

Faculty Profile

Brief Profile (Few Paragraphs)



Personal Information

- **Name:** Dr. Promio Charles F
- **Designation:** Associate Professor
- **Department:** Aerospace Engineering
- **Email:** promiocharlesf@rvce.edu.in
- **Phone:** +91-080-6818-8241

ORCID: <https://orcid.org/0000-0001-9914-6533>

Domain of Expertise

- ✓ *Experienced aerospace engineer with a strong background in structural dynamics, aeroelasticity, and flutter analysis, specializing in aircraft design and performance optimization.*
- ✓ *Skilled in conducting both frequency and time-domain flutter analyses using state-space approaches, aerodynamic influence coefficient extraction, and modal analysis.*
- ✓ *Skilled in using industry-standard software like CATIA, HYPERMESH, NASTRAN/PATRAN, ZAERO, ANSYS, MATLAB, and SIMULINK.*
- ✓ *Hands-on experience with data acquisition systems such as LMS and dSPACE, particularly in the context of full-scale aircraft ground vibration testing (GVT) and flutter prediction for the Indian Air Force.*
- ✓ *A decisive thinker with excellent analytical, planning, and interpersonal skills.*
- ✓ *Proven ability to collaborate across diverse teams and influence stakeholders to ensure successful project completion.*
- ✓ *Motivated to contribute to industry-academic environment that fosters personal growth, career development, and organizational success.*

Research Focus

- **Primary Area:** Aeroelasticity and Aeroservoelasticity
- **Allied Areas:**
 - Ground Vibration Test (GVT) Based Flutter Prediction
 - Unsteady Aerodynamic Force approximation in time domain
 - Aerodynamic Force injection using Smart Materials
 - Finite Element Analysis
 - Structural Dynamics and Control System

Academic Qualifications

- **Ph.D.:** Aerospace Engineering, AcSIR - Academy of Scientific & Innovative Research (CSIR-NAL), 2021, Aeroservoelastic System Modelling with Active Control Application using Experimental and Theoretical methods
- **M.Tech:** Aeronautical Engineering, Visvesvaraya Technological University, 2009-2011
- **B.E.:** Mechanical Engineering], Visvesvaraya Technological University, 2004-2008

Professional Experience

Experience			
S.No	Institute/College/Industry	Job Title	Duration (From- To)
1.	R V College of Engineering	Associate Professor	June 2017 – till date
2.	CSIR - National Aerospace Laboratories (NAL)	Senior Project Fellow	Dec 2013 – May 2017
3.	CSIR - National Aerospace Laboratories (NAL)	Project Scientist	Apr 2013 – Dec 2013
4.	CSIR - National Aerospace Laboratories (NAL)	Project Assistant - III	Dec 2011 – Mar 2013
5.	Bharath Earth Movers Limited (BEML)	Graduate Engineering Trainee	Sep 2008 – Sep 2009

Publications & Patents

Journal Publications

1. Promio Charles F., Samikkannu Raja, Niranjana K Sura. and Shanwaz Mulla, "System identification-based aeroelastic modelling for wing flutter", *Aircraft Engineering and Aerospace Technology*, (2018), Vol. 90 No. 2, pp. 261-269. <https://doi.org/10.1108/AEAT-08-2016-0122>

Conference Papers

1. F. Promio Charles, C. Prakash, B. Venkatesh and G. Gowtham Reddy, "Dynamic Equivalent Load Simulation Using Smart Actuators," 2019 IEEE Aerospace Conference, Big Sky, MT, USA, 2019, pp. 1-7, doi: 10.1109/AERO.2019.8741994.
2. Promio Charles F, Deeksha K, Sathvik K, Rohith V and Manasa H R, Smart Actuators Based Transient Response Analysis, AIAA Scitech 2021 Forum. AIAA 2021-1317. January 2021, doi:10.2514/6.2021-1317
3. F., P.C., Samikkannu, R., Sura, N.K. and Mulla, S. (2018), "System identification-based aeroelastic modelling for wing flutter", *Aircraft Engineering and Aerospace Technology*, Vol. 90 No. 2, pp. 261-269. <https://doi.org/10.1108/AEAT-08-2016-0122>

4. Charles, P. F., Raja, S. and Mahesh, M., (2014), "Influence of experimental mode shapes on unsteady aerodynamics in flutter prediction", ICTACEM- 2014", IIT Kharagpur, India.
5. Promio Charles F, Raja Samikkannu, Ashwin Umesh, Niranjana K Sura, "Aerodynamic Force Injection through Smart Actuators", Eighth ISSS- International Conference on Smart Materials, Structures & Systems, July 5-7, 2017, Indian Institute of Science, INDIA.
6. Charles F. Promio, T. S. Varalakshmi, Pooja Bhat, G. A. Vedavathi, V. Sushma, "Unsteady aerodynamic force approximation for flutter prediction", Taylor & Francis - Aerospace and Associated Technology, 2022, 1st Edition, ISBN 9781003324539
7. B. L. Saketh, Charles. F. Promio, E. Hemalatha and G. K. Dutta, "Aeroservoelastic Study of a Delta Wing with Actuators of Variable Stiffness," 2023 IEEE Aerospace Conference, Big Sky, MT, USA, 2023, pp. 1-9, doi: 10.1109/AERO55745.2023.10115557.
8. Dr. Promio Charles F, Prakash Kumar, Syed Muzzammil, Aneesh Prabhu & Kaarthik Shanker, "Potential Aerodynamics Benefits of the Camber–Morphing Wing", 25th AIAA International Space Planes and Hypersonic Systems and Technologies Conference, May 28 - June 1, 2023, Bengaluru, Karnataka, India, <https://arc.aiaa.org/doi/abs/10.2514/6.2023-3002>

R & D Grants & Consultancy Projects

Ongoing & Completed Research Projects

- [Investigation on out of wind tunnel open loop flutter experimental technique for a wing with store] – Vison Group on Science and Technology grant scheme (GRD No.: 1025)., Duration: [2024-2026], Role: PI

Professional Memberships

- Council of Vibration Specialists- CVS

Awards & Recognitions

- University Third Rank – M. Tech (Aero), MVJCE (VTU), 2011

Teaching

Core Courses: [Current semester]

- AS364TA - STRUCTURAL DYNAMICS
- HS248AT - UNIVERSAL HUMAN VALUES
- 21AS81P - MAJOR PROJECT
- AS253IA – FINITE ELEMENT METHODS
- 21AS78 – CONTROL ENGINEERING

Advanced/Lab Courses:

- FINITE ELEMENT ANALYSIS
- VIBRATION ENGINEERING

Professional Roles

Responsibilities

- **Academic:** IQAC Coordinator, Academic Monitoring Committee, NAAC Coordinator, Syllabus Coordinator, Sports Coordinator, CIE Coordinator, NBA Coordinator – Criteria:3
- **Administrative:** Academic Council Member – R V College of Engineering,

External Connect

- Doctoral Advisory Committee Member – AcSIR (CSIR – NAL)
- Member - Department Advisory Committee – M V Jayaram College of Engineering, Bangalore
- Member of BoS – Global Academy of Technology, Bangalore.
- Member of BoE – Global Academy of Technology, Bangalore.
- Member of BoE – M V Jayaram College of Engineering, Bangalore.