
Experiences

11/2016 – present **Research scientist** in the work group Numerical Thermo-Fluid Dynamics, Chair of technical thermodynamics, TECHNISCHE UNIVERSITÄT BERGAKADEMIE FREIBERG, Freiberg/Saxony, Germany

Research interests:

- Numerical simulations with OpenFOAM®
- Multiphase flows
- Solid-liquid phase change phenomena
- Spray simulations
- Experimental and numerical validations
- Automated post-processing solutions

Responsibilities at the institute:

- Lecture: Programming tools for the numerical simulations
- Exercise/Seminar: Programming tools for the numerical simulations, Numerical methods for thermo-fluid dynamics I and III, Heat and mass transfer
- Lab course: Heat and mass transfer
- Computer administration (Linux-Cluster, PC-Pool)

Education

10/2011–09/2015 Masters: „**Computational Mechanical Engineering**“ at the BERGISCHE UNIVERSITÄT WUPPERTAL, Wuppertal, Germany

Degree: Master of Science

Master thesis on the topic „Simulation of DNOX-Sprays using VOF-Method“ at ROBERT BOSCH GMBH, Stuttgart, Germany,

Internship on the topic „3D CFD Simulation of flow in a single slit of a disk separator“ at the chair of fluid mechanics, BERGISCHE UNIVERSITÄT WUPPERTAL, Wuppertal, Germany

09/2006–06/2010 Bachelors: „**Mechanical Engineering**“ at OSMANIA UNIVERSITY, Hyderabad, India

Degree: Bachelor of Engineering

08/2004–05/2006 Board of Intermediate Education, NALANDA JUNIOR COLLEGE, Secunderabad, India

06/1994–05/2004 Primary and Secondary education, ST. MARKS HIGH SCHOOL, Secunderabad, India

Extracurricular activities

- 06/2016–07/2016 **Online course:** A Hands-on Introduction to Engineering Simulations, CORNELL UNIVERSITY, edX Online Plattform, USA
- 08/2015–11/2015 **Online course:** Spray Theory and Applications, INDIAN INSTITUTE OF TECHNOLOGY CHENNAI, NPTEL Online Plattform, India
- 10/2010–02/2011 Course in CAE (Computer Aided Engineering) at CENTRAL INSTITUTE OF TOOL DESIGN, Hyderabad, India
- 06/2007–06/2011 Higher Diploma in Software Engineering at NIIT, Secunderabad, India

Technical skills

CAD	SpaceClaim, SolidWorks 2019, CATIA V5 R18, SALOME
CAE	OpenFOAM®, ANSYS-Fluent, ANSYS-ICEM, Hypermesh
Programming	C, C++, C#, Python, FORTRAN, MATLAB
Documentation	MS-Office, L ^A T _E X
Operating systems	Windows, Linux

Linguistic fluency

Hindi	Native speaker
English	Fluent (written and spoken)
German	Intermediate (written and spoken)
French	Basic knowledge

Interests

- Listening to music
- Reading books
- Badminton
- Squash
- Rubik's cube
- learning to play drums

Ravi G. Kewalramani

Journals

- **R. G. Kewalramani**, I. Riehl, J. Hantusch, T. Fieback: Numerical investigation of the cooling stage during aluminothermic welding of rails: Rapid welding process without preheating; Thermal Science and Engineering Progress, Vol. 37 (2023)
- **R. G. Kewalramani**, S. Pose, I. Riehl, T. Fieback: Solid-Liquid Phase Change in the Presence of Gas Phase: Numerical Modeling and Validation; Journal of Fluid Flow, Heat and Mass Transfer (JFFHMT), Vol 7 (2020), pp. 1-11

Conferences

- **R. G. Kewalramani**, I. Riehl, J. Hantusch, T. Fieback: A CFD Model to simulate Thermal Mould Filling and Solid-Liquid Phase Change during Aluminothermic Welding of Rails; 14th International Conference on Computational Heat and Mass Transfer, 04. - 08. Sep. 2023, Düsseldorf, Germany
- **R. G. Kewalramani**, I. Riehl, J. Hantusch, T. Fieback: Aluminothermic Welding Process: 3D CFD Simulation of Solid-Liquid Phase Change and Experimental Validation using Photogrammetry; 18th Multiphase Flow Conference & Short Course, 08. - 12. Nov. 2021, Dresden [Virtual Conference]
- **R. G. Kewalramani**, I. Riehl, J. Hantusch, J. Keichel, M. Niederkrueger, T. Fieback: Numerical Modelling and Simulation of the Aluminothermic Welding of Rails: Heat Transfer and Solid-Liquid Phase Change; Proceedings of the 7th World Congress on Mechanical, Chemical and Material Engineering (MCM'21), 2. - 4. Aug. 2021, Prague, Czech Republic [Virtual Conference]
- **R. G. Kewalramani**, I. Riehl, J. Hantusch, T. Fieback: Multiphase CFD Simulaiton of Heat Transfer and Solidification During Thermit Welding Process; 14th International Conference on Computational Fluid Dynamics in the Oil & Gas, Metallurgical and Process Industries, 12. - 14. Okt. 2020, Trondheim, Norway [Virtual Conference]
- **R. G. Kewalramani**, S. Pose, I. Riehl, T. Fieback: Investigation of the Solid-Liquid Phase Change in the Presence of Gas Phase: Numerical Modeling and Validation; Proceedings of the 5th World Congress on Mechanical, Chemical and Material Engineering (MCM'19), 15. - 17. Aug. 2019, Lisbon, Portugal
- **R. G. Kewalramani**, I. Riehl, T. Fieback: Modellierung und Simulation des Erstarrungsvorganges beim Thermit[®]-Schweißen von Schienen; Thermodynamik-Kolloquium 2018, 26. - 28. Sep. 2018, Kassel
- **R. G. Kewalramani**, I. Riehl, T. Fieback: CFD-Simulation des Thermit[®]-Schweißverfahrens - Abkühlung und Erstarrung der Schmelze; Jahrestreffen der ProcessNet-Fachgruppen Mehrphasenströmungen, Wärme und Stoffübertragung, CFD, HTT, AuW, KRI und PMT, 6. - 9. März 2018, Bremen
- **R. G. Kewalramani**, I. Riehl, T. Fieback: Numerische Untersuchung der Wärmeübertragung und Erstarrung der Schmelze im Thermit[®]-Schweißverfahren mittels OpenFOAM[®]; Thermo.-Koll. 2017, 27. - 29. Sep. 2017, Dresden