

## ΠΡΟΣΚΛΗΣΗ

Στη διάλεξη Ρομποτικής με θέμα

### **Resilient Robotic Autonomy: Experiences from the DARPA Subterranean Challenge**

*Η διάλεξη θα πραγματοποιηθεί την Δευτέρα 8 Ιανουαρίου 2024, ώρα 12:00 στο Αμφιθέατρο Πολυμέσων (Κεντρική Βιβλιοθήκη Ε.Μ.Π.)*

**Abstract:** Starting from the winning experience of Team CERBERUS in the DARPA Subterranean Challenge, in this talk the focus is on the scientific methods and design practices that can enable resilient autonomy for robotic systems. Core themes include those of robust perception in perceptually-degraded environments, path planning in austere and large-scale environments, as well as robot learning for reliable navigation in the presence of both epistemic and aleatoric uncertainty. Extensive results from field evaluations are presented including our winning runs in the DARPA Subterranean Challenge finals.

**Short Bio:** Kostas Alexis is Full Professor at the Department of Engineering Cybernetics of the Norwegian University of Science and Technology (NTNU). Highlights of his research include leading Team CERBERUS winning the DAPRA Subterranean Challenge and a host of contributions in the domain of resilient robotic autonomy – in perception, planning and control including learned navigation policies. Earlier research has included contributions in the ETH Zurich team that set the endurance world-record for UAVs in the below 50kg class with AtlantikSolar flying continuously for 81.5 hours. Since becoming professor, initially in the US and then in Norway, he has been the PI for a host of grants from NSF, DARPA, NASA, DOE, USDA, Horizon Europe, the Research Council of Norway and other public and private sources.

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