This year's theme is "Unmanned Aerial Vehicles (UAV) and their applications". Considering the size of these devices may vary from centimeters (like pocket-size mini drones) to meters (fixed-wind drones used for weather forecast and/or military reconnaissance), their applications could be utilized in a broad domain. These devices revolutionize the ways we approach problems in any domain via their low-cost deployment, high maneuverability and easy maintenance.

Potential fields/topics, focused on the given theme, include but are not limited to the following:

- IoT integration
  - o Data collection and aggregation, wireless charging, network connectivity
- Smart City Applications
  - o Construction maintenance, civil planning, waste management
- Delivery Systems
  - Low-cost commercial deliveries, emergency deliveries
- Humanitarian Aid & Disaster Relief
  - o Recovering communication infrastructure after disasters, crowd control, medical aid
- First Responder Aid
  - Tactical surveillance, fire detection\control
- Military Applications
  - Situation Awareness, military reconnaissance, military ad-hoc networks
- Search and Rescue
- Cellular Network
  - Small-cell or relay deployments, improving Quality of Experience (QoE)
- Swarm Management
  - o Entertainment

Each group should pick a subject from the list above (or a related one) and prepare one-page poster proposal. This proposal should be sent via e-mail to <a href="mailto:bilent@itu.edu.tr">bilent@itu.edu.tr</a> and uploaded to Ninova via the group coordinator.

- The poster proposal should provide the information below:
  - Group name (pick a name for your group) and group number
  - Title of the Project
  - Group members (names, numbers, email, coordinator should be emphasized)
  - Short Project description (at least half page long)

Rather than just explaining a domain in which a UAV can be utilized, you should develop a system or an application considering critical aspects such as public/user safety, privacy, ethics, scalability etc. You should explain related technologies necessary to develop your application (communication technologies, artificial intelligence, computer vision, data storage, etc). You should also consider how to evaluate the performance of your application. You may also include future works/ideas mentioning about launching the next version with additional functions or capabilities.

- Each group should hold regular group meetings.
- Every group member should have responsibilities and participate in this group project.
- Ones who do not join the meetings should be reported.

You should submit your proposal before **November 19**<sup>th</sup>. If your proposal is not elaborative enough, you will be asked to revise your proposal before going through the next phase, which is designing your poster.