

Vertical Flight Society Announces Winner of 2025 Alfred Gessow Best Paper Award

The Vertical Flight Society (VFS) today announced the winner of the Alfred Gessow Award for the best overall technical paper presented at Forum 81.

FAIRFAX, VA, UNITED STATES, July 22, 2025 /EINPresswire.com/ -- The Vertical

Flight Society (VFS) today announced the winner of the prestigious Alfred

Gessow Award for the best overall technical paper presented at the Society's 81st Annual Forum and Technology Display.



Vertical Flight Society Forum 81

The winning paper, titled "EASA Helicopter Vortex-Ring-State Experimental Research Project," was selected from among 21 finalists and presented during the Safety technical session. The paper was authored by Laurent Binet (ONERA), Philippe Gasquez (DGA-EV), and Raffaele Di Caprio (EASA).

Laurent Binet, a research engineer and head of the Rotorcraft Flight Dynamics & Systems Research Unit at ONERA, has more than 26 years of experience in rotorcraft modeling, flight mechanics evaluation, pilot assistance systems, and flight control technologies. He has been involved in several flight test campaigns in collaboration with the French Flight Test Center (DGA-EV) and the German Aerospace Center (DLR), particularly in the area of autorotation, noise studies, and vortex-ring-state (VRS) flight dynamics. Laurent Binet has been involved in all VRS-related flight test programs at ONERA since 2000 and led the EASA Helicopter VRS Experimental Research Project on behalf of ONERA.

The VRS phenomenon—while well-documented—continues to contribute to helicopter accidents each year. This research project, launched by the European Union Aviation Safety Agency (EASA), involved flight test campaigns with two helicopter types across eight flights. The objective was to better understand VRS behavior and assess recovery maneuvers, including those proposed by Capt. Vuichard. The paper details flight instrumentation, testing procedures, vibration analyses, and findings related to VRS onset, influencing parameters, and recovery effectiveness.

Laurent Binet will present the award-winning paper at the 51st Annual European Rotorcraft

Forum (ERF), to be held Sept. 9–12, 2025, in Venice, Italy.

The selection process for the Alfred Gessow Award was highly competitive. From more than 350 abstracts submitted, 263 papers were published. The best paper from each of the 22 technical committees was evaluated, and six finalists were chosen by VFS's Deputy Technical Directors. The winner was selected by a panel of senior experts led by the VFS Technical Director.

All best papers from Forum 81 are available for purchase at the Vertical Flight Library:
www.vtol.org/library.

Forum 81 Best Paper Finalists by Category:

- Acoustics: Phased Array Measurements of a Full-Scale Helicopter – Kyle A. Pascioni et al., NASA Langley/US Army CCDC AvMC
- Advanced Vertical Flight: Neural Network Assisted Flight Dynamics Modeling of a Tailsitter UAS with Experimental Validation – Reuben-Wayne Stewart et al., Texas A&M University
- Aerodynamics (best overall in Aeromechanics disciplines): NASA Dragonfly Mission & Coaxial Rotor Test & CFD Prediction Sven Schmitz et al., Pennsylvania State University/NASA Ames/John Hopkins University APL
- Aircraft Design (best in Vehicle Design disciplines): A High-Performance Tailsitter Design for Future Air-Launch Capability – Jack Dooher et al., Texas A&M University
- Autonomy and UAS: Autonomous Ship Deck Landing Strategies for Unmanned Rotorcraft Operating in Harsh Weather Conditions – Mark Voskuil et al., Netherlands Defense Academy/Royal Netherlands Navy
- Avionics and Systems (best overall in Systems Integration disciplines): Close Enough for Comfort — Analysis of Landing Zone Evaluations with Autonomous No-Hover Landing in Unprepared Locations – Derek Gowanlock et al., National Research Council Canada
- Crew Stations & Human Factors (best in Systems Integration disciplines): Urban Air Mobility Passenger Discomfort Evaluations of Sudden Heave Motion in a Virtual Reality Motion-Base Simulator – Curt Hanson et al., NASA Armstrong
- Dynamics: Flap-Lag Stability Analysis of RACER in High-Speed Flight Conditions – Yan Skaldanek et al., Airbus Helicopters
- Electric VTOL: Overview of Wind Tunnel Testing of the Joby Aviation eVTOL Isolated Propeller System – William Staruk et al., Joby Aviation
- Handling Qualities: Flight Test Assessment of Scalable Low-Level Mission Task Elements – Tim Jusko et al., German Aerospace Center (DLR)/US Army CCDC AvMC
- Integrated Vehicle Health Management (IVHM): Feature Selection and Gamma Test for Improved Load Estimation Models – Catherine Cheung et al., National Research Council Canada
- Manufacturing Tech. & Processing: Multi-Physics Modeling and Planning Tool for Tailoring of Quenching Process of Representative Airframe Structural Components – Jim Lua et al., Global Engineering and Materials Inc./Spirit AeroSystems
- Modeling & Simulation: Subscale Tiltrotor eVTOL Aircraft Dynamic Modeling and Flight Control Software Development – Benjamin Simmons et al., NASA Langley
- Operations and Infrastructure: Wildlife Strike Mitigation in AAM: Key Technology Gaps and

Proposed Solutions – Margarete Groll et al., MIT Lincoln Laboratory/German Aerospace Center (DLR)

- Propulsion: Multifidelity Electric Motor Optimization Considering Mission and Transient Thermal Constraints – Seiyon Arulampalam et al., Georgia Institute of Technology
- Safety (Alfred Gessow best paper and best overall in Systems Engineering disciplines): EASA Helicopter Vortex-Ring-State Experimental Research Project by Laurent Binet, ONERA; Philippe Gasquez, DGA-EV; Raffaele Di Caprio, EASA
- Structures & Materials (best in Vehicle Integrity disciplines): Fatigue Damage Modeling in Laminated Composite Structures Based on J-Integral Calculation Yuri Nikishkov et al., University of Texas Arlington/US Army DEVCOM AvMC
- Systems Engineering Tools & Processes: Transforming Modeling and Simulation Verification, Validation & Accreditation with a Model-Based and Standards-Based Framework – James Hill et al., Lockheed Martin
- Test & Evaluation (best overall in Operations & Product Support disciplines): Dragonfly Preparation for Powered Flight Wind Tunnel and CFD Modeling – Peter Lorber et al., Sikorsky, a Lockheed Martin Co./Johns Hopkins University APL

Historical Recognition:

The VFS History Committee also recognized “A Humble Public Servant: Hal Andrews (1924–2007)” by Michael J. Hirschberg, Vertical Flight Society.

Forum 81 took place May 20–22, 2025, in Virginia Beach, Virginia, bringing together leading experts and innovators in vertical flight. Looking ahead, Forum 82 is scheduled for May 5–7, 2026, in beautiful West Palm Beach, Florida.

Founded in 1943 as the American Helicopter Society, the Vertical Flight Society is the world’s premier professional organization dedicated to the advancement of vertical flight technology. For over 80 years, the Society has led the global effort to promote, support, and advocate for innovations in rotorcraft and other vertical takeoff and landing (VTOL) systems—shaping the future of flight.

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