



## Conference Information and Schedule

**Main venue:** Mechanical Engineering, Indian Institute of Science, Bengaluru

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### Venues for various events

1. Registration and Sponsors stalls, 3<sup>rd</sup> floor of Mechanical Engineering, IISc
2. Sessions: A. R. Auditorium, 3<sup>rd</sup> floor of Mechanical Engineering, IISc
3. Sessions: Lecture Hall, 2<sup>nd</sup> floor of Mechanical Engineering, IISc
4. Coffee breaks, terrace of Mechanical Engineering, IISc
5. Lunch, outside of the building at the back of the Mechanical Engineering building
6. Conference dinner in the IISc Jawahar Guesthouse lawns
7. Accommodation for students: Hoysala Guesthouse (near Nesara restaurant on IISc campus; see <http://www.iisc.ac.in/about/guests-corner/> for maps)
8. Accommodation for speakers: Centenary Visitors House (CVH) on IISc campus; see <http://www.iisc.ac.in/about/guests-corner/> )

## Day 1: March 23, 2018

Time	Event	Speaker
08:00-08:50	<b>Registration</b>	
	<b>Session 1A: A. R. Auditorium</b>	
09:00	Welcome	Prof. G. K. Ananthasuresh, IISc, Bengaluru
09:05	Inaugural remarks	Dr. Kota Harinarayana, NAL, Bengaluru
09:10	About the conference	Prof. Palaniappan Ramu, IIT Madras, Chennai
09:15	Keynote 1 Towards system architectures in aeronautics	Bjoern Nagel, DLR, Germany
10:00	<b>COFFEE BREAK</b>	
	<b>Session 1B: A. R. Auditorium (3<sup>rd</sup> floor)</b>	Chair: Dr. Raviprakash R. Salagame
10:15	Invited talk 1 Deep Learning – Multidisciplinary Optimization Challenges, Opportunities and Applications	Dr. Somanath Nagendra, Pratt and Whitney Aircraft Engines, USA
10:45	Optimization opportunities and challenges in automotive electronic products	<u>Vinay Kumar</u> , Aptiv
11:00	Role of Nonlinear Analysis in Structural Optimization	<u>K. S. Raghavan</u> , Vamsi Rajkumar Prasadula, Cyient
11:15	Optimization of configurations of discrete heaters in a two dimensional square cavity with participating medium	<u>Rahul Yadav</u> , C. Balaji, IIT Madras S. P. Venkateshan, IITDM Kancheepuram
11:30	Layout Optimization of Typical Fin Box Structure with Multiple Constraints in Process Integration Framework	<u>D. V. T. G. Pavan Kumar</u> , S. Deepa Sakravarthini, M. S. Narendra, NAL
11:45	Breakout and re-assembly	
	<b>Session 1C1: A. R. Auditorium (3<sup>rd</sup> floor)</b>	Chair: Prajwal Shivaprakasha
11:50	Multiobjective Multidisciplinary Design Optimization (M2DO) of Single Stage Sounding Rocket with Drag Separable Payload	Kamal Saroha, <u>Mofeez Alam</u> , Pankaj Priyadarshi, VSSC
12:05	Multi-objective multidisciplinary design optimization of high altitude airships	<u>Mohammad Irfan Alam</u> , IIT Bombay
12:20	Development of Multidisciplinary Design optimization methodology for BIW weight optimization	<u>Pratik Lahane</u> , Varma Pakalpati, Ganesh Gadekar, Tata Motors Ltd.
12:35	Optimal Two-Stage Parachute and Retro Motor Sizing for Launch Vehicle Stage Recovery	Pankaj Priyadarshi, <u>Leya Joseph</u> , Kamal Saroha, VSSC
12:50	Multidisciplinary Design Optimization Examples for Reliability Engineering and Robustness in Automotive and Aerospace applications	<u>Mohan Kalaiyappan</u> , E-Machineshop
	<b>Session 1C2: Lecture Hall (2<sup>nd</sup> floor)</b>	Chair: Dr. G. Saravana Kumar
11:50	Optimization of the front cross member bracket for maximum gross vehicle weight	<u>K. Amrutheswara</u> , Lijo John, Assystem
12:05	Optimization of sheet metal forming process parameters for catalytic convertor housing	Sugavaneswaran M, <u>Rajesh N</u> , <u>Vishwanath Katta</u> , VIT
12:20	Transient Seal Clearance Estimations by Multi-disciplinary Analysis	Naresh Nidamanuri, Shrishail Gudda, <u>Pavan Gandla</u> , Cyient
12:35	Modeling of Cyclic loading response of uniaxial Polyvinylidene fluoride	<u>L. Harish</u> , C. Lakshmana Rao, IIT Madras
12:50	Design and Analysis of Functional Gradient Porous Structure and its fabrication using Additive Manufacturing	A. Suresh Babu, <u>M. Jaivignesh</u> , S.Srinivasan, CEG M. Sugavaneswaran, VIT
1:05	<b>LUNCH</b>	

	<b>Session 1D: A. R. Auditorium (3<sup>rd</sup> floor)</b>	
14:00	Keynote 2 MDO opportunities in Space Vehicle Systems	Dr. Pankaj Priyadarshi, VSSC, Trivandrum
14:45	Invited talk 2 Commercial Aircraft Industry Perspective on MDO	Dr. Anutosh Moitra, General Aeronautics
15:15	Breakout and re-assembly	
	<b>Session 1E1: A. R. Auditorium (3<sup>rd</sup> floor)</b>	Chair: Dr. Ramanathan M
15:25	Layout Optimization of PCB Trace Antennas using a DOE Approach	<u>Saravanan In</u> , Pratik Sheth, Aptiv
15:40	Surrogate based sensitivity analysis of part strength due to process parameters in fused deposition modeling	<u>Gokulakrishnan J.</u> Gurunathan Saravana Kumar, IIT Madras
15:55	Surrogate Assisted Multi-objective Optimization of a Centrifugal Pump Impeller	<u>M. Hamid Siddique</u> , Abdus Samad, IIT Madras
16:10	Metamodel-based sensitivity analysis of spine segmental stiffness variations due to vertebral geometry	<u>Jobin D. John</u> Gurunathan Saravana Kumar, IIT Madras Mike Arun, Narayan Yoganandan, Medical College of Wisconsin
	<b>Session 1E2: Lecture Hall (2<sup>nd</sup> floor)</b>	Chair: Dr. Raghavan
15:25	Multi-objective optimization of a turbine blade leading edge to minimize heat transfer and blade profile loss	<u>K. Sathyandra Rao</u> , M. Sivapragasam, M. S. Ramaiah University of Applied Sciences
15:40	Comparison of multi-objective optimization methodologies in turning process by using Design of experiments and Taguchi approaches	<u>G. Srinivasarao</u> , R V R & J C College of Engineering A. Neelakanteswara Rao, NIT Warangal
15:55	Optimization of Bolted Flange Design through Parametric Studies using Multi-Disciplinary Analyses	<u>Vikas Bandari</u> , Venkatamani Arveti, Krishna Nelanti, Venugopal Sambarapu, Cyient
16:10	Automated design optimization of turbine blades	<u>Francis Amal Varghese</u> , <u>Murshid Shams</u> , Paresh Halder, Abdus Samad, B. V. S. S. S. Prasad, IIT Madras
16:25	<b>COFFEE BREAK</b>	
	<b>Session 1F: A. R. Auditorium (3<sup>rd</sup> floor)</b>	
16:45	Sponsors' presentation Multi-Disciplinary Optimization of Vehicle Suspension for Vehicle Dynamics and Structural Performance	ESTECO Software / Altem Technologies
17:15	Current trends in MDAO (3 talks of 15 min each)	Prof. Palaniappan Ramu (Robust design and uncertainty analysis) Dr. Somanath Nagenrda (Multidisciplinary optimization) Prof. G. K. Ananthasuresh (Structural optimization)
18:00	<b>END OF DAY 1</b>	
19:30	Dinner in the IISc Jawahar Guesthouse lawn	

## Day 2: March 24, 2018

Time	Event	Speaker
	<b>Session 2A: A. R. Auditorium (3<sup>rd</sup> floor)</b>	
09:15	Keynote 3 Multi-Disciplinary Optimization through design thinking	Mr. Brian McMurray, General Motors
10:00	<b>COFFEE BREAK</b>	
	<b>Session 2B: A. R. Auditorium (3<sup>rd</sup> floor)</b>	Chair: Dr. Sudhakar
10:15	Invited talk 3 Review of Active Aeroelastic Wing Technology with reference to future Indian aircraft programmes	Dr. Madhusudhan, ADA
10:45	Optimization in 3DEXPERIENCE Platform	<u>Ravishankar Mariayyah</u> , Dassault Systemes
11:00	A Two-Phase Approach based on Sequential Approximation for Reliability-Based Design Optimization	<u>Srikanth</u> , Ming Zhou, Zhifan Luo, Ping Yi, Gengdong Cheng, Altair
11:15	Siamese Neural Networks to visually identify components for Re-Manufacturing	<u>S. Ritika</u> , <u>Gokul Chinnaswamy</u> , Dattaraj J Rao, GE
11:30	Pull out Strength Prediction: A Machine learning Approach	Ravi Khatri, Gurunathan Saravana Kumar, IIT Madras Vicky Varghese, Sunil Sharma, H. S. Chhabra, Indian Spinal Injury Centre
11:45	Breakout and re-assembly	
	<b>Session 2C1: A. R. Auditorium (3<sup>rd</sup> floor)</b>	Chair: Dr. Raviprakash R. Salagame
11:50	Scarce sample based reliability estimation using importance sampling	<u>Kiran Pannerselvam</u> , Palaniappan Ramu, IIT Madras
12:05	Meta-model based reliability analysis for mixed uncertainties	<u>B. N. Rao</u> , IIT Madras A. S. Balu, NIT Surathkal
12:20	HDMR based interval analysis for structural systems	<u>S. K. Spoorthi</u> , A. S. Balu, NIT Surathkal
12:35	Sponsors' presentation MDO – Future for Lightweighting and Reliable Design	MSC
	<b>Session 2C2: Lecture Hall (2<sup>nd</sup> floor)</b>	Chair: Dr. M. Sivapragasam
11:50	Multiobjective robust design optimization of fatigue life for fixed offshore wind turbine support structure	M. Vishnu, S. K. Bhattacharyya, IIT Madras
12:05	Optimization of Penetration Performance of Monolithic and Segmented Penetrators through Analytical and Numerical Approaches	Nagaraja N, <u>Srinath B</u> , Abhishek S, Assystem
12:20	Topology Optimization of the Linkages of a Novel Hybrid CNC machine	Sajan Kapil, <u>Seema Negi</u> , K. P. Karunakaran, IIT Bombay
13:05	<b>LUNCH</b>	
	<b>Session 2D: A. R. Auditorium (3<sup>rd</sup> floor)</b>	
14:00	Sponsors' presentation The Future of Making Things: Generative Design	Autodesk
14:30	Invited talk 4 Novel collaborative MDO approach, enablers for collaboration and civil aircraft case study	Prajwal Shivapraksha, DLR, Germany
15:00	Breakout and re-assembly	

	<b>Session 2E1: A. R. Auditorium (3<sup>rd</sup> floor)</b>	Chair: D.V.T.G. Pavan Kumar
15:10	Low Thrust Interplanetary Mission Trajectory Optimization using Differential Evolution	<u>Padmanabha Prasanna Simha</u> , Ramanan R. V., IIST
15:25	Towards optimal design of wind turbine support structure using evolutionary based algorithm	<u>D. Shrikarpagam</u> , M. Vishnu, S. K. Bhattacharyya, IIT Madras
15:40	GA Guided Gradient Search as a promising Multidisciplinary Design Optimization algorithm	<u>Rajib Shekhar Pal</u> , C. Geethaikrishnan, VSSC
15:55	Accelerating Attractor Anchored Multiobjective Evolutionary Algorithm	<u>Saharsh Pruthi</u> , Pankaj Priyadarshi, VSSC
	<b>Session 2E2: Lecture Hall (2<sup>nd</sup> floor)</b>	Chair: Dr. Dhish Kumar Saxena
15:10	Fast Marching Trees with emphasis on Safety	<u>Srihari P. V.</u> , P. Sivaraman, Bharath Bhikkaji, IIT Madras
15:25	Dimensional design of a two-degree-of-freedom RSSR-SSR parallel manipulator for sun-tracking	<u>Vimalesh Muralidharan</u> , Sandipan Bandyopadhyay, IIT Madras
15:40	Imperfection Sensitivity Analysis of Functionally Graded Circular Arches in the Thermal Environment	<u>Mohammad Amir</u> , Mohammad Talha, IIT Mandi
15:55	Multi-Fidelity Aerodynamic Shape Optimization of an Airfoil at Transitional Low Reynolds Number	<u>C. Pranesh</u> , M Sivapragasam, H. K. Narahari, M. S. Ramaiah University of Applied Sciences
16:10	<b>COFFEE BREAK</b>	
	<b>Session 2F: A. R. Auditorium (3<sup>rd</sup> floor)</b>	
16:30	<p>PANEL DISCUSSION</p> <p>Moderators: Prof. Sudhakar and Dr. Raviprakash Salagame</p> <p>Panelists:</p> <p>Dr. AR. Upadhya (NAL), Joachim Szodruch (DLR), Murali Balasubramanian (FCA), Suresh Nagarowth (Cyient)</p>	
17:30	End of Day 2 and the conference for participants	
17:45	Discussion and action plan for going forward	Discussion room, third floor