



IMAV 2014

International Micro Air Vehicle Conference and Competition 2014

*August 12-15, 2014
Delft, The Netherlands*



Preface

It is our pleasure to present the proceedings of the International Micro Air Vehicle Conference and Competition, which was held in Delft, the Netherlands from August 12 to 15, 2014. This event, organized by Delft University of Technology, aims at the exchange of the most recent findings in the rapidly expanding area of Micro Air Vehicles (MAVs). The received submissions show that this is an active field of research all over the world.

These proceedings contain the peer-reviewed scientific papers and the technical papers presented at the IMAV 2014. The topics of these papers range from the design of human-friendly UAVs to a novel pitch and roll mechanism for controlling a flapping wing MAV. Together, the papers give an overview of the current state-of-the-art of the field of Micro Air Vehicles, indicating in which direction this field may develop.

We would like to thank the 20 members of the program committee, who reviewed all submissions and selected 38 papers, consisting of 11 technical papers and 27 scientific papers. 25 papers were selected for oral presentation at the conference.

Concerning the competition part of the IMAV 2014, it is the first time that the outdoor and indoor competition are held simultaneously, at an exercise village called 'Oostdorp'. A disaster scenario is simulated, in which emergency services need to get an overview of the situation as quickly as possible. To this end, the competition teams need to provide the emergency services with an up-to-date map of the disaster area, indicating which roads are still accessible and which ones are blocked. In addition, MAVs have to fly into the different houses to search for survivors of the disaster. All mission elements aim at further advancing the (autonomous) capabilities of MAVs, in the hope to bridge the gap between scientific research and application in real-world situations.

Finally, we want to express the hope that the specific nature of the IMAV event (a combination of a scientific conference and a real-world competition) in combination with the open access nature of the publications, will continue to advance the state-of-the-art in this relatively young research area.

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Chapter 1

Scientific Articles