

2nd World Congress on Recent Advances in Nanotechnology (RAN'17)

The congress consists of:

ICNNFC'17 2nd International Conference on
Nanomaterials, Nanodevices, Fabrication and Characterization

ICNB'17 2nd International Conference on Nanobiotechnology

ICNMS'17 2nd International Conference on
Nanotechnology Modeling and Simulation

NDDTE'17 2nd International Conference on
Nanomedicine, Drug Delivery, and Tissue Engineering

ICNEI'17 2nd International Conference on
Nanotechnology and Environmental Issues

*Registrants from the five conferences are permitted, and even encouraged,
to attend sessions from any of the five conferences.*

Tuesday

April 4, 2017

1:00 PM - 5:00 PM Workshop on Nanostructured Surfaces

*Dr. Vladimir A. Baulin, Universitat Rovira i Virgili, Spain
& Dr. Elena P. Ivanova, Swinburne University of Technology, Australia
Separate Registration Required

3:00 PM - 5:00 PM Registration

Wednesday

April 5, 2017

8:00 AM - 9:00 AM	Registration
9:00 AM - 9:15 AM	Official Opening of the Congress Dr. Wolfgang Ensinger
9:15 AM - 10:00 AM	KEYNOTE LECTURE Session Chair Dr. Wolfgang Ensinger In Silico Studies of the Mechanical Stimuli within Bone Tissue and Bone-Tissue-Engineered-Scaffolds <i>Dr. Clara Sandino</i> <i>Polytechnic University of Catalonia, Spain</i>
10:00 AM - 10:45 AM	KEYNOTE LECTURE Session Chair Dr. Wolfgang Ensinger Visible-Light-Driven Magnetic Nano-photocatalysts for the Degradation of Persistent Organic Pollutants <i>Dr. Irene M. C. Lo</i> <i>The Hong Kong University of Science and Technology, Hong Kong</i>
10:45 AM - 11:05 AM	COFFEE BREAK
11:05 AM - 12:25 PM	SESSION CHAIRS: Dr. Thirumany Sritharan Nanomaterials & Nanodevices: Fabrication & Characterization I
ICNNFC 141 11:05 - 11:25	The iNAPO Project: Biomimetic Nanopores for a New Generation of Lab-on-Chip Micro Sensors <i>Wolfgang Ensinger, Mubarak Ali, Saima Nasir, Ivana Duznovic, Christina Trautmann, Maria Eugenia Toimil-Molares, Giuseppa R. Distefano, Bodo Laube, Max Bernhard, Melanie Mikosch-Wersching, Helmut F. Schlaak, Mario El Khoury</i> <i>Technische Universität Darmstadt, Germany</i>
ICNNFC 120 11:25 - 11:45	Analytical Developments for the Characterization of Nanomaterials in Consumer Products, Environmental and Medicinal Samples <i>Menta Mathieu, De La Calle Inmaculada, Auger François, Klein Marlène, Séby Fabienne</i> <i>ADERA, France</i>
ICNNFC 126 11:45 - 11:55	A Frequency Comb Transferred by Surface Plasmon Resonance <i>Xiao Tao Geng, Young-Jin Kim, Seungchul Kim, Dong Eon Kim</i> <i>Postech and Max Planck Postech, Korea</i>

Wednesday

April 5, 2017

ICNNFC 121 **Growth of ZnO Nanorod Film on Glass Substrate by Nitric Acid Assisted Aqueous Solution Deposition**
11:55 - 12:15

Ming-Kwei Lee, Mu-Kai Wang, Hao-Yu Wang, Chang-Chin Tsai, Cheng-Yu Kung, Chia-En Yang, Huan-Chi Lung
Chung Yuan Christian University, Taiwan

ICNNFC 143 **Phase evolution during synthesis of nanocrystalline multicomponent (Co,Cu,Mg,Ni,Zn)O metal oxides with varying ZnO content**
12:15 - 12:25

Nandhini J U, *Nantakumar R*, S.S. Bhattacharya
Indian Institute of Technology Madras, India

12:25 PM - 1:30 PM LUNCH

1:30 PM - 2:15 PM **KEYNOTE LECTURE**

Session Chair
Dr. Irene M. C. Lo

Tailor-Making Chalcopyrite Alloys for 100-Nm Thin Solar Cells

Dr. Clas Persson
University in Oslo, Norway

2:15 PM - 3:00 PM **KEYNOTE LECTURE**

Session Chair
Dr. Irene M. C. Lo

Casimir Forces in MEMS/NEMS: Influence of Nanoscale Surface Roughness and Material Optical Properties

Dr. G. Palasantzas
University of Groningen, The Netherlands

3:00 PM - 3:20 PM COFFEE BREAK

3:20 PM - 5:10 PM **SESSION CHAIR:** Dr. G. Palasantzas

Nanomaterials & Nanodevices: Fabrication & Characterization II

ICNNFC 134 **Design of Solution-Processed ZnO/SnO₂ Heterostructures for High Performance Thin Film Transistors**
3:20 - 3:30

Sooji Nam, Soyeon Cho, Jong-Heon Yang, Myung-Lae Lee, Chi-Sun Hwang
Electronics and Telecommunications Research Institute, Korea

ICNNFC 142 **AnO₂ Nanocrystals via Hydrothermal Decomposition of Actinide Oxalates**
3:30 - 3:50

Olaf Walter, Karin Popa, Luca Balice, Oliver Dieste Blanco, Philippe E. Raison, Laura Martel, Mohamed Naji, and Marco Cologna
European Commission, DG Joint Research Centre, Germany

Wednesday

April 5, 2017

ICNNFC 118 **Investigation of Photocarrier Losses in Pyrite (FeS₂) Film Consisting Single
3:50 - 4:10 Crystal Nanocubes**

Sudhanshu Shukla, *Thirumany Sritharan*, Xiong Qihua, Tze Chien Sum, Guichuan Xing, Nripan Mathews, Hu Ge, Thirumalai Venkatesan, Sinu Mathew, Su Zhenghua, Venkatram Nalla

Nanyang Technological University, Singapore

ICNNFC 115 **Management Innovation in Nanotechnology Sector:
4:10 - 4:30 The First Insights in México**

Juan Mejía-Trejo, Zaira Yunuen Garcia-Carvajal, Gilberto Israel González –Ordaz
Universidad de Guadalajara, Mexico

ICNNFC 131 **Low-Cost, Energy-Saving Plasma Method for Preparation of Inorganic
4:30 - 4:40 Submicron Fibers**

Veronika Medvecká, Dušan Kováčik, Anna Zahoranová, Mirko Černák
Comenius University in Bratislava, Slovakia

ICNEI 105 **Sub-Microns NaCl-TiO₂ Particles to Improve the Rain
4:40 - 4:50 Enhancement as Cloud Seeding**

Nabil EL Hadri, Abdelali Zaki, Marie Vargas, Linda Zou, Mustapha Jouia
Masdar Institute of Sciences and Technology, Abu Dhabi

ICNEI 106 **Cu(II)-Imprinted Nanoparticles for Real Time Detection
4:50 - 5:00 of Cu(II) Ions**

Müge Andaç, Nihan Aydoğan, Monireh Bakhshpour, Adil Denizli
Hacettepe University, Turkey

NDDTE 123 **Metronomic Nanocaged Doxorubicin Prevents Chemoresistance and
5:00 - 5:10 Cardiotoxicity in Breast Cancer**

Serena Mazzucchelli, Marta Truffi, Michela Bellini, Maria A. Rizzuto, Davide Prospero, Fabio Corsi

University of Milan, Italy

Thursday

April 6, 2017

9:00 AM - 9:45 AM **KEYNOTE LECTURE**

Session Chair
Dr. Wolfgang Ensinger

Designing Membrane-Active Nanoparticles: What are the Control Parameters?

Dr. Vladimir Baulin
Universitat Rovira i Virgili, Spain

9:45 AM - 10:30 AM **KEYNOTE LECTURE**

Session Chair
Dr. Wolfgang Ensinger

Towards Safe Biomimetic Nanotechnology: Inspirations from Nature

Dr. Ille C. Gebeshuber
Vienna University of Technology, Austria

10:30 AM - 11:00 AM **COFFEE BREAK**

10:30 AM - 12:00 PM **Poster Session**

ICNNFC 106 **Specular reflection structural colors effect for nano hole array of various depth and by light source**

Woong Ki Jang, Young Ho Seo, Byeong Hee Kim
Kangwon National University, South Korea

ICNNFC 111 **Mechanical cell disruption using hierarchical micro-nano structures on nanoporous alumina filter**

Yong Hun Lee, *Eui Don Han*, Yong Min Park, Byeong Hee Kim, Young Ho Seo
Kangwon National University, South Korea

ICNNFC 112 **Activity Test with Various AlF_3 Nano-Structure for Catalytic Hydrolysis of NF_3**

No-Kuk Park, Yong Han Jeong, *Tae Jin Lee*
Yeungnam University, South Korea

ICNNFC 113 **Redox Property of Cu-Fe Based Oxygen Carriers Promoted with MnO_2**

Yong Han Jeong, No-Kuk Park, *Tae Jin Lee*, Si Ok Ryu, Misook Kang, Jeom-In Baek, Ho-Jung Ryu
Yeungnam University, South Korea

ICNNFC 129 **A Fabrication Process for Nanopatterns Shrinkage with Variable Sizes for Large Area**

Shuhao Si, Lars Dittrich, Martin Hoffmann
Technische Universität Ilmenau, Germany

Thursday

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- ICNNFC 136 **Harnessing PET Wastes by Compounding with Functionalized Flax**
Denisa Ficai, Maria Sonmez, Anton Ficai, Ioana Lavinia Ardelean, Ecaterina Andronescu
Politehnica University of Bucharest, Romania
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- ICNNFC 137 **Design of TiO_xN_y for Developing Layered Stent Technology**
Anton Ficai, Maria Sonmez, Roxana Doina Trusca, Bogdan Stefan Vasile, Denisa Ficai, Ecaterina Andronescu
Politehnica University of Bucharest, Romania
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- ICNNFC 144 **Layered Composites Based on Recycled PET/Functionalized Woven Flax Fibres**
Sönmez Maria, Alexandrescu Laurentia, Nituica Mihaela, Georgescu Mihai, Gurau Florentina Dana, Ficai Denisa, Ficai Anton, Trusca Roxana, Constantinescu Doina
National Research & Development Institute for Textiles and Leather–division: Leather and Footwear Research Institute, Romania
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- ICNB 115 **The Effect of Silver Nanoparticles on the Scavenger Receptor-Scara1 on Microglia.**
Katarzyna Sikorska, Iwona Grądzka, Iwona Wasyk
Institute of Nuclear Chemistry and Technology, Poland
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- ICNB 116 **Interference of Silver Nanoparticles with Tumor Necrosis Factor Action in Epithelial Cells**
Iwona Grądzka, Katarzyna Sikorska, Kamil Brzóska
Institute of Nuclear Chemistry and Technology, Poland
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- ICNB 113 **Ultraflat, Ultraclean Au Nanoplate for Supersensitive Detection of Anti-CCPs**
Eungwang Kim, Hyoban Lee, Bongsoo Kim
KAIST, South Korea
-
- ICNMS 106 **Photocatalytic Activity of Er-TiO₂ Nanocomposite**
Ewelina Wyrzykowska, Alicja Mikołajczyk, Joanna Nadolna, Tomasz Puzyn
University of Gdansk, Poland
-
- ICNMS 107 **Combined Experimental and Computational Approach to Develop Efficient Photocatalysts based on RE-TiO₂ Nanoparticles**
Alicja Mikołajczyk, Joanna Nadolna, Adriana Zalewska-Medynska, Tomasz Puzyn
University of Gdansk, Poland
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NDDTE 105 **Synthesis and Characterization of NIR Dye-Doped Nanoparticles for in vivo Tumor Diagnostics**

*Christine Schneider, Sofia Dembski
University Hospital Wuerzburg, Germany*

NDDTE 110 **The Effect of Chitosan on Rat Olfactory Neuroepithelium Cells**

*Sheng-Tien Li, Tai-Horng Young, Tsung-Wei Huang
National Taiwan University, Taiwan*

NDDTE 114 **3D Printed Human Auricular Model for Tissue Engineering**

*Evren Homan Gökçe, Armağan Yalçın, Damla Ece Tapınç, Fadime Aydın Köse
Ege University, Turkey*

NDDTE 121 **A Novel Alternative for the Treatment of Diabetic Foot Wounds:
A Three Dimensional Porous Dermal Matrix**

*Evren H. Gokce, Sakine Tuncay Tanrıverdi, Ipek Eroglu, Nicolas Tsapis, Goksel Gokce, Elias Fattal, Ozgen Ozer
Ege University, Turkey*

NDDTE 116 **Anti-CD19 Gold Nanostars as New Therapeutic Vectors for the Treatment of Acute Lymphoblastic Leukemia**

*Andra-Sorina Tatar, Timea Nagy-Simon, Ancuta Jurj, Ioana Berindan-Neagoe, Ciprian Tomuleasa, Dana Cialla-May, Simion Astilean, Sanda Boca
Babes-Bolyai University, Romania*

ICNEI 102 **White Light Scanning Interferometry for Nano Surface Metrology**

*ByoungChang Kim, TaeHyun Kim, SunHyuck Kim, ChangKyu Kim, HyungSuk Lee
Kyungnam University, South Korea*

ICNEI 109 **Polyamide Nanofiber Composites for Organic Pollutant Removal and Chemical Warfare Protection**

*Junho Chung, Dae-Yeon Won, Junhyung Lee, Seung-Yeop Kwak
Seoul National University, South Korea*

11:00 AM - 12:00 PM **SESSION CHAIR:** Dr. Mariko Kawai

Nanomaterials & Nanodevices: Fabrication & Characterization III

ICNNFC 135 **Inorganic Ligand-Capped Colloidal Nanocrystals for Electronic Device Application**
11:00 - 11:10

*Jaeyoung Jang
Hanyang University, South Korea*

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ICNNFC 109 **Characterization of Oleophobic Functional Surfaces Fabricated by Thermal Imprinting Process**
11:10 - 11:20

Kwang-Jin Bae, Wenhui Yao, *Young-Rae Cho*
Pusan National University, South Korea

ICNNFC 101 **A Reprogrammable Universal Logic Gate Based on a Nano Cantilever Resonator**
11:20 - 11:30

K. N. Chappanda, S. Ilyas, S. N. R. Kazmi, J. Holguin, P. M. F. J. Costa, *M. I. Younis*
King Abdullah University of Science and Technology, Saudi Arabia

ICNMS 101 **Computational Study on the Nanotubes Formation between Olsalazine and β -Cyclodextrin**
11:30 - 11:40

Abdulilah Dawoud Bani-Yaseen
Qatar University, Qatar

ICNMS 105 **A Theoretical-Experimental Comparison of CdSe Quantum dot Optical Properties Using Density Functional Theory**
11:40 - 11:50

Ignacio Gonzalez Oliva, Sandra Alvarenga, Carlos Rudamas
Universidad de El Salvador, El Salvador

ICNEI 108 **Degradation of Organic Pollutants by ZnO Decorated Fe_3O_4/rGO Nanocomposite**
11:50 - 12:00

Devi Prashad Ojha, Mahesh Kumar Joshi, Han Joo Kim
Chonbuk National University, South Korea

12:00 PM - 12:05 PM CONGRESS PHOTO

12:05 PM - 1:15 PM LUNCH

1:15 PM - 2:00 PM **KEYNOTE LECTURE**

Session Chair: **TBA**
Dr. Abdulilah Dawoud
Dr. Claudia Delgado Simão
Eurecat, Spain

2:00 PM - 3:10 PM **SESSION CHAIR:** Dr. Vladimir Baulin
Nanotechnology and Biomedical Applications

Thursday

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NDDTE 111 **Cell Population of Mesenchymal Stem Cells on Micro-Patterned Titanium**
2:00 - 2:20
Mariko Kawai, Noriyuki Nagaoka, Yasuhiro Yoshida, Kiyoshi Ohura
Osaka Dental University, Japan

NDDTE 125 **Optimization of Micromagnetic Separation for Bacteremia Treatment**
2:20 - 2:40
Stephen Petty Valenzuela, Sinead Miller, Charleson Bell, *Todd Giorgio*
Vanderbilt University, USA

NDDTE 117 **Process Development for the Identification of novel Microbodies Against NSCLC Related Targets**
2:40 - 2:50
Bonny Gaby Lui, Joycelyn Wüstehube-Lausch, Hans-Ulrich Schmoltdt, Matin Daneschdar, Ugur Sahin
BioNTech RNA Pharamceuticals, Germany

ICNB 106 **Green Manufacturing of Core-Shell Polyvinyl Alcohol-Gelatin Electrospun Nanofiber Scaffolds**
2:50 - 3:00
Mustafa Şengör, Mehmet Ali Gulgun, Sabri Altıntaş
Bogazici University, Turkey

NDDTE 102 **Multifunctional Nanoparticles for Medical Applications**
3:00 - 3:10
Sofia Dembski, Christine Schneider, Marion Straßer, Bastian Christ, Joern Probst,
Christine Schneider
University Hospital Wuerzburg, Germany

3:10 PM -3:30 PM COFFEE BREAK

3:30 PM - 4:20 PM **SESSION CHAIR:** Dr. Todd Giorgio
Drug Delivery & Tissue Engineering

NDDTE 113 **Mucoadhesive Pectin-Based Cross-Linked Microgels**
3:30 - 3:40
Dmitrii A. Tolstykh, Ksenia V. Kozhikhova, Maxim A. Mironov
Ural Federal University, Russia

NDDTE 118 **Structure-Function Correlation in Novel Nanomedicines for RNA Delivery**
3:40 - 3:50
Sara S. Nogueira, *Jorge Moreno*, Heinrich Haas, Kerstin Reuter, Stephanie Erbar, Peter Languth, Ugur Sahin
BioNTech RNA Pharamceuticals, Germany

NDDTE 115 **Cellular Uptake of Fibroin Micro/Nanoparticles as a Method for Three-Dimensional Culture under Magnetic Levitation Conditions**
3:50 - 4:00
Jae Kwon Shim, *Won Hur*
Kangwon National University, South Korea

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NDDTE 108 **Considerable Anti-tumour Effect of Nanoparticle-Bound Doxorubicin
4:00 - 4:10 Against 4T1 Metastatic Breast Cancer in Mice**

Yulia Malinovskaya, Svetlana Gelperina, Olga Maksimenko, Vladimir Baklaushev
R-Pharm Drugs Technology Ltd., Russia

NDDTE 109 **Distinct Effects of Topical Nitroglycerol on Brain Delivery of Free and
4:10 - 4:20 Nanoparticle-Bound Drugs in Rodents**

Anna Alekseeva, Alexander Khalansky, Olga Maksimenko, *Nadezhda Osipova,*
Kenul Abbasova, Joerg Kreuter, Svetlana Gelperina
Drugs Technology Ltd., Russia

7:00 PM - 9:00 PM **Closing Ceremony**