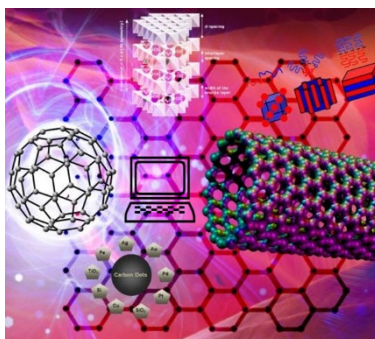


# **Institute of Chemical Engineering**

**1<sup>ST</sup> SEMINAR**

**ON**

**INVESTIGATIONS AND MODELING OF  
NANOCOMPOSITES STRUCTURES**



## **PROGRAM**

**25 APRIL, 2023**

**Institute of Chemical Engineering**

**Acad. G. Bontchev Str, Bl. 103, Sofia, Bulgaria**



**Tuesday, 25<sup>th</sup> April, 2023**

Foyer on the  
2<sup>st</sup> floor

08:45-09:15 Registration of participants

Hall on the  
2<sup>nd</sup> floor

09:15 - 09:30 Opening session – Assoc. Prof. Dr. T. Petrova

09:30 - 10:15 Plenary lectures  
Chairman Assoc. Prof. Elisaveta Kirilova  
PL-01: Available settings for stress analysis  
and strength assessment of (nano-) composites  
*Prof. Dr.-Ing. Wilfried Becker*

10:15 - 11:00 PL-02: Nano-cracks interaction in a  
functionally graded piezoelectric half-plane  
*Prof. DSc Tsviatko Rangelov*

11:00 - 11:30 Coffee Break

11:30 - 12:15 Plenary lectures  
Chairman Assoc. Prof. Elisaveta Kirilova  
PL-03: Analytical modeling of stresses and  
strains for nanocomposite structures -  
opportunities and challenges  
*Assoc. Prof. Tatyana Petrova*

12:15 - 12:45 Plenary lectures  
PL-04: Conversions of sulfide ions in sulfide-  
driven fuel cells by nano-scale catalysts  
*Prof. DSc Venko Beshkov*

12:45 – 14:00 Lunch time

14:00 – 14:20 Key lecture  
Chairman Assoc. Prof. Tatyana Petrova  
KL-01: Influence of magnitude of applied  
static axial load and the length of three-layer  
tungsten disulphide (WS<sub>2</sub>)/SU-8/polymethyl

methacrylate (PMMA) nanocomposite  
structure on its interface delamination  
*Assoc. Prof. Elisaveta Kirilova*

- 14:20 – 14:40 KL-02: Geometry and mechanical load effect  
on the delamination in a graphene  
nanocomposite under axial load  
*Assist. Apostol Apostolov*
- 14:40 – 15:00 KL-03: Principal component analysis for  
study of mechanical characteristics of polymer  
dental composites for preliminary non-  
removable prosthetics with reinforcing threads  
and glass fibers  
*Assist. Stefan Rangelov*
- 15:00 – 15:40 Coffee Break
- 15:40 – 16:50 Poster session for young scientists, PhD and  
Postdoc students, Students
- 16:50 – 17:00 Closing ceremony