

SAROD 2005

Programme Schedule

7.12.2005 (Wednesday)

13.00-16.00 Registration at DRDL
17.00-20.00 Registration at Taramati Baradari

8.12.2005 (Thursday)

8.30 - 09.15 Registration
09.15-09.45 Inaugural session
Venue : Auditorium
09.45-10.30 Keynote lecture by Chief Guest
Prof. R. Narasimha, JNCASR, India
Research areas in computational aerodynamics–An Indian perspective
10.30-10.35 Vote of thanks
10.35-11.00 High Tea
11.00-12.35 Invited papers (3 papers), **Venue : Auditorium**

Session 1

Chairman : Prof. Bharat K. Soni
Co – Chairperson : Dr. Indira Narayanaswamy

IP1. A. N. Subash , VSSC, India

Aerodynamic design aspects of a winged reusable launch vehicle

IP2. Robert L. Meakin, US Army, NASA Ames Research Center, USA

Multiple-body proximate-flight simulation methods

IP 3. Jochem Hauser, University of Applied Sciences, Germany

Physical and numerical modeling for advanced propulsion systems

12.40-13.30 Contributed Papers (2 parallel sessions- 6 papers)

Session 2A: Numerical Investigations I

Venue : Auditorium

Chairman : Prof. K Srinivas

Co – Chairman: Shri P.K. Sinha

2A-1. Sanjoy Kumar Saha, Dipankar Das, V.K.Goyal, ‘Effect of shock impingement on open inter-tank region for a typical launch vehicle’

2A-2 R. Krishnamurthy, K. Anandhanarayanan, ‘CFD analysis for characterizing the effect of wing location on Flight Vehicle Aerodynamics’

2A-3. Valliammai Somasundaram, Biju Uthup, ‘Application of an implicit parallel unstructured RANS solver for understanding intake aerodynamics of a combat aircraft’

Session 2B: Experimental Investigations I

Venue : Lecture Hall

Chairman : Shri A.S. Narayana

Co – Chairman: Shri Pankaj Priyadarshi

2B-1. Sourabh Diwan, S.J.Chetan, O.N.Ramesh, ‘Evolution of finite amplitude disturbances through a laminar separation bubble’

2B-2. N. Gopinath, Ritu Kanchan Dubey, ‘Experiments on 60^0 swept wing-body with flaps’

2B-3. B. Sampath Rao, R. Sharma, S.R.Mohan, D.Koner, ‘Surface pressure distribution measurements on a low aspect ratio winged aircraft model’

13.30-14.30 Lunch

14.30-15.15 Contributed Papers (2 parallel sessions- 6 papers)

Session 3A: Numerical Methods

Venue : Auditorium

Chairman : Prof. S Chakravarthy

Co – Chairman: Dr. R Krishnamurthy

3A-1. Konark Arora, N.K.S.Rajan, S.M.Deshpande, ‘Weighted Least Squares Kinetic Upwind Method (WLSKUM) for Computation of Flow through Blade passage with Kinetic Periodic Boundary Condition (KPBC)’

3A-2. R.Balasubramanian, K.Anandhanarayanan, ‘Viscous computations for complex flight vehicles using CERANS with wall function’

3A-3. Satya Prakash, ‘Simulation of High- α viscous flow around a tactical fighter using RANS code CNS3D’

Session 3B: Experimental Techniques

Venue : Lecture Hall

Chairman : Shri A. N. Subash

Co – Chairman: Shri J Umakant

3B-1. David R.Philpott, ‘The use of VGK in Transonic wind tunnel Testing’

3B-2. R.Sharma, G.Narayan, H.Sundaramurthy, ‘Installation and commissioning of a twin roll model support system for the NAL 1.2m wind tunnel’

3B-3. Rajan Kumar, S R Patil, ‘Half model testing capability at NAL 1.2m trisonic wind tunnel’

15.15-15.30 Tea

15.30-17.00 Invited papers (3 papers)

Venue : Auditorium

Session 4

Chairman : Dr. B S Sarma

Co – Chairman: Shri D. N. Thakur

IP 4. J. S. Mathur, NAL, India

Aerodynamic design and analysis of SARAS aircraft

IP 5. S. Chakravarthy, Metacomp, USA

Realizing high fidelity computational simulations of fluid dynamic phenomena

IP 6. Koichi Oshima, ISCFD, Japan

Fundamentals of fluid mechanics and thermophysics for aerospace exploration

17.00-17.45

Contributed Papers (2 parallel sessions- 6 papers)

Session 5A: Spacecraft and Launch Vehicles and Missiles

Venue : Auditorium

Chairman : Dr. Sa. Gollakotta

Co – Chairman: Dr. Dipankar Das

5A-1. T.Sivamurugan,G.V.Rajesh Kumar, K.Madhusudhan Naidu, S.Swaminathan, E.Janardhana, ‘Aerodynamic Heating Analysis and Thermal Protection System Design for a Semi-ballistic Reentry Module’

5A-2. G.Vidya, K.Manokaran, V.K.Goyal, ‘A simple procedure for computation of aerodynamic coefficients with control surface deflection for a winged RLV’

5A-3. D.K.Yadav, R.K.Sharma, ‘Stability and control characteristics of a tail controlled launch vehicle in the presence of canard’

Session 5B: Design Optimisation

Venue : Lecture Hall

Chairman : Prof. K. Sudhakar

Co – Chairman: Shri G. Balu

5B-1. K.Manokaran, G.Vidya, A.E.Sivaramakrishnan, V.K.Goyal, ‘Wing planform design studies for winged reusable launch vehicle using engineering codes’

5B-2. A. Burman, R. Babila, P. Bajpai, ‘Choice of optimum aerodynamic configuration using MDO framework’

5B-3. V. V. S. Narayan, R.Vijay,V. Chandrasekaran,K. P. Singh & P. Jayasimha, ‘Optimization of Aircraft Control Surface Through CFD’

19.00-20.30

Cultural Programme

Felicitation to eminent Indian Aerodynamicists

Prof. B. C. Basu, Prof. M.A. Ramaswamy, and Prof. S.M. Deshpande

20.30-22.00

Symposium Banquet

9.12.2005 (Friday)

09.00-10.45

Invited papers (3 papers)

Venue : Auditorium

Session 6

Chairman : Prof. Robert L. Meakin

Co – Chairman: Shri Jaimohan

IP 7. Bharat K. Soni, UAB, USA

Enabling technology tools for design of aerospace vehicles

IP 8. R.H.Engler, DLR, Germany
PSP and TSP measurements in different facilities

IP 9. R. K. Sharma, DRDL, India
Hypersonic aerodynamic design and analysis of long-range ballistic vehicles

10.45-11.15 High Tea

11.15-11.45 Invited paper (1 paper) **Venue : Auditorium**

Session 7

Chairman : Dr. T. G. Pai

Co – Chairman: Shri P Theerthumalai

IP10. P. S. Subramanyam, ADA, India
Integrated Product Design for LCA Variants.

11.50-12.40 Contributed Papers (2 parallel sessions- 6 papers)

Session 8A: Numerical Investigations II **Venue : Auditorium**

Chairman : Dr. Alain Dervieux

Co – Chairman: Dr. S. Koruthu

8A-1. Sudhanshu K. Prasad, R. Krishnamurthy, ‘Application of domain - marching Euler solver to practical Flight Vehicle configuration’

8A-2. D.Narayan, S.P.Koruthu, ‘Simulation of store separation from a combat aircraft- An automated procedure using Cartesian grid based Euler code’

8A-3. D. Ghate, M.B. Giles, ‘Inexpensive Monte Carlo uncertainty analysis’

Session 8B: Experimental Investigations II **Venue : Lecture Hall**

Chairman : Dr. V.G. Sekharan

Co – Chairman: Shri Shanmugam

8B-1. J.V.Shreyas, K.R.Sreenivas, ‘Experiments and numerical simulations of flapping flight’

8B-2. J Umakant, P Theerthamalai, Nitin Khamsera, Rajan Kumar, S.R.Patil ‘Effect of wire-tunnel on aerodynamic characteristics of a missile with low aspect ratio wing’

8B-3. A.Satyanarayana, M.V.K.V.Prasad, S.G.Kadam, S.V.Ramana, M.Nagarathinam, ‘Experimental investigation of isolated hypersonic inlet’

12.40-13.30 Contributed Papers (2 parallel sessions- 5 papers)

Session 9A: Configuration Studies

Venue : Auditorium

Chairman : Shri H. Govindarajan

Co – Chairman: Dr. Subhandu Saha

9A-1. Pankaj Priyadarshi, Vinod Kumar, ‘Configuration design of a semi ballistic recovery module’

9A-2. K.Sivaprakash, K.M.Parammasivam, ‘Aerodynamic investigation of a Missile configuration with Grid fin and planar control surfaces’

9A-3. G.Dhananjaya Rao, Yogesh Parte, Balram Panjwani, M.M.Patil, S.Swaminathan, E. Janardhana ‘Directional stability and controllability of different wing-body configurations in hypersonic regime’

Session 9B: Numerical Investigations III

Venue : Lecture Hall

Chairman : Dr.Sekhar Majumdar

Co – Chairman: Dr. D. Naraynan

9B-1. S.Sriram, G.Balu, D.N.Thakur, ‘Computation of flow field over launch vehicle configuration and validation with experiments’

9B-2. S.Saha, P.K.Sinha, K.Samathkumar, A.Satyanarayana, Debasis Chakraborty, ‘Jet vane flow field characteristics using CFD’

13.30-14.30 Lunch

14.30-16.00 Invited Papers (3 papers)

Venue : Auditorium

Session 10

Chairman : Dr. P.R. Viswanath

Co – Chairman: Dr. Kishore Kumar

IP11. Kamal Poddar, IIT Kanpur, India

R&D activities at National Wind Tunnel Facilities (NWTF), IIT, Kanpur
– an Overview

IP12. Alain Dervieux, INRIA, France

Continuous mesh adaptation models for CFD

IP13. S. Pradeep, IISc, India

Longitudinal approximations for aircraft

16.00-16.15 Tea

16.15 –17.00 Valedictory Lecture

Venue : Auditorium

Chairman : Prof. S. M. Deshpande

Co – Chairman: Dr. S. Swaminathan

Hirotoishi Kubota, Tokai University, Japan

Japanese aerospace application

17.15-18.15 Panel Discussions and Concluding Sessions