mile Ivanda, President of the Croatian Humboldt Club / Präsident des Humboldt-Club Kroatien David Smith, Director of Ruđer Bošković Institute / Direktor des Ruđer Bošković Instituts Damir Boras, Rector of the University of Zagreb / Rektor der Universität Zagreb Velimir Neidhardt, President of the Croatian Academy of Sciences and Arts / Präsident der Kroatische Akademie der Wissenschaften und Künste Gordan Grlić Radman, Minister of Croatian Ministry of Foreign and European Affairs / Minister des kroatischen Ministeriums für auswärtige und europäische Angelegenheiten Blaženka Divjak, Minister of Science and Education / Minister für Wissenschaft, Bildung Robert Klinke, Ambassador of the Federal Republic of Germany / Botschafter der Bundesrepublik Deutschland Kolinda Grabar Kitarović, President of the Republic of Croatia / Präsidentin der Republik Kroatien
9:45 – 10:00	Musical ensemble <i>IMPACT FACTOR</i> Songs: <i>Maybe, The Web, El Condor Pasa</i>
10:00 – 10:30	Representative of Alexander von Humboldt-Stiftung, Leiter der Abteilung Förderung und Netzwerk / Alexander von Humboldt Foundation, Head of the Promotion and Network Department Vortrag über die Alexander von Humboldt Stiftung / Lecture on the Alexander von Humboldt Foundation
10:30 – 11:00	Pavo Barišić, University Department of Croatian Studies, University of Zagreb <i>Alexander von Humboldt als Weltwissenschaftler und Weltbürger / Alexander von Humboldt as a World Scientist and Cosmopolitan</i>

11:00 – 11:15	Coffee break / Kaffee pause
	Keynote lectures / Keynote Vorträge Chair Pavo Barišić
11:15 – 11:45	Dario Vretenar, Croatian Academy of Sciences and Arts Zagreb and Faculty of Sciences, University of Zagreb <i>Competitive research funding in Croatia</i>
11:45 – 12:15	Milena Žic Fuchs, Croatian Academy of Sciences and Arts Zagreb and The Faculty of Humanities and Social Sciences, University of Zagreb <i>Missions and Horizon Europe: the Inter/Multi/Transdisciplinary Context</i>
12:15 – 13:30	Lunch / Mittagessen
	Chair Ivica Picek
13:30 – 13:55	Invited lecture / Eingeladener Vortrag: Blažeka Melić, Ruđer Bošković Institute, Zagreb, Croatia <i>CERN Membership as an Opportunity for Croatian Physics</i>
13:55 – 14:20	Invited lecture / Eingeladener Vortrag: Dubravko Kičić, Biocenter, Zagreb, Croatia <i>BIOcenter: First Five Years</i>
14:20 – 14:45	Invited lecture / Eingeladener Vortrag: Siegfried Gehrman, University of Zagreb, Faculty of Teacher Education, Center for European Education, Croatia <i>Braucht Europa eine mehrsprachige Wissenschaft und Bildung</i>
14:45 – 15:00	Marina Ilakovac Kveder, Ruđer Bošković Institute, Zagreb, Croatia <i>How can Electron Paramagnetic Resonance Spectroscopy Contribute to Science and Education Challenges Facing Europe in the Next Decade</i>
15:00 – 15:15	Melita Šalković-Petrišić, Department of Pharmacology and the Croatian Institute for Brain Research, University of Zagreb School of Medicine, Zagreb, Croatia <i>Modelling of Sporadic Alzheimer's Disease and Testing of Oral Galactose as a Possible Therapeutic Strategy</i>

15:15 – 15:30	Coffee break / Kaffee pause
15:30 – 17:00	Roundtable I <i>Science does matter: How to integrate technology, health, and environment</i> Moderators: Valerije Vrčec and Ivo Barić Participants: Zoran Hadži-Velkov, Makedonija; Branimir Jovančičević and Mirko Komatina, Serbia, Igor Čatić and Dubravko Kičić, Croatia
18:00 - 19: 30	A walking tour of Zagreb and the Strossmayer Gallery of Old Masters / Ein Rundgang durch Zagreb und die Strossmayer-Galerie alter Meister
19:30 – 21:30	Dinner / Abendessen

Junior scientist session (Small HAZU hall)

Nachwuchsforscher Sitzung (Kleine HAZU Saal)

	Junior Scientist Session Chair: Vesna Janicki
13:30 – 13:45	Vedran Đerek, Wallenberg Center for Molecular Medicine, Linköping University, Norrköping, Sweden <i>3D Micro- and Nano-Structuring for Opto-Bioelectronics</i>
13:45 – 14:00	Vlatko Gašparić, Ruđer Bošković Institute, Zagreb, Croatia <i>Photonic Nanojet of a Microsphere for Raman Scattering Enhancement</i>
14:15 - 14:30	Vesna Janicki, Ruđer Bošković Institute, Zagreb, Croatia <i>Micro and Nanostructuring Using Glass Poling and Electric Field Assisted Dissolution</i>
14:30 – 14:45	Nikola Baran, Ruđer Bošković Institute, Zagreb, Croatia <i>Sensing Properties of Nanostructured Porous Silicon</i>
14:45 – 15:00	Tomislav Lesičar, Institute of Applied Mechanics, Faculty of Mechanical Engineering and Naval Architecture, University of

	Zagreb, Croatia <i>Advanced Computational Modelling of Complex Materials</i>
15:00– 15:15	Mihovil Bosnar, Ruđer Bošković Institute, Zagreb, Croatia <i>Modifying the Proximity Induced Spin Polarization of Graphene by the Electric Field</i>
15:15– 15:30	Coffee break / Kaffee pause

Friday, 11. October 2019

Croatian Academy of Sciences and Arts (HAZU) / Kroatische Akademie der Wissenschaften und Künste, Strossmayerov trg 14, Large hall in the HAZU library / Großer Saal in der HAZU-Bibliothek

8:00 – 8:30	Registrierung / Registration
	Keynote lectures / Keynote Vorträge Chair: Jurica Sorić
8:30 – 9:00	Mihael Grbić, Faculty of Science, University of Zagreb, Croatia <i>Centre for Advanced Research of Complex Systems - University of Zagreb, Croatia's Enhancement of Infrastructure for Material Research</i>
9:00 – 9:30	Slobodan Vukičević, Croatian Academy of Sciences and Arts Zagreb, Croatia and Medical faculty, University of Zagreb, Croatia <i>Clinical Testing of the New Drug "Osteogrow"</i>
9:30 – 10:00	Juergen Popp, Leibniz Institute of Photonic Technology, Jena, Germany <i>Biophotonics - a Key Technology for Precision Medicine</i>
10:00 – 10:15	Coffee break / Kaffee pause
	Keynote lectures / Keynote Vorträge Chair: Ivan Malčić
10:15 – 10:45	Alemka Markotić, Clinic for Infectious Disease, "Dr. Fran Mihaljevic", Zagreb, Croatia <i>European Structural and Investment Projects to Promote Excellence in Infectious Disease Research in Croatia: Centers of Excellence and Centers of Competence</i>
10:45 – 11:15	Ashok Vaseashta, Virginia Polytechnic Institute and State

	University, Manassas, Virginia, USA <i>Hybrid Security Challenges and Solution Pathways Framework Using Science and Technology Convergence Paradigm</i>
11:15 – 11:45	Zdravko Radman, Institute of Philosophy, Zagreb, Croatia <i>The Embodied Mind - A Shift Away from Classical Cognitivism</i>
11:45– 12:00	Coffee break / Kaffee pause
12:00- 13:30	Roundtable II <i>Young scientists in the next decade: education and chances</i> Moderator: Milan Pelc Participants: Juri Kalvachev, Bulgaria; Jozef Vozár, Slovakia; Marina Šekutor, Ivan Malčić, Mario Stipčević and Zoran Jašić, Croatia
13:30 – 14:15	<i>Lunch / Mittagessen</i>
	Chair Davor Dukić
14:15 – 14:30	Alojzije Jembrih, University Department of Croatian Studies, University of Zagreb, Croatia <i>Zur Rezeption der deutschen Jugendliteratur in Nordkroatien des 18. Jahrhunderts.</i>
14:30 – 14:45	Urška Perenič and Miran Hladnik, Philosophical Faculty Ljubljana, Slovenia <i>Slowenische Literaturwissenschaft zwischen Tradition und Digitalisierung</i>
14:45 - 15:00	Danko Bosanac, Adriatic Aerospace Agency, Zagreb, Croatia <i>Perspectives of Space technology in Croatia</i>
15:00 – 15:15	Dalibor Paar, Department of Physics, Faculty of Science, University of Zagreb, Croatia <i>STEM Education from Kindergarten to Lifelong Learning</i>
15:15 – 15:30	Mario Stipčević, Ruđer Bošković Institute, Zagreb, Croatia <i>Comparison of Croatian and US elementary school systems</i>
15:30 – 15:45	Roman Brajša, Faculty of Geodesy, University of Zagreb, Croatia <i>Solar Physics with Atacama Large Millimeter/Submillimeter</i>

	<i>Array (ALMA): Selected First Results</i>
15:45– 16:00	Coffee break / Kaffee pause
16:00 – 17:30	Poster Session
18:30 – 19: 00	Travel for dinner by bus to the town of Samobor (Restaurant “Kod Gabreka”) / Fahrt zum Abendessen mit dem Bus in die Stadt Samobor (Restaurant „Kod Gabreka“)
19:00 – 21:00	Dinner / Abendessen

Junior scientist session (Small HAZU hall)

Nachwuchsforscher Sitzung (Kleine HAZU Saal)

	Junior Scientist Session Chair: Sanja Tomić
14:15 – 14:30	Tana Tandarić, Ruđer Bošković Institute, Zagreb, Croatia: <i>Irreversible Inhibition of the MAO B Enzyme. A Computational Insight into the Inactivation Mechanism</i>
14:30 – 14:45	Fabio Franchini, Ruđer Bošković Institute, Zagreb, Croatia <i>Novel Characterizations of Classical and Quantum Many-Body Systems</i>
14:45 - 15:00	Lana Virag, Institute of Applied Mechanics, Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb, Croatia <i>Numerical Modelling of Vascular Disease Progression</i>
15:00 – 15:15	Ethem Mandić, Faculty of Montenegrin Language and Literature, Cetinje, Montenegro <i>Political Novel in South Slavic Context</i>
15:15 – 15:30	Vanja Marić, Ruđer Bošković Institute, Zagreb, Croatia <i>The Frustration of being Odd</i>
15:30 – 15:45	Sanja Tomić, Ruđer Bošković Institute, Zagreb, Croatia <i>Biological Relevance of Human Dipeptidyl Peptidase III</i>
15:45– 16:00	Coffee break / Kaffee pause

Posters:

1. Jasna Alić, Nataša Burić and Marina Šekutor

Ruđer Bošković Institute, Zagreb, Croatia

Diamondoids in supramolecular chemistry and nanotechnology

**2. Ana Babić Perhoč,^{1,2} Jan Homolak,^{1,2} Ana Knezović,^{1,2} Jelena Osmanović Barilar,^{1,2}
Peter Riederer,^{3,4} Melita Šalković-Petrišić^{1,2,5}**

¹Department of Pharmacology, University of Zagreb School of Medicine, Zagreb, Croatia

²Croatian Institute for Brain Research, University of Zagreb School of Medicine, Zagreb, Croatia

³Center of Mental Health, Department of Psychiatry, Psychosomatics and Psychotherapy, University Hospital Würzburg, Würzburg, Germany

⁴Department of Clinical Research and Psychiatry, University of Southern Denmark, Odense, Denmark

⁵Scientific Centre of Excellence for Basic, Clinical and Translational Neuroscience, University of Zagreb School of Medicine, Zagreb, Croatia

Therapeutic potential of orally administered galactose on cognitive and metabolic changes in two experimental models of Alzheimer's disease

3. Lovro Basioli, Krešimir Salamon, Marija Tkalčević Sigrid Bernstorff, Maja Mičetić

Ruđer Bošković Institute, Zagreb, Croatia

Analysis of 3D lattices of nanostructures by GISAXS

3. Mateja Batelić and Mario Stipčević

Ruđer Bošković Institute, Zagreb, Croatia

Improved circuits for a biologically-inspired random pulse computer

**4. Dražen Belina², Dorotea Bartoniček,¹ Višnja Ivančan,³ Slobodan Galić,⁴
Jasna Stoić Brezak,⁵ Darko Anić,² Dražen Jelašić,⁶ Ivan Malčić¹**

¹Clinical Hospital Centre Zagreb, Department for pediatric cardiology, Zagreb, Croatia

²Clinical Hospital Centre Zagreb, Department of pediatric cardiac surgery, Zagreb, Croatia

³Clinical Hospital Centre Zagreb, Department of anaesthesiology, Zagreb, Croatia

⁴Clinical Hospital Centre Zagreb, Department of Intensive care, Zagreb, Croatia

⁵Clinical Hospital Centre Zagreb, Departemnt of EUROTRANSPLANT, Zagreb, Croatia

⁶Department of pathology, Medical Faculty of Zagreb, Croatia

5. **Marko Bermanec, Filip Kisić, Luka Korov, Matija Makoter i Stjepan Puljić**
Adriatic Aerospace Agency, Zagreb, Croatia
The project on the first Croatian satellite PERUN

6. **Nikola Biliškov, Igor Milanović, Ivan Halasz**
Ruđer Bošković Institute, Zagreb, Croatia
Single- and Bimetallic Amidoboranes - Solid-State Synthesis and Decomposition

7. **Damjan Blažeka, J. Car, Nikša Krstulović**
Institute of Physics, Zagreb, Croatia
Photocatalytic activity of ZnO nanoparticles synthesized by laser ablation in water

8. **Krešimir Bobaš**
The Faculty of Humanities and Social Sciences, University of Zagreb, Croatia
Darstellung der Geschichte in den Prosawerken von Miljenko Jergović

9. **Buljević Viktorija Ana,¹ Dasović Buljević Andrea,¹ Malčić Ivan²**
¹Clinical Hospital Centre Zagreb, Department for neonatology, Zagreb, Croatia
²Clinical Hospital Centre Zagreb, Department for pediatric cardiology, Zagreb, Croatia
*Glenn procedure for Hypoplastic Left Heart Syndrom - should it be performed earlier?
Results of a Croatian clinical epidemiological study*

10. **Irena Ciglencečki,¹ M.Čanković,¹ M.Marguš,¹ I. Janeković,² S.Mateša,¹
T. Bakran-Petricioli,³ D. Petricioli,⁴ M. Detur-Sikirić¹**
¹Ruđer Bošković Institute, Division for Marine and Environmental Research, Zagreb, Croatia
²The University of Western Australia, Crawley WA 6009, Australia
³Faculty of Natural Sciences, University of Zagreb, Department of Biology, Zagreb, Croatia
⁴D.I.I.V.d.o.o., za ekologiju mora, voda i podzemlja, Sali, Croatia
Marine lake (Rogoznica) as a model for EcoSystem functioning in a changing environment

11. **Damir Dominko¹, V. Grigorev², Jure Demšar²**
¹Institute of Physics, Zagreb, Croatia
²Institute of Physics, Johannes Gutenberg-University, Mainz, Germany

12. Sanja Dolanski Babić, Marin Kosović

School of Medicine, University of Zagreb, Croatia

The perspective of the course "Physics of Medical Diagnostics" for students of medicine (2016)

13. Sonja Durajlija Žinić

Ruđer Bošković Institute, Zagreb, Croatia

Strateški plan za uključenje Hrvatske u internacionalnu mrežu za bioinformatičko mapiranje repetitivne DNA i razvoj personalizirane medicine

14. Hrvoje Gebavi,¹ Vlatko Gašparić,¹ Davor Ristić,¹ Daniil Zhivotkov,¹ Dubravko Risović,¹ Hrvoje Skenderović,² Stefano Taccheo,³ Joanna Borkowska,⁴ Paweł Albrycht,⁴ Sanja Vidaček⁵, Mile Ivanda¹

¹Ruđer Bošković Institute, Zagreb, Croatia

²Institute of Physics, Zagreb, Croatia

³Swansea University, Swansea, United Kingdom

⁴Polish Academy of Sciences, Warsaw, Poland

⁵Faculty of Food Technology and Biotechnology, Zagreb, Croatia

Prospective fibre-optic based sensors

15. Marijan Gotić, Goran Dražić and Musić Svetozar

Ruđer Bošković Institute, Zagreb, Croatia

Hydrothermal synthesis of alpha-Fe₂O₃ nanorings with the help of divalent metal cations, Mn²⁺, Cu²⁺, Zn²⁺ and Ni²⁺

16. Jan Homolak

Croatian Institute for Brain Research, School of Medicine, University of Zagreb and Scientific Centre of Excellence for Basic, Clinical and Translational Neuroscience, Zagreb, Croatia

Oral galactose-mediated effects of endogenous glucagon-like peptide-1 in experimental models of neurodegenerative disorders

17. Jan Homolak,^{1,2} Ana Babić Perhoč,^{1,2} Ana Knezović,^{1,2} Jelena Osmanović Barilar,^{1,2} Maja Relja,³ Peter Riederer,^{4,5} Melita Šalković-Petrišić^{1,2,6}

¹Department of Pharmacology, University of Zagreb School of Medicine, Zagreb, Croatia

²Croatian Institute for Brain Research, University of Zagreb School of Medicine, Zagreb, Croatia

³Department of Neurology, Clinical Hospital Centre Zagreb, University of Zagreb School of Medicine, Zagreb, Croatia

⁴Center of Mental Health, Department of Psychiatry, Psychosomatics and Psychotherapy, University Hospital Würzburg, Würzburg, Germany

⁵Department of Clinical Research and Psychiatry, University of Southern Denmark, Odense, Denmark

⁶Scientific Centre of Excellence for Basic, Clinical and Translational Neuroscience, University of Zagreb School of Medicine, Zagreb, Croatia

Mechanisms of nutrient-mediated effects of endogenous glucagon-like peptide -1 on cognitive and metabolic alterations in experimental models of neurodegenerative disorders

18. Mirko Husak,¹ Roman Brajša,² Dragan Špoljarić,² Aleksandar Mona Macko Puhek³

¹Državna geodetska uprava, Varaždin, Croatia

²Faculty of Geodesy, Zagreb, University of Zagreb, Croatia

³Treća osnovna škola Varaždin, Varaždin, Croatia

Bošković's determination of the solar rotation elements in 18th century using his own observations of sunspot's positions

19. Ivan Jakovac,¹ M. S. Grbić,¹ T. Cvitanić,¹ S. Paschen,² A. Prokofiev,² H. Mitamura,³ T. Sakakibara,³ M. Horvatić,⁴ Y. Hosokoshi,⁵ M. Požek¹

¹Faculty of Science, University of Zagreb, Croatia

²Institute of Solid State Physics, Vienna University of Technology, Austria

³Institute for Solid State Physics, University of Tokyo, Japan

⁴LNCMI-CNRS Grenoble, France

⁵Department of Physical Science, Osaka Prefecture University, Osaka

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Ruđer Bošković Institute, Zagreb, Croatia

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21. Athanasios Chatzistavrakidis, Georgios Karagiannis and Peter Schupp

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23. Domagoj Leljak, Blaženka Leljak i Monalisa Patra

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24. Dunja Leljak Levanić

Faculty of Science, Department of Biology, University of Zagreb, Croatia

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¹Ruđer Bošković Institute, Zagreb, Croatia

²Department of Optics and Quantum Electronics, University of Szeged, Hungary

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26. Stjepan Lugomer,¹ Aleksandar Maksimović,¹ G. Peto,² A. Toth,² E. Horvath²

¹Ruđer Bošković Institute, Zagreb, Croatia

²Research Institute for Technical Physics and Material Sciences, Hungarian Academy of Sciences, P.O.B 49, H-1525 Budapest, Hungary

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Ruđer Bošković Institute, Zagreb, Croatia

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28. Vlasta Mohaček Grošev¹, M. Đuroković², M. Škrabić³

¹Division of Materials Physics, Ruđer Bošković Institute, Zagreb, Croatia

²Institute IGH d.d. Laboratory for binders and ecology, Zagreb, Croatia

³Department of Physics and Biophysics, School of Medicine, University of Zagreb, Croatia

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29. Ana Najev¹, Damjan Pelc^{1,2}, Miroslav Požek¹

¹Department of Physics, Faculty of Science, University of Zagreb, Croatia

²School of Physics and Astronomy, University of Minnesota, Minneapolis, USA

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30. Ivan Pavić,¹ M. Bonković,² J. Šoda,¹ Mile Ivanda³

¹Faculty of Maritime Studies, University of Split

²Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture, University of Split

³Ruđer Bošković Institute, Center of Excellence for Advanced Materials and Sensing Devices, Zagreb, Croatia

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31. Dalibor Paar,¹ Stanislav Francišković-Bilinski,² Nenad Buzjak,³ Diana Mance⁴

¹Department of Physics, Faculty of Science, University of Zagreb, Croatia

²Ruđer Bošković Institute, Zagreb, Croatia

³Department of Geography, Faculty of Science, University of Zagreb, Croatia

⁴Department of Physics, University of Rijeka, Croatia

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Department of Pediatrics, University Hospital Centre Zagreb, Kišpatićeva 12, 10000 Zagreb, Croatia

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Ruđer Bošković Institute, Zagreb, Croatia

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University Hospital Centre Zagreb, Croatia

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Institute for Medical Research and Occupational Health, Zagreb, Croatia

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¹Faculty of Pharmacy and Biochemistry, University of Zagreb, Croatia

²Technische Universität Chemnitz, Germany

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46. Matej Šapina,^{1,2,3} Karolina Kramarić,^{1,2,3} Krešimir Milas,^{1,2} Ivan Malčić^{4,5}

¹University hospital Osijek, Osijek, Croatia

²Medical faculty Osijek, Osijek, Croatia

³Faculty of dental medicine and health, Osijek, Croatia

⁴University hospital Zagreb, Zagreb, Croatia

⁵Medical faculty Zagreb, Zagreb, Croatia

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¹Department of Physics and Biophysics, School of Medicine, University of Zagreb, Croatia

²Department of Medical Biology, School of Medicine, University of Zagreb, Croatia

³Cinical Hospital Merkur, Zagreb, Croatia

⁴Science center of excellence for advanced materials and sensors, Research unit New functional materials

⁵Science center of excellence for reproductive and regenerative medicine, Research unit Biomedical research of reproduction and development (CERRM)

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¹Ruđer Bošković Institute, Zagreb, Croatia
²Department of Physics, University of Helsinki, Helsinki, Finland
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²Saratov State University, Russian Federation
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