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# The Recent Activities of the Technical Committee on Aerial Robotics and UAVs

Dissemination level: PU (public)

This document will be adapted if necessary

V1.0  
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## ***I- Introduction***

This document describes the recent activities of the TC on Aerial Robotics and UAVs (TCAR). This committee is co-chaired by:

- Prof. Kimon Valavanis (University of Denver)
- Prof. Robert Wood (Harvard Univ.)
- Dr. Samir Bouabdallah (ETH Zürich)
- Prof. Paul Oh (Drexel Univ. – Emeritus Chair)

The committee counts more than 110 members, and it is receiving requests for membership regularly. The topics of interest of the TCAR have not changed fundamentally, but they are evolving on a regular basis in order to adapt to recent advances in the field. New challenging areas of interest include but are not limited to:

- Airframe design
- Sensor suites
- Field service
- Propulsion and Engines
- Vision-based navigation
- Miniaturization
- Flapping-wing propulsion
- Integration into the NAS

## ***II- Objectives***

The main objective of the TCAR is to promote exchanges and interactions among researchers from academia, industry and governmental agencies. The purpose is to identify available technologies, new cutting edge technologies and technical approaches to advance and mature the field of aerial robotics. In fact, recent developments in micro mechanical systems, materials and power sources offer opportunities for new developments and applications. The aim of the TCAR is to boost and support these activities as well as to foster the collaboration between industry and academia in the field of aerial robotics.



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## ***II- Activities***

The action of the TCAR is mainly visible through workshops and conferences that we organize regularly. In the last 5 years, the committee has organized more than 10 world-class events, namely:

- Micro-Air-Vehicles: The Next 10 Years, April 27, 2004 (Workshop)
- 2005 Indoor Aerial Robot Competition, May 1, 2005 (Competition)
- Call for Papers: IEEE Robotics and Automation Special Issue, July 31, 2005 (Publication)
- 2006 Indoor Aerial Robot Competition, May 7, 2006 (Competition)
- UAVs: Missions and Payloads, May 15, 2006 (Workshop)
- SAE Aerospace, October 9, 2007 (Workshop)
- IEEE IROS 2007 Workshop, November 2, 2007 (Workshop)
- IEEE ICRA 2008 Workshop, May 19, 2008 (Workshop)
- UAV 2008 International Symposium, June 23, 2008 (Conference)
- Workshop on Visual guidance systems for small autonomous aerial vehicles, September 22, 2008 (Workshop)
- UAV 2009s International Symposium, June 8-10, 2009 (Conference)
- Workshop on Micro Aerial Vehicles Applications, October 2009 (Workshop)
- Edition of two books
  - Advances in UAVs: State of the Art and the Road to Autonomy, by Kimon Valavanis (Springer, 2007)
  - Flying Insects and Robots, by Dario Floreano & al. (Springer, 2009)

The details about these activities can be found in the TAB official:  
<http://tab.ieee-ras.org/> (limited access)

More information can also be found in the committee's website:  
<http://www.flyingrobots.org/> (public access)

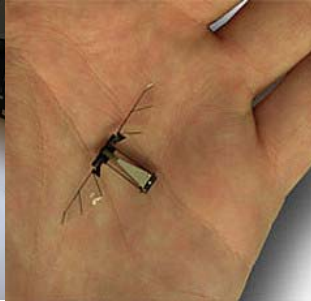
## ***II- Future objectives***

The TCAR is resolute to continue and intensify its activities in the future to push the field even further. Our first objective is to grow our activity through more workshops, conferences, competitions and also edition of books. Our second objective is to establish an annual world class conference dedicated to aerial robotics and UAVs. The first edition of this conference took already place in 2008 and another edition will take place in June 2009. The work towards these objectives will also encourage more people to join the committee. The objective is to increase the number of members to reach 300 by the end of 2010.

### ***III- Some recent realizations from the members***



muFly



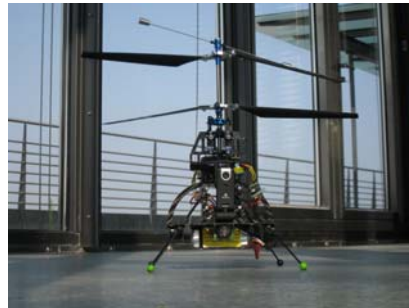
Microbotic Fly



Oscar



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