

**Personal Information**

Surname, Name: Inhestern, Lukas Benjamin  
 Date of Birth: 22/08/1988  
 Nationality: German  
 Current country of residence: Spain  
 Professional level language skills: German, English, Spanish

**Education**

**PhD degree** in Transport Propulsion Systems (with SCL) 01/04/2019 Universitat Politècnica de València, Valencia, Spain  
**Master's degree** in Reciprocating Internal Combustion Engines 06/07/2016 Universitat Politècnica de València, Valencia, Spain  
**Master's degree** in Energy Engineering 20/12/2013 RWTH Aachen University, Aachen, Germany  
**Bachelor's degree** in Mechanical Engineering 31/03/2013 RWTH Aachen University, Aachen, Germany

Research Experience	Postgraduate Program	Visiting Scholar	Postdoc
<b>Institution</b>	Universitat Politècnica de València, Spain	Purdue University, USA	Universitat Politècnica de València, Spain
<b>Date</b>	01/09/2014 - 29/03/2019	01/06/2018 - 30/09/2019	since 15/05/2019
<b>Research topic</b>	Radial Turbines at Design and Extreme Off-Design Conditions	Design of Supersonic Radial Turbines	Radial Turbocharger Turbines in Choked Condition; Double Entry Turbines
<b>Methodology</b>	Extended Performance Map Measurements, Aerodynamic Simulation, 1D Aerodynamical Loss-Modeling, Overall Turbine Map Extrapolation Modeling	Aerodynamic Simulation, Genetic Optimization, Numerical Heat Transfer Assessment, Aerodynamic Loss Evaluation in Transient Processes	Aerodynamic Simulation, Aeroacoustic Modeling, 1D Aerodynamical Loss-Modeling
<b>Distribution of Results</b>			
Peer-reviewed journal articles		7 published	
Peer-reviewed conference articles		6 published, 1 accepted for publication	
Provisional Patents		1	
Orcid ID: <a href="https://orcid.org/0000-0002-5414-7476">orcid.org/0000-0002-5414-7476</a>			
Researcher ID: R-6934-2019			
Scopus Author ID: 57193441962			

**Professional Experience**

Postdoc	since 15/05/2019	<b>CMT Motores Térmicos</b> Polytechnic University of Valencia (UPV), Valencia, Spain
Visiting Scholar	01/06/2018 - 30/09/2019	<b>PETAL</b> Purdue University, West Lafayette IN, USA
Postgraduate Program (PhD & Master)	01/09/2014 - 29/03/2019	<b>CMT Motores Térmicos</b> Polytechnic University of Valencia (UPV), Valencia, Spain
Master Thesis	01/04/2013 - 20/12/2013	<b>Institute of Propulsion Technology</b> German Aerospace Center (DLR), Cologne, Germany
Bachelor Thesis	01/12/2012 - 31/03/2013	<b>Institute of Jet Propulsion and Turbomachinery</b> RWTH Aachen University, Aachen, Germany
Internship	01/09/2012 - 31/10/2012	<b>Siemens AG (Headquarter of Steam Turbines)</b> Muelheim an der Ruhr, Germany
Internship	12/12/2011 - 13/01/2012	<b>Siemens AG (Headquarter of Steam Turbines)</b> Muelheim an der Ruhr, Germany
Student Assistant	01/05/2011 - 30/09/2011	<b>Nuclear Waste Management and Reactor Safety (IEK-6)</b> Juelich Research Center, Juelich, Germany

**Publications**

\*Authorship ordered by institutes internal seniority followed by external researchers.

\*\*Authorship ordered by contribution.

**Publications in peer-reviewed journals** (citations excluding self-citations)

1. J. R. Serrano, A. Tiseira, L. M. García-Cuevas, **L. B. Inhestern\***, H. Tartoussi. "Radial Turbine Performance Measurement Under Extreme Off-Design Conditions". In: *Energy* 125 (2017), pp. 72-84, doi: <https://doi.org/10.1016/j.energy.2017.02.118>. (citations: 4)
2. J. R. Serrano, R. Navarro, L. M. García-Cuevas, **L. B. Inhestern\***. "Turbocharger Turbine Rotor Tip Leakage Loss and Mass Flow Model Valid up to Extreme Off-Design Conditions with High Blade to Jet Speed Ratio". In: *Energy* 147 (2018), pp. 1299-1310, doi: <https://doi.org/10.1016/j.energy.2018.01.083>. (citations: 3)
3. J. R. Serrano, F. J. Arnau Martinez, L. M. García-Cuevas, **L. B. Inhestern\***. "An Innovative Losses Model for Efficiency Map Fitting of Vaneless and Variable Vaned Radial Turbines Extrapolating Towards Extreme Off-Design Conditions". In: *Energy* 180 (2019), pp. 626-639, doi: <https://doi.org/10.1016/j.energy.2019.05.062>. (citations: 1)
4. J. R. Serrano, R. Navarro, L. M. García-Cuevas, **L. B. Inhestern\***. "Contribution to Tip Leakage Loss Modeling in Radial Turbines Based on 3D Flow Analysis and 1D Characterization". In: *International Journal of Heat and Fluid Flow* 78 (2019), 108423, doi: <https://doi.org/10.1016/j.ijheatfluidflow.2019.108423>. (citations: 0)
5. **L. B. Inhestern\*\***, J. Braun, G. Paniagua, J. R. Serrano. "Design, Optimization, and Analysis of Supersonic Radial Turbines". In *Journal of Engineering for Gas Turbines and Power*, doi: <https://doi.org/10.1115/1.4044972>. (citations: 0)
6. A. Torregrosa, L. M. García-Cuevas, **L. B. Inhestern\***, P. Soler. "Radial Turbine Sound and Noise Characterisation with Acoustic Transfer Matrices by means of Fast One-Dimensional Models". In *International Journal of Engine Research* (2019), doi: <https://doi.org/10.1177/1468087419889429>. (citations: 0)
7. A. Tiseira, R. Navarro, **L. B. Inhestern\***, N. Hervás Gómez. "Design and Numerical Analysis of Flow Characteristics in a Scaled Volute and Vaned Nozzle of Radial Turbocharger Turbines". In *Energies* (2020), doi: <https://doi.org/10.3390/en13112930>. (citations: 0)

### Publications in peer-reviewed conference proceedings

1. J. R. Serrano, L. M. García-Cuevas, **L. B. Inhestern\***, H. Mai, A. Rinaldi. "Methodology to Evaluate Turbocharger Turbine Performance at High Blade to Jet Speed Ratio Under Quasi Adiabatic Conditions". In: *ASME Turbo Expo 2017*, Charlotte NC, USA, doi: <https://doi.org/doi:10.1115/GT2017-63360>. (citations: 0)
2. J. R. Serrano, A. Gil, R. Navarro, **L. B. Inhestern\***. "Extremely Low Mass Flow at High Blade to Jet Speed Ratio in Variable Geometry Radial Turbines and its Influence on the Flow Pattern: A CFD Analysis". In: *ASME Turbo Expo 2017*, Charlotte NC, USA, doi: <https://doi.org/doi:10.1115/GT2017-63368>. (citations: 0)
3. J. R. Serrano, L. M. García-Cuevas, **L. B. Inhestern\***, S. Guilain, H. Tartoussi. "Analysis of Unsteady Energy Fluxes in a Turbocharger by Using a Holistic Model Extrapolating Standard Lookup Tables in Full Engine Operating Map". In: *ASME Turbo Expo 2018*, Oslo, Norway, doi: <https://doi.org/doi:10.1115/GT2018-76470>. (citations: 0)
4. J. R. Serrano, R. Navarro, L. M. García-Cuevas, **L. B. Inhestern\***. "Method for Non-Dimensional Tip Leakage Flow Characterization in Radial Turbines". In: *ASME Turbo Expo 2018*, Oslo, Norway, doi: <https://doi.org/doi:10.1115/GT2018-76490>. (citations: 0)
5. **L. B. Inhestern\*\***, J. Braun, G. Paniagua, J. R. Serrano. "Design, Optimization, and Analysis of Supersonic Radial Turbines". In: *ASME Turbo Expo 2019*, Phoenix AZ, USA, doi: <https://doi.org/10.1115/GT2019-91756>. (citations: 0)
6. Z. Liu, **L. B. Inhestern\*\***, J. Braun, G. Paniagua. "Unsteady Heat Transfer Assessment of Supersonic Turbines Downstream of a Rotating Detonation Combustor". In: *ASME Turbo Expo 2019*, Phoenix AZ, USA, doi: <https://doi.org/10.1115/GT2019-91460>. (citations: 0)

### Publications in publishing process

1. A. Tiseira, L. M. García-Cuevas, **L. B. Inhestern\***, J. D. Echavarría. "Numerical Simulation of a Radial Turbine at Off-Design Conditions in Presence of Choked Flow". In: *ASME Turbo Expo 2020*, London, UK. (accepted for publication)

### Provisional Patents

**L. B. Inhestern\*\***, J. Braun, G. Paniagua "Non-Axial Turbomachine" with EFS ID: 36185663

### Prizes and Awards

Travel Fellowship (FPI-UPV) awarded by Universitat Politècnica de València

Marie Curie Global Fellowship: H2020-MSCA-IF-2019, ROTRANS project awarded by the EU