## **Research Topics Proposals for NTUST – CTU Research Cooperation**

## (as approved by NTUST and CTU by email on 28.April 2021)

- 1. Nanotechnology and Advanced Materials
- 2. Advanced Measurements and Plasma Technologies
- 3. Advances in Processing and Manufacture of Electronic and Electrical Components
- 4. Optical Engineering and Imaging Sensing Techniques
- 5. Deteriorations and Retrofitting Techniques for Civil Engineering Structures
- 6. Emerging Fields and New Technologies
- 7. Industrial Management and Design
- 8. Smart Cities
- 9. Energy efficient production
- 10. Artificial intelligence methods applied to biomedical field
- 11. Efficient man-machine cooperation
- 12. Intelligent transport systems
- 13. Innovative methods in transport safety analysis
- 14. Cooperative and automated vehicles
- 15. Traffic simulation
- 16. Travel behavior
- 17. Applied VR and Interactive Simulation (HMI/HCI)
- 18. Semiconductor radiation detectors
- 19. Mobile and wireless networks

20. Artificial intelligence (AI) - robotics, cybersecurity, game theory, planning, mobility, optimization and machine learning

21. Computer graphics - realistic rendering, physically based appearance models, efficient data structures for image synthesis, real time rendering of large scenes, procedural modeling of buildings and cities, image manipulation and processing, and virtual and augmented reality

22. Neural Architecture/Architectural Intelligent Adaptive Systems