

Workshop Programme

Tuesday, April 17

18:00 – 21:00 Registration and get-together

Wednesday, April 18

8:00 – 8:50 Registration

8:50 – 9:00 Opening

SESSION 1 (9:00 – 10:30; chair J. Petzelt)

9:00 – 9:40 I1 - S. Veprek, invited
Mechanical properties and origin of the superhardness in nc-TiN/a-Si₃N₄ and related nanocomposites

9:40 – 10:20 I2 - T. McNally, invited
Composites of polymers and nano-‘fillers’

10:20 – 10:50 Coffee break

SESSION 2 (10:50 – 12:30; chair M. Pizzi)

10:50 – 11:10 O1 - E. Barkanov
Nondestructive testing of the mechanical properties of nanocomposites

11:10 – 11:30 O2 - S. Shelestiuk
Effective Young’s modulus for polyurea elastomer filled with inorganic MoS₂ nanotubes and Mo₆S₂l₈ nanowires

11:30 – 11:50 O3 - V. Samulionis
Ultrasonic relaxation in polyurea elastomer composites with inorganic nanotubes and nanowires

11:50 – 12:10 O4 - A. Baklavaridis
PP-graft maleic anhydride as compatibilizer and its effect on the mechanical properties of PP blend/WS₂ nanocomposites

12:10 – 12:30 O5 - C. Noberi
Synthesis and characterization of multi-walled CuO and TiO₂ nanotubes by hydrothermal method

12:30 – 14:00 Lunch

SESSION 3 (14:00 – 15:20; chair V. Reshetnyak)

14:00 – 14:40 I3 - K. N. Rozanov, invited
Frequency-dependent effective material parameters of composites as a function of inclusion shape

14:40 – 15:20 I4 - R. Pelster, invited
On the quality of electrical contacts between carbon nano-tubes or nano-fibers in composite-materials

15:20 – 16:00 Coffee break + poster session

SESSION 4 (16:00 – 18:00; chair T. McNally)

16:00 – 16:20 O6 - M. Labardi
Nanoscale electrical properties investigation of PVP/Mo₆S₂I₃₋₄ nanocomposite electrospun single fibers

16:20 – 16:40 O7 - W. Kuznik
Simulations of non-linear susceptibilities of polyimide-fullerene nanostructured materials

16:40 – 17:00 O8 - B. Paci
Composites materials of inorganic nanostructures and polymers for efficient organic photovoltaics: evidences of enhanced interface morphology and photovoltaic stability

17:00 – 17:20 O9 - T. Di Luccio
Effect of WS₂ nanotube addition on P3HT structural and optical properties

17:20 – 17:40 O10 - P. Lobotka
Preparation of nanoparticles by sputtering of a material on the surface of ionic liquid

17:40 – 18:00 O11 - A. Zak
Tribological properties of epoxy resin composite with inorganic WS₂ nanoparticles

19:00 Dinner

Thursday, April 19

SESSION 5 (8:30 – 9:50; chair J. Hlinka)

8:30 – 9:10 I5 - S. M. Nakhmanson, invited
Electroactive nanotube and polymer compounds by first principles design

9:10 – 9:50 I6 - H. Němec, invited
Charge transport in nanostructured semiconductors investigated by terahertz spectroscopy

9:50 – 10:30 Coffee break + poster session

SESSION 6 (10:30 – 12:30; chair M. Glogarová)

10:30 – 10:50 O12 - M. Remškar
Atomic scale measurement of friction on a single MoS₂ nanotube in relation with macroscopic testing on polymer nanocomposites

10:50 – 11:10 O13 - E. Stratakis
Field emission properties of polymer-inorganic nanocomposites

11:10 – 11:30 O14 - P. M. Racolta
Nanostructured layers studied by positron annihilation spectroscopy

- 11:30 – 11:50 O15 - N. Topnani
ZnO and TiO₂ nanostructures used as dopants in liquid crystal polymers
- 11:50 – 12:10 O16 - N. Podoliak
Magnetite nanorod-nematic liquid crystal suspensions
- 12:10 – 12:30 O17 - P. Kunzo
Polyaniline/TiO₂ nanocomposites with in-situ polymerization approach for chemiresistive gas sensors
- 12:30 – 14:00 Lunch

SESSION 7 (14:00 – 15:20; chair A. Zak)

- 14:00 – 14:40 I7 - M. Haluška, invited
SWCNT synthesis, characterization and integration into sensors
- 14:40 – 15:20 I8 - M. Pizzi, invited
Nanomaterials: the enabling technology of novel sensing devices
- 15:20 – 15:50 Coffee break

SESSION 8 (15:50 – 17:00; chair W. Schranz)

- 15:50 – 16:10 O18 - R. Torre
Non-linear spectroscopy for nanocomposite investigations
- 16:10 – 16:30 O19 - I. Kityk
Photoinduced absorption kinetics in silica-coumarine core shell nanoparticles
- 16:30 – 16:50 O20 - J. Stegen
Mechanics and kinetics of nanotube scission under sonication
- 16:50 Closing

Friday, April 20

- 8:30 – 11:30 **Management Committee Meeting (chair I. Drevenšek-Olenik)**