



National Technical University “Kharkiv Polytechnic Institute” (Kharkiv, Ukraine)

Cross-Cultural Communication and Foreign Language Department

Buckinghamshire New University (Buckinghamshire, the United Kingdom)

Business and Law School

AN INNOVATIVE MODEL OF RESEARCH PROJECTS

AIMED AT THE INTEGRATION OF

UKRAINE INTO THE EUROPEAN SCIENTIFIC SPACE

An Annual International PhD Conference

(April 30, 2026)

PROGRAMME

Kharkiv, 2026

Opening ceremony

Key speakers:

1. **Tetyana Sergeyeva** (Professor, DSc, National Technical University “Kharkiv Polytechnic Institute”, Kharkiv, Ukraine). Welcoming Speech.
2. **Dorin Festeu** (Professor, Buckinghamshire New University, Business and Law School Director, Buckinghamshire, the UK). Welcoming Speech.
3. **Mathew Tong** (Professor, senior lecturer, Business and Law School, Buckinghamshire New University, Buckinghamshire, the UK). Welcoming Speech.

Participants of National Technical University “Kharkiv Polytechnic Institute”, Kharkiv, Ukraine:

1. **Lohvinov Viacheslav**. EFFECTS OF AMMONIUM HYDROXIDE-BASED FUEL BLENDS ON THE ENVIRONMENTAL PERFORMANCE OF INTERNAL COMBUSTION ENGINES
2. **Malyniak Andrii**. VISUAL ACCURACY CONTROL SYSTEM FOR GANTRY-TYPE ADDITIVE EQUIPMENT FOR CONSTRUCTION PURPOSES
3. **Nahorny Anton**. INFLUENCE OF TRANSIENT OPERATIONAL MODES AND LOW-TEMPERATURE FOULING ON THE EFFICIENCY OF HEAT EXCHANGERS IN HYBRID VEHICLES
4. **Ushakov Matvii**. OPTIMIZATION OF TURBINE BLADE PROFILES USING NEURAL NETWORK METHODS
5. **Shevchenko Kostiantyn**. WAYS TO IMPROVE DESIGNS, STRUCTURES, AND TECHNICAL CHARACTERISTICS OF NPP STEAM GENERATORS BASED ON MATHEMATICAL MODELING OF THEIR HEAT TRANSFER AND HYDRODYNAMIC PROCESSES
6. **Selivanov Ivan**. CHALLENGES OF BATTERY SAFETY IN MODERN CITY TRAFFIC
7. **Reshetniak Yevhenii**. ENSURING NAVIGATION DATA INTEGRITY FOR EARTH SATELLITES DURING GNSS OUTAGES
8. **Chystiakov Artem**. X-RAY SCATTERING AS A MONITOR FOR HEAVY METALS OXIDATION
9. **Ishchenko Igor**. AN INTERPRETABLE TRANSFORMER APPROACH TO SURVIVAL PRE-DICTION WITH COMPETING RISKS
10. **Sarkisov Serhii**. SYNTHESIS OF PARAMETERS FOR ELECTROMECHANICAL TRANSMISSION OF A WHEELED TRACTOR
11. **Konshyna Hanna**. IMPROVEMENT OF METHODOLOGY FOR DETERMINING RESOURCE STRENGTH OF FORCED DIESEL ENGINE PISTONS CONSIDERING REGIONAL OPERATING CONDITIONS
12. **Romanov Borys**. REDUCTION OF THE THERMAL IMPACT OF TRANSPORT POWER PLANTS IN DENSE URBAN AREAS BY MEANS OF ORGANIZATIONAL AND TECHNICAL MEASURES
13. **Natarov Mykyta**. APPLICATION OF MACHINE LEARNING METHODS FOR QUALITY ASSESSMENT OF ROLL-FORMED BENT METAL PROFILES

14. **Dolia Vladyslav.** INTEGRATION OF ADVANCED REVERSE ENGINEERING AND CAE-ANALYSIS METHODS AS AN INNOVATIVE MODEL FOR LIFECYCLE SUPPORT OF CRITICAL GAS TURBINE ENGINE COMPONENTS
15. **Koptiev Mykyta.** FORMATION OF SURFACE LAYERS WITH CONTROLLED FUNCTIONAL PROPERTIES
16. **Hladkykh Dmytro.** THE TRANSITION TO SPATIALLY ADAPTIVE REGULARIZATION IN IMAGE RESTORATION
17. **Holovnia Oleksii.** ANALYTICAL ALGORITHM FOR NON-HOLONOMIC SYSTEM DYNAMICS IN QUASI-COORDINATES AND QUATERNIONS

BREAK (30 minutes)

18. **Vyrovets Lyudmila.** THE ROLE OF PROFESSOR B. V. KLYMENKO IN THE INTEGRATION OF NTU “KHPI” INTO THE BOLOGNA PROCESS
19. **Arutiunian Dmytro.** MODERN ASPECTS OF FAT MODIFICATION
20. **Dikhtiarenko Oleksandr.** INFORMATION TECHNOLOGY OF AUTOMATED VEHICLE LOADING PLANNING BASED ON INTEGER LINEAR PROGRAMMING
21. **Lohachov Ivan.** OPTICAL MANAGEMENT OF RESONANT STATES IN 1D PHOTONIC CRYSTAL MICROSTRIP STRUCTURES
22. **Lytviniuk Dmytro.** STUDY OF THE EFFECT OF HYDROGEN PLASMA IRRADIATION ON THE STRUCTURAL-STRESS STATE AND POROSITY FORMATION IN W/STEEL AND QC/W/STEEL COATING SYSTEMS
23. **Khmelyk Stanislav.** INNOVATIVE APPROACHES TO FORMING BARRIER LAYERS ON MULTI-ELEMENT METAL SYSTEMS FOR ADVANCED EUROPEAN INDUSTRIES
24. **Isichenko Oleksandr.** ENHANCING THE STABILITY OF ENGINEERING WORKPIECES DURING UPSETTING BETWEEN FLAT ROUGH PLATES
25. **Hasanov Reshad.** SYNTHESIS OF A PNEUMATIC DRIVE WITH AN ENERGY-SAVING STRUCTURE
26. **Levadnyi Olekdandr.** OVERVIEW OF MODEL PREDICTIVE CONTROL METHODS IN THE OPERATION OF A MODERN FOUNDRY
27. **Polshykov Mykhailo.** OPTIMIZATION OF ENERGY EFFICIENCY IN THERMAL GRAIN DRYING SYSTEMS USING SOLAR COLLECTOR TECHNOLOGIES
28. **Shabelnyk Oleksandr.** DEVELOPMENT OF EQUIPMENT FOR AERODYNAMIC DRYING SYSTEMS TO IMPROVE THEIR EFFICIENCY
29. **Kibysh Serhii.** NEURAL NETWORKS FOR CASTING PROCESS PREDICTION AND OPTIMIZATION
30. **Kirsanov Olexiy.** WAYS TO INCREASE THE THERMAL EFFICIENCY OF CONTINUOUS GLASS-MELTING FURNACES
31. **Lim Ihor.** ANALYSIS OF APPROACHES TO MODELING THE INTERACTION OF PNEUMATIC TIRES WITH THE SUPPORTING SURFACE
32. **Shevchenko Pavlo.** PREPARING FUTURE SPECIALISTS IN THE SOCIONOMIC SPHERE FOR THE ORGANIZATION OF SOCIO-COMMUNICATIVE INTERACTION
33. **Klochko Vadym.** TRANSFORMATION OF THE LABOR MARKET UNDER THE INFLUENCE OF ARTIFICIAL INTELLIGENCE: A SOCIOLOGICAL ANALYSIS
34. **Nesterov Dmytro.** DEVELOPMENT OF METHODS FOR ECONOMIC ASSESSMENT OF THE INFORMATION POTENTIAL OF INDUSTRIAL ENTERPRISES
35. **Leonov Valentyn.** ROLE-PLAYING GAMES IN THERAPY: FROM EARLY ROLE-PLAY PRACTICES TO TARPGE AND RESILIENCE DEVELOPMENT

36. **Lashkov Andrii.** ENHANCING PROCESS CONTROL IN MODERN PASTA MANUFACTURING
37. **Lebedynets Andrii.** POWER QUALITY IMPROVEMENT OF GRID TIED SOLAR INVERTER IN UNDERLOAD ZONE USING THE ADAPTIVE PWM FREQUENCY
38. **Lyska Serhii.** FUZZY LOGIC SYSTEM FOR DETERMINING THE INFLUENCE OF TECHNOLOGICAL FACTORS ON HARD CHEESE QUALITY
39. **Olenych Pavlo.** HARDWARE-SOFTWARE INERTIAL GAIT ANALYSIS SYSTEMS IN REHABILITATION AFTER LOWER-LIMB AMPUTATION: A REVIEW OF APPROACHES AND THE PROBLEM STATEMENT OF DATA PROCESSING FOR FEEDBACK FORMATION
40. **Zinchenko Vladyslav.** ECOLOGICAL STATE OF WATER BODIES IN THE WAR ZONE AND TRANSFORMATION OF BIODIVERSITY
41. **Lebets Serhii.** SYNTHESIS AND CHARACTERISTICS OF NANOSTRUCTURED ALKALINE-EARTH METAL TITANATES
42. **Misyk Yaryna.** FUNCTIONAL ZONING OF NATIONAL PARK TERRITORIES AND FEATURES OF THE USE OF NATURAL RESOURCES IN DIFFERENT FUNCTIONAL ZONES
43. **Derkachov Nikita.** IMPACT OF MILITARY ACTIONS ON WATER RESOURCES IN UKRAINE