



Ambasciata d' Italia
Belgrado

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ASSOCIAZIONE ITALIANI E SERBI SCIENZIATI E STUDIOSI
АСОЦИЈАЦИЈА ИТАЛИЈАНСКИХ И СРПСКИХ НАУЧНИКА И ИСТРАЖИВАЧА

NANO FOR HEALTH

INSTITUTE MIHAJLO PUPIN

BELGRADE - 21ST SEPTEMBER, 2016

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In the 1960s sci-fi film "Fantastic Voyage," a miniaturized crew traveled through the bloodstream of a scientist in a tiny submarine on a mission to dissolve a life-threatening blood clot in his brain. Tiny robots and other molecular machines can now do jobs like this.

Scientific Rationale:

The word "Quality of Life" (QoL) has strong evocative capacity and is at the same time deeply ambiguous. So are methods, tools of analysis, and thematic areas in which this concept itself can be elaborated. QoL encompasses objective and subjective, both qualitative and quantitative, social and



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individual indicators for issues like health, environment, wealth, education, social inclusion, happiness, meaningfulness etc.

In spite of a widespread disagreement about the interpretation of this multifaceted and multidisciplinary concept, QoFL is behind actions of policy makers, economists, physicians, scientists, governments, NGOs etc., all sharing -in principle- the goal of improving the well-being of individuals and societies. With this Workshop, we intend to offer young scholars and researchers the opportunity to attend stimulating keynote speeches by top Italian and Serbian professionals and experts. The end of the Workshop will be dedicated to a brainstorming session about QoFL where fresh ideas and views can be forged and confronted.

The fourth QoFL is dedicated to the very interesting subject “Nano for Health”. Nanomaterials are making their way into all aspects of our lives; these materials are being increasingly used in pharmaceutical and medical applications, cosmetics and personal products, energy storage and efficiency, water treatment and air filtration, environmental remediation, chemical and biological sensors, military defense and explosives, and in countless consumer products and materials. In this context, recent and current research focus to clarify the connections between nanotechnology and health will be discussed. Ethical, environmental and toxicological aspects of nanotechnology are recognized as top subjects among the researchers worldwide. Additionally, public perception of nanotechnology in general is gaining an increasing importance.

Objectives:

- Animation and raising the awareness of students and young researchers on issues of the impact of nanotechnology on the human health.
- Comparison of Italian and Serbian experience.
- Introduction to the complexity and multi-dimensional aspects of nanotechnology.

Aims:

- To enable student discussion and the exchange of ideas looking at issues from different expert fields; to learn from experiences of others and to ponder different views on QoFL.
- To raise public interest about innovations, trends, and concerns related to nanotechnology by promoting young people’s views on possible solutions to urgent health issues that nanotechnology can tackle.
- To provide young researchers a chance to express publicly their views, impressions and suggestions about their vision about impact of nanotechnology on human health and everyday life.



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Goals:

- To create a constructive discussion between students regarding the impact of nanotechnology on health.
- To know how to define, operationalize and construct QofL in the realm of nanotechnology.
- To indicate urgent health issues and possible solutions that nanotechnology can provide.

Learning objectives:

- Students will experience constructive discussion regarding important issues of nanotechnology, be introduced to the impact of nanotechnology on modern society and realize the complexity of nanotechnology.
- Students will have a better understanding of the main aspects of Nanomedicine in Healthcare.
- Students will be familiarized with the main health and safety issues surrounding nanoparticles and nanotechnologies. Insight into the cutting-edge research and actions to ensure safety, and therefore success, of nanotechnologies, will be provided.

Eligibility criteria:

The research workshop is open for young Master and PhD students from **all academic fields**.

The application must be sent before **September 10th**, 2016 to infoais3@gmail.com

Recognitions:

- All participants will get a signed certificate – recognized by all Universities in Serbia – for attending this research workshop.
- Participants will also get a signed certificate with a recommendation for **2 ECTS points** (recognized by all Universities in Serbia)

Publication:

Lecturers and all participants can contribute to the book “*Italia – Serbia: Nano for Health*” that will be jointly published by the University of Belgrade, AIS3 and the Italian Embassy. Written contributions must be submitted by January 31st, 2017. Templates and instructions for authors will be soon provided.



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Time schedule:

08:45 – 09:30 Registration

09:30 – 10:00 Opening Remarks

Ivanka Popović, Vice-Rector of the University of Belgrade

Representative of the Italian Embassy in Belgrade

Sanja Vraneš, Director of the Institute Mihailo Pupin

10:00 – 10:50 Opening session I

"What does QofL mean? Grab hold of the Nanoworld!" - **Ivanka Popović**, University of Belgrade, Serbia

"Nanotechnologies and the fourth industrial revolution - nanomaterials for health" - **Pavlović Vladimir**, Faculty of Agriculture, University of Belgrade, Serbia

10:50 – 11:10 Coffee break

11:10 – 12: 40 Opening session II

"Microenvironment-responsive MRI probes and their application in cell therapy follow-up" - **Giuseppe Digilio**, The University of Eastern Piedmont Amedeo Avogadro, Novara and Vercelli, Italy

"Biocompatibility and immunomodulatory properties of gold nanoparticles" - **Miodrag Čolić**, Military Medical Academy & SASA, Belgrade, Serbia

"Nanotechnologies in food packaging: expectations and concerns" – **Mario Malinconico**, Institute for Polymers, Composites and Biomaterials (IPCB-CNR), Pozzuoli, Italy

12:40 – 13:40 Lunch

13:40 – 15:10 Workshop Session I

"Nanocomposite systems as interfaces for "in vitro" oral cavity cell models" - **Amelia Cataldi**, Gabriele D'Annunzio University of Chieti Pescara, Chieti Pescara, Italy

"Carbon nanomaterials in nanomedicine" - **Aleksandar Đorđević**, Faculty of Sciences, University of Novi Sad, Serbia



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"Laser-generated iron-doped Au and Ag nanoparticles as multifunctional agents for nanomedicine and nanospectroscopy" - **Vincenzo Amendola**, University of Padova, Padova, Italy

"Designing magnetic nanomaterials for Biomedical Applications"- **Nikola Knežević**, Institute of Nuclear Sciences "VINCA", Belgrade, Serbia

15:10 – 15:30 Coffee break

15:30 – 17:00 Workshop Session II

"Spray-by-spray hydrogels containing a tea tree oil nanoemulsion for wound dressing" – **Gabriella Santagata**, Institute for Polymers, Composites and Biomaterials (IPCB-CNR), Pozzuoli, Italy

"Nano-fibers for blood vessels engineering" – **Ivana Gadanski**, Innovation Center at Faculty of Mechanical Engineering, University of Belgrade, Serbia

"The processing of different nanostructured bio-ceramic materials based on hydroxyapatite" – **Đorđe Veljovic**, Faculty of Technology and Metallurgy, University of Belgrade, Serbia

"Application of nanospectroscopy methods for evaluation of reaction mechanism between antitumor gold complexes with enzyme Na,K-ATPase" - **Vesna Vasić**, Institute of Nuclear Sciences "VINCA", Belgrade, Serbia

17:00 – 17:20 Coffee break

17:20 – 18:00 Closing session: Forum discussion and take home messages