Proposal for Special Session at IEEE CASE 2021

**Goal:** The focus of this Special Session is on formal and distributed methods and algorithms for path and task planning of multi-agent systems. The big challenges in these applications are (1) the formal models used to model the team and (2) the collision avoidance strategy. Both modeling perspectives, top-down from high-level description using discrete event systems, and bottom-up from particular algorithms, e.g., consensus, are of interest. Regarding the collision-avoidance, the proposal should be oriented to reduce the computational complexity to be applicable in real time. Papers dealing with real applications in which a multiagent system is used to solve a particular problem are welcome but also software tools and real implementation.

**Session Title:** Distributed path and task planning of multiagent systems

**Organizers:**
- Cristian Mahulea, Associate Professor
  University of Zaragoza, Spain
  E-mail: cmahulea@unizar.es
  Phone: +34 – 976762517

- Eduardo Montijano, Assistant Professor
  University of Zaragoza, Spain
  E-mail: emonti@unizar.es
  Phone: +34 - 876555305

- Dimos V. Dimarogonas, Professor
  KTH Royal Institute of Technology, Sweden
  E-mail: dimos@kth.se
  Phone: +46-(0)73 9657595

**Contributions:**

1. “Distributed path planning using petri nets and reinforcement learning” by Eduardo Montijano and Cristian Mahulea


3. “Online sequential task assignment with execution uncertainties for multiple robot manipulators” by S. Zhang and F. Pecora
