







IMAV 2017 Conference program

Monday September 18 th 2017		
0845	<p>Welcome address – Amphi 2 Olivier Lesbre, Director of ISAE-SUPAERO</p>  <p>Opening address Jean-Marc Moschetta, ISAE-SUPAERO, IMAV 2017 chair</p>	
0915	<p>Keynote Lecture 1 – Amphi 2</p> <p>How to get complex things working as soon as possible Eric Johnson, <i>Georgia Tech, Atlanta, GA, USA</i></p> 	
0950	<p>Keynote Lecture 2 – Amphi 2</p> <p>Development of a Tail-Sitter Hybrid Unmanned Aerial Vehicle Ben Chen, <i>National University of Singapore, Singapore</i></p> 	
1025	<p>Coffee break – Room Clément Ader</p>	
Monday morning September 18 th 2017	<p>Parallel session SA1 – Amphi 2</p> <p>Aerodynamics and flow control Chaired by : Thierry Jardin, <i>ISAE-SUPAERO, Toulouse, France</i></p>	<p>Parallel Session SB1 – Amphi 1</p> <p>Control designs and analysis for MAVs Chaired by : Eric Johnson, <i>Georgia Tech, GA, USA</i></p>
1100	<p>MAV17-PARSA1a</p> <p>Qualitative Investigation of the Dynamics of a Leading Edge Control Surfaces for Micro Air Vehicle Applications A Panta, Petersen P, Marino M, Watkins S and Mohamed A, <i>RMIT University, Melbourne Australia</i></p>	<p>MAV17-PARSB1a</p> <p>A numerical approach for attitude control of a quadrotor Huu-Phuc Nguyen, Jérôme De Miras, Ali Charara and Stephane Bonnet, <i>Université de Technologie de Compiègne, CNRS, Heudiasyc, Compiègne, France</i></p>



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1130	MAV17-PARSA1b Aerodynamic design of a martian micro air vehicle T. Desert, J.M. Moschetta, and H. Bezard <i>ONERA & ISAE-SUPAERO, Toulouse, France</i>	MAV17-PARSB1b Application of a switching control strategy to extract energy from turbulence by a UAV F. Pasquali, Y. Brière, and N. Gavrilovic <i>ISAE-SUPAERO, Toulouse, France</i>
1200	MAV17-PARSA1c Study of ducted fans interference for copter type multirotor UAV/RPAS K. Stremousov and M. Arkhipov <i>MIPT, Zhukovsky, Russia</i>	MAV17-PARSB1c Prioritized Control Allocation for Quadrotors Subject to Saturation E.J.J. Smeur, D.C. Hoppener, C. De Wagter <i>TU Delft, The Netherlands</i>
1220	Lunch - Restaurant	
1330	Keynote Lecture 3 – Amphi 2 Using small UAV for atmospheric turbulence measurements Jens Bange, <i>University of Tübingen, Germany</i> 	
Monday afternoon September 18 th 2017	Parallel Session SA2 – Amphi 2 Aeroacoustics Investigations Chaired by : D Moormann, <i>Aachen University, Germany</i>	Parallel Session SB2 – Amphi 1 Drones Control and Navigation Strategies Chaired by : JP Condomines, <i>ENAC, Toulouse, France</i>
1405	MAV17-PARSA2a Aeroacoustics investigation on nano coaxial rotor Zhen Liu, Chen Bu, Xiangxu Kong, and Dong Yang <i>Jiaotong University, Xi'an, China</i>	MAV17-PARSB2a Cooperative Aerial Payload Transportation Using Two Quadrotors A. Rajaeizadeh, A. Naghash, and A. Mohamadifard <i>Amirkabir University of Technology, Tehran, Iran</i>
1435	MAV17-PARSA2b Reducing the noise of Micro-Air Vehicles in hover R. Serre, V. Chapin, J.M. Moschetta and H. Fournier <i>ISAE-SUPAERO, Toulouse, France</i>	MAV17-PARSB2b Robust Attitude Control for Quadrotors with External Disturbances H. Nemati, A. Naghash, S. Mozafari, and A. Jamei <i>Amirkabir University of Technology, Tehran, Iran</i>
1505	MAV17-PARSA2c Application of Lattice Boltzmann Method to some challenges related to Micro Air Vehicles N. Gourdain, T. Jardin, R. Serre, S. Prothin and J.-M. Moschetta <i>ISAE-SUPAERO, Toulouse, France</i>	




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1525	Coffee break – Room Clément Ader	
Monday afternoon September 18th 2017	Parallel Session TA1 – Amphi 2 Control Designs and Analysis Chaired by : H de Plinval, <i>ONERA, Toulouse, France</i>	Parallel Session TB1 – Amphi 1 Navigation Strategies and the Use of Vision Chaired by : Y Watanabe, <i>ONERA, Toulouse, France</i>
1600	MAV17-PARTA1a Robustness Analysis of a Controlled Quadrotor MAV Carrying a Cable-suspended Load N. Santos, E. Laroche, R. Kieferzand S. Durand <i>ICube, Illkirch, France</i>	MAV17-PARTB1a Human-Robot Cooperation in Surface Inspection Aerial Missions Martin Molina, Pedro Frau, Dario Maravall, José Luis Sanchez-Lopez, Hriday Bavle, P. Campoy <i>Technical University of Madrid, Spain</i>
1620	MAV17-PARTA1b Landing and Take-off on/from Sloped and Non-planar Surfaces with more than 50 Degrees of Inclination M. Tognon and A. Franchi <i>LAAS-CNRS, Toulouse, France</i>	MAV17-PARTB1b An Intelligent Unmanned Aircraft System for Wilderness Search and Rescue Huai Yu, Jinwang Wang, Kaimin Fu, Wen Yang <i>Wuhan University, China</i>
1640	MAV17-PARTA1c Flight Simulation of a MAKO UAV for Use in Data-Driven Fault Diagnosis Elgiz Baskaya, Murat Bronz, and Daniel Delahaye <i>ENAC, Toulouse, France</i>	MAV17-PARTB1c A honeybee’s navigational toolkit on Board a Bio-inspired Micro Flying Robot Erik Vanhoutte, Franck Ruffier and Julien Serres <i>ISM, CNRS, Marseille, France</i>
1700	MAV17-PARTA1d Incremental Nonlinear Dynamic Inversion and Multihole Pressure Probes for Disturbance Rejection Control of Fixed-wing Micro Air Vehicles Elisabeth S. van der Sman, Ewoud J. J. Smeur, B. Remes, C. De Wagter, and Qiping Chu <i>TU Delft, The Netherlands</i>	MAV17-PARTB1d Towards a MOMDP model for UAV safe path planning in urban environment Jean-Alexis Delamer, Yoko Watanabe, Caroline P. Carvalho Chanel <i>ONERA & ISAE-SUPAERO, Toulouse, France</i>
1725	Group photograph – Main court	
1745	Downtown buses depart from Main Court	
1830	Welcome reception City Hall “Salle des Illustres”, Place du Capitole, Toulouse	





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Tuesday September 19 th 2017		
Tuesday morning September 19 th 2017	Parallel session SA3 – Amphi 2 Novel Designs for MAVs Chaired by : B Chen, <i>National University of Singapore, Singapore</i>	Parallel session SB3 – Amphi 1 Wind Measurements using MAVs Chaired by : Christophe De Wagter, <i>TU Delft, The Netherlands</i>
0845	MAV17-PARSA3a Investigation on Natural Frequency and Fuselage Effect for Small UAVs Lateral Motion M. El-Salamony, S. Serokhvostov <i>MIPT, Zhukovsky, Russia</i>	MAV17-PARSB3a Using MAVs for Atmospheric Wind Measurements: Opportunities and Challenges S. Watkins, M. Abdulghani, S. Prudden, M. Marino, R. Clothier, A. Fisher and A. Panta <i>RMIT, Melbourne, Australia</i>
0915	MAV17-PARSA3b Team MAVion entry in the IMAV'17 outdoor challenge -- A tail-sitting trajectory-tracking uUAV Leandro R. Lustosa, J. M. O. Barth, J.-P. Condomines, F. Defay and J.-M. Moschetta <i>ISAE-SUPAERO & ENAC, Toulouse, France</i>	MAV17-PARSB3b Bio-inspired Wind Field Estimation-Part 1: AoA Measurements Through Surface Pressure Distribution Nikola Gavrilovic, M. Bronz, J.-M. Moschetta, E. Benard and P. Pastor <i>ISAE-SUPAERO & ENAC, Toulouse, France</i>
0945	MAV17-PARSA3c Simulation and Control of a Tandem Tiltwing RPAS Without Experimental Data Y. Beyer <i>TU Braunschweig, Germany</i>	MAV17-PARSB3c Developing a stable UAS for Operation in Turbulent Urban Environment A. Mohamed, P. Poksawat, S. Watkins, R. Gigacz <i>RMIT, Melbourne, Australia</i>
1005	Coffee break – Room Clément Ader	
1040	Keynote Lecture 4 – Amphi 2 Drones in Archaeology. State-of-the-art and Future Perspectives. Stefano Campana, <i>University of Siena, Italy</i> 	



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1115	Keynote Lecture 5 – Amphi 2 Flying Robot Companions for Future Smart Cities Mirko Kovac, <i>Imperial College</i> , London, UK 	
1140	Keynote Lecture 6 – Amphi 2 Towards better MAVs and what we can learn from birds and bees Simon Watkins, <i>RMIT</i> , Melbourne, Australia 	
1215	Lunch - Restaurant	
Tuesday afternoon September 19th 2017	Parallel session TA2 – Amphi 2 Multiple Vehicles Cooperation Chaired by : S Lacroix, <i>LAAS-CNRS</i> , Toulouse, France	Parallel session TB2 – Amphi 1 Novel Design Methodologies for MAVs Chaired by : M Bronz, <i>ENAC</i> , Toulouse, France
1345	MAV17-PARTA2a Collision Avoidance of multiple MAVs using a multiple Outputs to Input Saturation Technique C. Chauffaut, L. Burlion, F. Defay, H. de Plinval <i>ISAE-SUPAERO & ONERA</i> , Toulouse, France	MAV17-PARTB2a Optimization of Energy Consumption for Quadrotor UAV F. Yacef, N. Rizoug, O. Bouhali, and M. Hamerlain <i>ESTACA</i> , Laval, France & <i>Jijel University</i> , Algeria
1405	MAV17-PARTA2b A Hybrid Approach for 3D Formation Control in a Swarm of UAVs using ROS Rafael G. Braga, R. C. da Silva, A. C. B. Ramos, F. Mora-Camino <i>Federal University of Itajub´a</i> , Brasil & <i>ENAC</i> , Toulouse, France	MAV17-PARTB2b Development and Design Methodology of an Anti-Vibration System on Micro-UAVs Zhenming Li, Mingjie Lao, Swee King Phang, Mohamed Redhwan, Abdul Hamid, Kok Zuea Tang, and Feng Lin <i>National University of Singapore</i> , Singapore
1425	MAV17-PARTA2c Formation flight of fixed-wing aircraft by employing guidance vector fields Hector Garcia de Marina and G. Hattenberger <i>ENAC</i> , Toulouse, France	MAV17-PARTB2c Quick aerodynamic design of micro air vehicles V. Vyshinsky, A. Kislovskiy <i>MIPT</i> , Zhukovsky, Russia
1445	MAV17-PARTA2d EDURA: an Evolvable Demonstrator for Upset Recovery Approaches with a 3D-printed Launcher Torbjørn Cunis and Murat Bronz <i>ENAC</i> , Toulouse, France	MAV17-PARTB2d Copter Size Minimization for IMAV-2017 Competition in Record Breaking Session S.Serokhvostov_ and B.Makaev <i>MIPT</i> , Zhukovsky, Russia



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1505	Coffee break – Room Clément Ader	
Tuesday afternoon September 19th 2017	Parallel session SA4 – Amphi 2 Specific MAVs designs : flapping and Folding Wings, and bio-inspired Designs Chaired by : M. Kovak, <i>Imperial College, UK</i>	Parallel Session SB4 – Amphi 1 Image Processing Developments Chaired by : P Campoy, <i>Technical University of Madrid, Spain</i>
1540	MAV17-PARSA4a Bond Graph based design tool for a passive rotation flapping wing Le Anh Doan, Christophe Delebarre, Sebastien Grondel, Eric Cattan <i>University of Valenciennes & Centrale Lille, France</i>	MAV17-PARSB4a Development of Vision Based Navigation for Micro Aerial Vehicles in Harsh Environment Hailong Qin, Yingcai Bi, F. Lin and Ben M. Chen <i>National University of Singapore, Singapore</i>
1610	MAV17-PARSA4b Quad-thopter: Tailless Flapping Wing Robot with 4 Pairs of Wings. Christophe De Wagter, Matej Karasekyand and Guido de Croon <i>TU Delft, The Netherlands</i>	MAV17-PARSB4b Efficient Global Indoor Localization for Micro Aerial Vehicles V. Strobel, R. Meertens, and G.C.H.E. de Croon <i>TU Delft, The Netherlands</i>
1640	MAV17-PARSA4c Analysis of Folding Wing Rolling Moment T. Pantuphag, S. Catteeyothai, N. Krajangsawasdi, and C. Thipyopas <i>Kasetsart University, Bangkok, Thailand</i>	MAV17-PARSB4c Reconstruction of Complex Structures with Online Profiling and Adaptive Viewpoint Sampling Abdullah Abduldayem, Dongming Gany, Lakmal Seneviratnez, Tarek Taha <i>Khalifa University, Abu Dhabi, United Arab Emirates</i>
1710		MAV17-PARSB4d An Automated Rapid Mapping Solution Based on ORBSLAM and Agisoft Photoscan API Markus Bobbe, Alexander Kern, Yogesh Khedar, Simon Batzdorfer and Ulf Bestmann <i>TU Braunschweig, Germany</i>
1800	Downtown buses depart from Main Court	