



GrInShield

TWINNING FOR NEW GRAPHENE-
BASED COMPOSITES IN
ELECTROMAGNETIC
INTERFERENCE SHIELDING

4rt GrInShield Workshop

**Synthesis of carbon-based nanomaterials,
green approaches in their productions, and
gamma irradiation as a tool for their modification**

with a focus on various applications and training in the life cycle assessment



Atelier for meetings at Mama Shelter Belgrade,
KNEZA MIHAILA 54A, Uzun Mirkova 3,
Belgrade 11000, Serbia

Agenda



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July 16th, 2024.

Topic	Time
<i>Session 1. Welcome</i>	
Opening speech	
Presentation of Department of Radiation Chemistry and Physics 030 Dr. Dragana Marinković, head of Lab 030, a participant in the GrInShield project, VINCA, Serbia	9:00-9:20
GrInShield Presentation Dr. Svetlana Jovanović, coordinator of the GrInShield project, VINCA, Serbia	9:20-9:50
<i>Session 2. INTRODUCTION to carbon nanomaterials</i>	
Carbon-Based Nanomaterials – structure and properties Dr. Dejan Kević, a WP6 and WP7 leader in the GrInShield project, VINCA, Serbia	10:00-10:20
Classical synthetic approaches to obtaining GO, GQDs and other Dr. Marija Radiočić, GrInShield project participant, VINCA, Serbia	10:20-10:40
Coffee break	10:40-11:10
MicoWave Synthesis of Carbon Quantum Dots Dr. Jovana Prekodravac, a WP3 leader in the GrInShield project, VINCA, Serbia	11:10-11:30
<i>Session 3. How to modify the structure of carbon nanomaterials</i>	
Synthesis and modification of graphene oxide-based nanocomposites for electrochemical supercapacitors Dr. Zoran Jovanovic, VINCA, Serbia	11:30-12:00
Fullerene as an ideal model for carbon-based nanochemistry	12:00-12:30



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Dr. D. Milic, Faculty of Chemistry, Department of Organic Chemistry, Belgrade, Serbia

Gamma irradiation in the modification of carbon-based nanomaterials

12:30-12:50

PhD student Mila Milenković, a participant in the GrInShield project, VINCA, Serbia

Lunch

12:50-14:00

Nanomechanical and nanoelectrical properties of carbon quantum dots and gamma irradiated carbon nanotubes

14:00-14:30

Dr. Zoran Marković, a participant in the GrInShield project, VINCA, Serbia

Gamma irradiation in modification of chitosan

14:30-15:00

Dr. Danica Zmejkoski, a participant in the GrInShield project, VINCA, Serbia

Measurement of shielding efficiency of different materials- nanoscale approach

15:00-15:30

Prof. Dr. Kamel Haddadi, leader of the CNRS team in the GrInShield project, CNRS, Lille, France

Coffee break

15:30-15:45

Microwave sensors and systems, and the relevance of graphene in these devices

15:45-16:15

Dr. Christophe Loyez, CNRS Director of Research - Head of CSAM Research Group, IEMN/IRCICA, Institute of Electronic Microelectronic and Nanotechnology (IEMN), CNRS, and a participant in the GrInShield project, Lille, France

Session 4. Practical Application of carbon-based nanomaterials

Graphene-based nanomaterial - a new approach in the removal of heavy metals from water

16:15-16:45

Dr. Malcolm Watson Vanredni professor, Associate Professor · Department of Chemistry, Biochemistry and Environmental Protection, University of Novi Sad, Faculty of Sciences, Novi Sad, Serbia



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July 17th, 2024.

Topic	Time
<i>Session 1. Introduction to life cycle assessment</i>	
Prof. Dr. GRUESCU Ion Cosmin, University of Lille 1, Sciences and Technology, Lille, France	
Sustainable innovation	9:00-10:30
Coffee break	10:30-10:45
Ecodesign and environmental management of products and processes	10:45-13:15
Lunch	13:15-14:15
Principle and methodology of life cycle assessment	14:15-15:45
Coffee break	15:45-16:00
Case study	17:30
End	



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July 18th, 2024.

Topic	Time
<i>Session 1. Cytotoxicity of carbon nanomaterials and gamma rays</i>	
Cytotoxicity of carbon-based nanomaterials Dr. Marija Mojsin, Associate Research Professor, Laboratory for human molecular genetics, Institute of molecular genetics and genetic engineering (IMGGE), University of Belgrade, Belgrade, Serbia	9:00-9:30
Different assays applied for evaluation of cytotoxicity in vitro research Prof. Dr. Vladimir Jurisic, Faculty of Medical Sciences, University of Kragujevac, Kragujevac, Serbia	9:30-10:00
Coffee break	10:00-10:15
<i>Session 2. Practical application of carbon nanomaterials</i>	
StartUp graphene in photoacoustic Dirigent Acoustics Dejan Todorović, Managing Director, Science Technology Park Belgrade, Belgrade, Serbia	10:15-10:45
Single Atom Catalysts: Are They Really Single? doc. dr Ana Dobrota, National Awards winner within the thirteenth cycle of the L'Oréal-UNESCO program "For Women in Science" (2023), University of Belgrade - Faculty of Physical Chemistry, Belgrade, Serbia	10:45-11:15
GrInShield graphene in EMI shielding S. Jovanovic, coordinator of the GrInShield project, VINCA, Serbia	11:15-11:45
Green strategy of obtaining metallic nanoparticles anchored to graphene sheets, Dr. Dejan Kević, a WP6 and WP7 leader in the GrInShield project, VINCA, Serbia	11:45-12:15



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Lunch

12:15-13:45

Session 3. Measuring the electromagnetic fields at various scales, from space to nano level

Electromagnetic field - radio frequency radiation,

Prof. Dr. Dušan Mrđa, Laboratory for Radioactivity and Dose Measurements at the Faculty of Sciences, University of Novi Sad, Novi Sad, Serbia

13:45-14:15

Uncertainty in the measurement of electromagnetic field

Dr. Miloš Davidović, Department of Radiation and Environmental Protection, Vinca Institute of Nuclear Sciences, Belgrade, Serbia

14:15-15:00

Awarding Certificates and Coffee

15:00-15:30



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