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**Vertical Flight Society Announces Airbus Helicopters Paper as Winner of 2026
Alfred Gessow Best Paper Award**
Paper Selected from 21 Technical Committee Best Paper Finalists at Forum 82

Fairfax, Virginia — The Vertical Flight Society (VFS) today announced that **Dr. Damien Desvigne** of Airbus Helicopters has received the prestigious **Alfred Gessow Award** for the best overall technical paper presented at the Society's **82nd Annual Forum & Technology Display**. Named in honor of rotorcraft pioneer Dr. Alfred Gessow, the award recognizes the most significant technical paper presented at the VFS Annual Forum and is considered one of the Society's highest technical honors.

The winning paper, "[From Simulation to Flight: Validation of the Racer Low-Drag Rotor Hub](#)," was selected from among 21 technical paper finalists. It was presented during the Forum's Aerodynamics technical sessions and co-authored by Paul Eglin, Martin Embacher, Raphaël Fukari, and Damien Piger of Airbus Helicopters. Dr. Desvigne's recognition marks the fourth consecutive year that the Alfred Gessow Best Paper Award has been presented to a lead author of European origin.



Dr. Desvigne is an expert in helicopter aerodynamics and rotor design at Airbus Helicopters, where he has spent more than 15 years advancing rotorcraft aerodynamics and leading research and technology initiatives. He earned a Master of Engineering degree in Applied Mathematics from École Nationale Supérieure des Mines de Nancy, France, as well as an MSc and Ph.D. in Computational Aeroacoustics from École Centrale de Lyon, France.

Throughout his career, Dr. Desvigne has led aerodynamic design and optimization efforts for several major Airbus programs, including the H160 and Racer, where he contributed to the design of the main rotor and upper deck. He has also supported aerodynamic integrity and certification activities across the Airbus in-service fleet, including the H145, H175, and H225 helicopters. Today, he leads the company's long-term aerodynamics research and technology strategy, pioneering exploratory work in machine learning and advanced numerical methods such as the Lattice Boltzmann Method (LBM), while directing cross-business initiatives in propeller technology and next-generation rotor blade development.

The award-winning paper addresses one of the key challenges facing future high-speed compound helicopters: reducing aerodynamic drag to enable more efficient cruise flight. The research presents a comprehensive, end-to-end validation of the Airbus Racer's innovative low-drag rotor hub using a rigorous development methodology that progresses from two-dimensional Robust Design Optimization (RDO) of airfoils through three-dimensional multi-fidelity computational fluid dynamics (CFD), wind-tunnel testing, and ultimately full-scale flight testing.

The fully faired Spheriflex rotor hub architecture achieved a 42% reduction in rotor hub form drag. At the aircraft level, flight testing demonstrated a 10% net reduction in overall drag, with measured results closely matching dynamic CFD predictions. This exceptional agreement between simulation and flight validates both the low-drag rotor hub concept and the predictive capability of advanced aerodynamic modeling, providing valuable guidance for the design of future high-speed rotorcraft.

Dr. Desvigne will present the paper at the [52nd European Rotorcraft Forum](#) to be held Sept. 1–4, 2026, in Amsterdam, the Netherlands.

The Alfred Gessow Award selection process is among the most competitive in the vertical flight community. More than 300 abstracts were submitted for the 82nd Annual Forum, resulting in the publication of more than 240 technical papers. The best paper from each of the Forum's 21 technical committees was selected for consideration, and six finalists were chosen by the Society's Deputy Technical Directors. The Alfred Gessow Award recipient was then selected by a panel of experts chaired by the VFS Technical Director.

All best papers from Forum 82 are available for subscription and purchase on the on the [SAE Mobilus](#) site.

Forum 82 Best Paper Finalists by Category:

- **Acoustics** [Concurrent Community Noise and Cabin Noise Measurements of Archer Aviation's Midnight Aircraft](#) – Shane Lympany, J. Page, M. Szőke, Blue Ridge Research, M. Secchi, R. Macedo P. Anderson, Archer Aviation; E. Greenwood, Pennsylvania State University
- **Advanced Vertical Flight:** [On the Ballistic Tube-Launch of a Tailsitter Unmanned Aerial System](#) – Jack Dooher, R.W Stewart, M. Benedict, Texas A&M University
- **Aerodynamics (Alfred Gessow best paper and best in Aeromechanics disciplines):** [From Simulation to Flight: Validation of the Racer Low-Drag Rotor Hub](#) – Damien Desvigne, P. Eglin, M. Embacher, R. Fukari, D. Piger, Airbus Helicopters
- **Aircraft Design (best in Vehicle Design disciplines):** [NASA Dragonfly Mission – Rotor Blade Design and Optimization](#) – Sven Schmitz, Pennsylvania State University, et al, NASA Ames Research Center/Pennsylvania State University/Sikorsky, a Lockheed Martin Co.
- **Autonomy and UAS:** [Vision-based Quadrotor Landing Tests on a Large Stochastic Platform under Degraded Visibility](#) – Kumardip Basak, A. Datta, I. Chopra, University of Maryland
- **Avionics and Systems:** [Flight Test Results for Velocity Aided Navigation in GPS Denied Environments](#) – Jason Hull, J. Monaco, D. Pierrottet, Psionic, Inc.
- **Crash Safety:** [Crashworthy Rotorcraft Structures using Topology Optimization](#) – Ghanendra K. Das, G. Kennedy, K. James, Georgia Institute of Technology
- **Crew Stations & Human Factors (best in Systems Integration disciplines):** [Comeau-Duggan Pilot Workload Index: Data Analysis](#) – Lauren Duggan, University of Liverpool; Perry Comeau, National Research Council Canada, M. White, University of Liverpool
- **Dynamics:** [Aeroelastic Rotor-Empennage Interactions and Design Sensitivities for T-tail Architectures](#) – Markus Rinker, O. Dieterich, T. Ries, Airbus Helicopters
- **Electric VTOL:** [Exploration of a Full-scale Hydrogen Fuel Cell Powered Helicopter through Flight Tests and Analysis](#) – Yuval Enciu, University of Maryland; et al United Therapeutics Corp/ Unither Bioelectronics/University of Maryland
- **Handling Qualities:** [A Joint Control–gaze Metric for Pilot Compensation](#) – Tim Jusko, D. Greiwe, German Aerospace Center (DLR)
- **Integrated Vehicle Health Management/IVHM (best in Systems Engineering disciplines):** [Towards Learning Assurance for In-flight Machine Learning-Based Helicopter Weight Estimator](#) – Ammar Mechouche, N. Valot, L. Fabre, Airbus Helicopters
- **Manufacturing Tech. & Processing:** [Autonomous Inspection: Driving Affordability, Availability, and Safety Through Augmented Aircraft Inspections](#) – Michael Nevinsky, P. Rhodes, C. Coccia, V. Gatto, H. Ransick, The Boeing Company
- **Modeling & Simulation:** [FAA VR-HeliSTART \(Virtual Reality-Helicopter Simulator Training for Airplane to Rotorcraft Transition\): Hovering Maneuvers](#) – Eleni Sotiropoulos-Georgiopoulos, Rowan University; C.C Johnson, Federal Aviation Administration
- **Operations and Infrastructure:** [Dynamically Controlled Vertiport Operations for Different UAM Aircraft Combining Live Sensor Feedback and Predictive Downwash/Outwash Scenarios](#) – Damian Rogers, L. Belluomini, Leonardo Helicopters
- **Propulsion:** [Gear Coatings for Loss of Lubrication: System Level Transmission Experiment within VIPER](#) – Mark Riggs, DEVCOM Army Research Lab; et al Acree Technologies/Bell Textron Inc./SURVICE Engineering; US Army DEVCOM AvMC

- **Safety:** [Enabling Safe Operations in Restricted Icing Conditions for Light to Medium Helicopters](#) - Carl Ockier, F. Dezitter, Airbus Helicopters; E. Norman, Norwegian Air Ambulance
- **Structures & Materials (best in Vehicle Integrity disciplines):** [Fatigue Delamination Modeling in Composite Structures Based on J-Integral and Application to Tapered Structural Element with Internal Ply Drops](#) – Yuri Nikishkov, University of Texas Arlington; et al US Army DEVCOM/University of Texas Arlington
- **Systems Engineering Tools & Processes:** [An MBSE Methodology for the Pre-Concept Design of a Fast Rotorcraft](#) – Luigi Turco, C. Lilliu, R. Wisniewski, G. Mazza, P. Sabato, Leonardo Helicopters
- **Test & Evaluation (best overall in Operations & Product Support disciplines)** [Structural Compatibility and Fatigue Life of Integrated Optical Fiber Sensors for Helicopter Rotor Blades](#) – Simone Weber, et al, Airbus Helicopters

Historical Recognition: The VFS History Committee also recognized “[Fort Wolters, Texas: The U.S. ARMY Primary Helicopter Center/School 1956-1975: Preparing Army Helicopter Pilots for War](#)” by Paul J. Fardink,* US ARMY (Ret.).

Forum 82 took place May 5-7, 2026, in West Palm Beach, Florida, bringing together leading experts and innovators in vertical flight. Looking ahead, [Forum 83](#) is scheduled for May 11-13, 2027, in Phoenix, Arizona.

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, advance, and advocate for innovations in rotorcraft and other vertical takeoff and landing (VTOL) systems—shaping the future of flight.

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The Vertical Flight Society

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