

## Curriculum Vitae

### Personal Data

Title	Prof. Dr. sc. techn. habil.
First names	Jörn Lothar
Name	Sesterhenn
Current position	University professor, chair holder
Current institution, country	Lehrstuhl für Technische Mechanik und Strömungsmechanik Universität Bayreuth 95440 Bayreuth Germany
ORCID	0000-0003-1309-2306

### Qualifications and Career

Stages	Periods and Details
Degree programme	1987 – 1990, <b>Diplom Maschineningenieurwesen</b> , ETH Zürich, Switzerland 1985 – 1987, <b>Pre-diploma in Engineering</b> , TU München, Germany
Doctorate	1995, Topic: “ <i>Über die numerische Berechnung kompressibler Strömungen bei kleinen Mach-Zahlen</i> ”, Referees: Hans Thomann & Rolf Jeltsch, ETH Zürich, Switzerland
Stages of post-doctoral academic education	2004, <b>Habilitation in Aeroacoustics</b> , Referees: Rainer Friedrich & Leonhard Kleiser, TU München, Garching, Germany 1996 – 1997, <b>Postdoctorate</b> on the topic “Numerical Simulation of Gravity Driven Density Currents”, Referee: R. LeVeque, University of Washington, USA
Stages of professional career	2019 – present, <b>Chair</b> , Lehrstuhl für Technische Mechanik und Strömungsmechanik, Universität Bayreuth, Germany 2015 – 2019, <b>Vice Director</b> , Institut für Strömungsmechanik und Technische Akustik, TU Berlin, Germany 2011 – 2015, <b>Director</b> , Institut für Strömungsmechanik und Technische Akustik, TU Berlin, Germany 2009 – 2019, <b>Professor for Numerical Fluid-dynamics</b> , (full) TU Berlin, Germany 2006 – 2009, <b>Professor for Numerical Methods in Aero- and Space Technology</b> , (associate) Universität der Bundeswehr München, Neubiberg, Germany 2001 – 2006, <b>Wissenschaftlicher Assistent</b> (predecessor of the Juniorprofessor), Institut für Fluidmechanik, (C1) TU München, Garching, Germany

	<p>1997 – 2001, <b>Researcher</b> with Prof. R. Friedrich, Institut für Fluidmechanik, TU München, Garching, Germany</p> <p>1996 – 1997, <b>PostDoc and Lecturer</b> with Prof. R. LeVeque, Dept. Applied Math, University of Washington, USA</p> <p>1991 – 1996, <b>Assistant</b>, Institut für Fluidmechanik, ETH Zürich, Switzerland</p>
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### Activities in the Research System

1993 – 1996, Member of Fakultätsrat, Dept. Maschinenbau und Verfahrenstechnik, ETH Zürich

2008 – 2009, Member of Fakultätsrat, Fak. Luft- und Raumfahrttechnik, UniBW

2010 – 2012, Member of Fakultätsrat, Fak. Maschinenbau und Verkehrswesen, TU Berlin

2012 – 2019, Member of the “Strategie AG”

2010 – 2019, Member of the curriculum committee “Physikalische Ingenieurwissenschaften”

2007 – present, Head or member of several search commissions

### Scientific Results

#### Category A

Sesterhenn, J. (2000). A characteristic-type formulation of the Navier–Stokes equations for high order upwind schemes. *Computers & fluids*, 30(1), 37-67. doi: [10.1016/S0045-7930\(00\)00002-5](https://doi.org/10.1016/S0045-7930(00)00002-5)

Lechner, R., Sesterhenn, J., & Friedrich, R. (2001). Turbulent supersonic channel flow. *Journal of Turbulence*, 2(1), 001. doi: [10.1088/1468-5248/2/1/001](https://doi.org/10.1088/1468-5248/2/1/001)

Mathew, J., Lechner, R., Foysi, H., Sesterhenn, J., & Friedrich, R. (2003). An explicit filtering method for large eddy simulation of compressible flows. *Physics of fluids*, 15(8), 2279-2289. doi: [10.1063/1.1586271](https://doi.org/10.1063/1.1586271)

Schmid, P. J., & Sesterhenn, J. (2008). Dynamic mode decomposition of numerical and experimental data. In *Bulletin of the American Physical Society, 61st APS meeting, San Antonio, Texas* (p. 208). URL: <http://meetings.aps.org/link/BAPS.2008.DFD.MR.7>

Lemke, M., & Sesterhenn, J. (2016). Adjoint-based pressure determination from PIV data in compressible flows—validation and assessment based on synthetic data. *European Journal of Mechanics-B/Fluids*, 58, 29-38. doi: [10.1016/j.euromechflu.2016.03.006](https://doi.org/10.1016/j.euromechflu.2016.03.006)

Cigala, V., Kueppers, U., Peña Fernández, J. J., Taddeucci, J., Sesterhenn, J., & Dingwell, D. B. (2017). The dynamics of volcanic jets: Temporal evolution of particles exit velocity from shock-tube experiments. *Journal of Geophysical Research: Solid Earth*, 122(8), 6031-6045. doi: [10.1002/2017JB014149](https://doi.org/10.1002/2017JB014149)

Peña Fernández, J. J., & Sesterhenn, J. (2017). Compressible starting jet: pinch-off and vortex ring–trailing jet interaction. *Journal of Fluid Mechanics*, 817, 560-589. doi: [10.1017/jfm.2017.128](https://doi.org/10.1017/jfm.2017.128)

Wilke, R., & Sesterhenn, J. (2017). Statistics of fully turbulent impinging jets. *Journal of Fluid Mechanics*, 825, 795-824. doi: [10.1017/jfm.2017.414](https://doi.org/10.1017/jfm.2017.414)

Sesterhenn, J., & Shahirpour, A. (2019). A characteristic dynamic mode decomposition. *Theoretical and Computational Fluid Dynamics*, 33, 281-305. doi: [10.1007/s00162-019-00494-y](https://doi.org/10.1007/s00162-019-00494-y)

Peña Fernández, J. J., Cigala, V., Küppers, U., & Sesterhenn, J. (2020). Acoustic analysis of starting jets in an anechoic chamber: implications for volcano monitoring. *Scientific Reports*, 10(1), 13576. doi: [10.1038/s41598-020-69949-1](https://doi.org/10.1038/s41598-020-69949-1)

### **Data protection and consent to the processing of optional data**

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