ΔΙΑΛΕΞΗ

Το εργαστήριο Αυτοματοποίησης και Ρομποτικής
του Τμήματος Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών ΑΠΘ
σας προσκαλεί στη διάλεξη του:

Prof. Andrey Stoyanov Yonchev

Technical University Sofia - Bulgaria
Faculty of Automatics, ELFL
Department of Systems and Control

με θέμα:

Multivariable Systems with Uncertainties – Control and Applications

Η εκδήλωση θα πραγματοποιηθεί στην **Αίθουσα 8 – Πτέρυγα Διδασκαλίας Τμήματος Ηλεκτρολόγων Μηχανικών και Μηχανικών Υπολογιστών, Πολυτεχνική Σχολή, Α.Π.Θ. Δευτέρα 19/05/2025, στις 12:00.**

Περίληψη: In my presentation different multivariable systems: an analogous system, miniature helicopter and hydro generator, will be considered. Their mathematical models will be presented and then robust - H-infinity and Mu controllers will be designed. Based on the designed controller's robust stability and robust performance will be investigated in the frequency domain. Time responses will be presented of the considered closed loop systems in order to show that desired performance specifications are achieved and that stability is ensured. For the hydro generator system Linear Matrix Inequality Model Predictive Control law will be designed and performance of the investigated system will be studied.

Bio: Andrey Stoyanov Yonchev (10.11.1977г., София) – **engineer** in Automatics, an **associate professor** since *(2013г.)*. Finishes Technical University in Sofia, Bulgaria in (*2001г.*), Faculty of Automatics and English Language Faculty. **International experience**: Institute in Systems Theory and Technical Processes, University of Stuttgart, Germany base (*2003-2004*), University of Genoa, Savona – Genoa, Italy, 2008, University of Odense, Denmark, 2011. Erasmus teaching assignment program in Portsmouth University, Portsmouth – UK, 2009; University of Pamplona, Spain, 2012; University of Aveiro, Portugal, 2013; University in Izmir, Turkey,2014; University in Barcelona, Spain, 2016; University of Budapest, 2017, Hungary; University of Maribor, Slovenia, 2018; University of Edirne, Turkey, 2022; University of Nish, Serbia, 2023; PhD dissertation on the topic "Numerical Aspects of the design of Robust Control Systems" (*TU – Sofia, 2007*). **Professional activity** starts in TU-Sofia as an assistant (*2007г.*), an associate professor in methods of cybernetics (2013). **Main areas of teaching and research interests:** *Control theory, Robust and Optimal Control, Linear Matrix Inequalities, Predictive Control, Sensitivity Analysis, Operations Research, Production and Operations Management, Optimization and Decision Making, Modelling and Simulation with ARENA.* Textbooks - 3, Manuals - 5, Over 60 scientific papers. Participation in research projects – 5.

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