

Program

Thursday 7 Nov 24 - Plenary Room

Time	Activity	Presenter/ Authors
08:00-08:15	Conference Introductory Briefing	KC Wong, Deputy Chair
08:15-08:30	Welcome address – The University of Melbourne	Ben Rubinstein, Dy Dean (Research)
08:30-08:45	Conference Opening Address	Arvind Sinha, Chair
08:45-09:00	VFS Address	Angelo Collins, Executive Director VFS
09:00-10:00	Country Research & Education - Strategic Update	Country representatives
09:00-09:15	Australia	KC Wong
09:15-09:30	Japan	Akira Sato
09:30-09:45	South Korea	Hakjin Lee
09:45-10:00	Turkey	Alper Ezertaş
10:30-11:00	Tea/Coffee/Drinks Break	
Aerodynamics 1 – Chair Keita Kimura, Japan		
11:00-11:30	Aerodynamic Interference between Wing and Lift Rotors on an eVTOL Aircraft	Akira Sato, Yasutada Tanabe & Takuo Ikemoto
11:30-12:00	Study on a New Simplified Model for Rotor Vortex Ring Element Wake Geometry	Junbiao Shen & Pan Li
12:00-12:30	Computational Analysis of the Effect of Rotor/Fuselage Wake on Pusher Propeller Aerodynamics of Next-Genera on Rotorcraft	Kyu Tae Park, Sung U Kang, Byoung Soo Lee, Nameun Park, Rho Shin Myong & Hakjin Lee
12:30-13:30	Lunch and Networking	
Simulation, Modelling and Testing 1 – Chair Hakjin Lee, S Korea		
13:30-14:00	Further Evolution in Conversion of a Scaled Radio-controlled Helicopter Model into a Rotor System for Wind Tunnel Testing in JAXA	Kobiki Noboru
14:00-14:30	Development of Vortex Ring State Indicator for a Helicopter	Abdul Rashid Tajar, Ashim Yadav, S. P. Tripathy, Anil Bhambhani & Vijay Panvar
14:30-15:00	Assessment of Rapid Modelling Tools for Unmanned eVTOL Proprotor Design Applications	Issareephat Kanishthanonda Auraluck Pichitkul, Suradet Tantrairatn, Ms. Jitlada Aumpirom Atthaphon Ariyarit & Lakshmi Sankar
15:00-1530	Aeroacoustic Design and Modelling of eVTOL Rotors for Urban Air Mobility Application	Auraluck Pichitkul, Atthaphon Ariyarit & Lakshmi N. Sankar
15:30-16:00	Tea/Coffee/Drinks Break	
Systems 1 – Chair Jason Monty, Australia		
16:00-16:30	Impact Performance Analysis on Suppressing Intruder UAV by PN Guided UAV	Jinwoo Park, Dongjin Lee, Zihao Wang & KC Wong
16:30-17:00	Design the Formation Flight Control Law for Multiple Unmanned Rotorcrafts with the Consideration of the Nonlinear Flight Dynamics	Jun-Young Ahn & Chang-Joo Kim
17:00-17:30	Mathematical Modelling Approach to Predict Instantaneous Health of Helicopter Engines	Gaurav Malik & Rabindra Patro
17:30-17:35	Day 1 – Closing Address	Conference Deputy Chair
19:00-21:00	Conference Banquet, Awards and Handover (ARF 10 Australia to ARF 11 India)	

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Aerodynamics 2 – Chair Kamlakar Arakala, Australia		
08:00-08:30	Parameter Influence of Unsteady Aerodynamic Characteristics During Rotor Airfoil Dynamic Stall	Liuqing Yang, Guoqing Zhao, Qijun Zhao, Simeng Jing & Qing Wang
08:30-09:00	Simulation of Mutirotor Vehicle in the Vortex Ring State using Vortex Particle Method	Sa-Lang Lee, Mohammadsadegh Araghizadeh, Sang Min Son, Rho Shin Myong & Hakjin Lee
09:00-09:30	Analysis on Impact of Plunging Motion on Airfoil Unsteady Aerodynamic Force	Yu Peng, Zhi-hao Yu, Jin-rui Zhao & Yong Liu
09:30-10:00	Prediction of Aerodynamics and Wake Dynamics of Tilt Rotor in Transition Flight using Coupled Panel and Vortex Particle Methods	Sang Min Son, Sa-Lang Lee, Youngjung Kee & Hakjin Lee
10:30-11:00	Tea/Coffee/Drinks Break	
Design 1 – Chair Auraluck Pichitkul, Thailand		
11:00-11:30	Design of Tail-Sitter UAV and Its Tilt Transition Flight Mode Control Strategy	Fengrui Liu, Jinfa Xu, Bohai Deng & Xingyu Yuan
11:30-12:00	Optimal propeller blade design for a quad-tilt-wing UAV	Keita Kimura, Hideaki Sugawara, Koji Muraoka & Satoshi Arikawa
12:00-12:30	The Trajectory Planning for UAV's Obstacle Avoidance and Return Based on Chaos Game Algorithm	Shengxin Yu, Jinfa Xu & Deng Bohai
12:30-13:30	Lunch and Networking	
Simulation, Modelling and Testing 2 – Chair Ye Yuan, UK		
13:30-14:00	Computational Investigation on Aerodynamics Characteristics of Blade Shape on High-Speed Coaxial rotor with Lift-Off	Takeshi Akasaka, Shun Kuribayashi, Yusuke Hamamoto & Yasutada Tanabe
14:00-14:30	Aerodynamics-Dynamics Coupling Investigation for Gimballed Rotor Systems	Yuxi Chen; Ye Yuan; Hamed Haddad Khodaparast; Alper Celik
14:30-15:00	Helicopter Steady-state Autorotation Desired Targets and Control Law Optimization	Kangrui Wei, Yousong Xu & Qijun Zhao
15:00-15:30	Tea/Coffee/Drinks Break	
Design 2 – Chair Gaurav Malik, India		
15:30-16:00	Selection and Performance Evaluation of Overall Parameters for Rotors in Foldable Tilt-Rotor Aircraft	Bing Wang & Pan Li
16:00-16:30	Bio-Inspired Hybrid Mechanism for Enhancing Micro Helicopter Performance	Xun Huang, Linghai Lu & James Whidborne
16:30-17:00	The Principle of Vibration Reduction by CG Offset and its Experimental Verification	Yuji Yoshizaki, Shigeru Sunada & Ryota Kikuchi
17:30-17:45	Day 2 –Conference Closing Address	Chair

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Session Room

Time	Activity	Presenter/ Authors
Simulation, Modelling and Testing 3 – Chair Noboru Kobiki, Japan		
11:00-11:30	Estimation of Rotation Vector using a Cyclic Mean-Path Algorithm on a Unique Underactuated Swashplateless Rotor	Haofei Guan & KC Wong
11:30-12:00	Passive Flow Control Devices on Helicopter Rotor Hub and Engine Pylon to Alleviate Tail Shake and Pilot Workload	N Lingaiah, Anil Bhambhani & Sarba Prasad Tripathy
12:00-12:30	Comparison of Tight and Loose Coupling in Elastic Helicopter Simulation	Oskar Wengrzyn, Manuel Keßler, Ewald Krämer & Peter Eberhard
12:30-13:30	Lunch and Networking	
Systems 2 –Chair Zi Wang, Australia		
13:30-14:00	Design and Verification of Manipulation Strategy in Helicopter Flight Mode for a Quad Tilt Rotor UAV	Bohai Deng, Jinfu Xu & Kun Liu
14:00-14:30	Model Predictive Control of Quadrotor UAV based on Feedback Linearization	Xingyu Yuan, Jinfu Xu, Fengrui Liu & Bohai Deng
14:30-15:00	Novel Modeling and Analysis Method for Rotorcraft Coupled Drive Train System	Bo Li, Xiao Wang, Pinqi Xia & Pierangleo Masarati
15:00-15:30	Tea/Coffee/Drinks Break	
Aerodynamics 3 – Chair Alper Ezertas, Turkey		
15:30-16:00	Trim Analysis and Flight Modelling of a Quad-Tilt-Wing UAV	Yasutada Tanabe, Hideaki Sugawara, Satoshi Arikawa & Koji Muraoka
16:00-16:30	Development of Rotor Noise Prediction Code based on Vortex Method for Design of Low-noise Rotor Blade	Si Jin Kim, Sa-Lang Lee, Sang Min Son, Nameun Park, Rho Shin Myong & Hakjin Lee