National Institute of Technology, Tiruchirappalli:
Performa for CV of Faculty/ Staff Members

Curriculum Vitae

Brief Profile: Dr. P Kaushik obtained his PhD from the Mechanical Engineering Department of Indian Institute of Technology Kharagpur in the year 2017. His areas of specialization are non-Newtonian fluid dynamics particular the dynamics of viscoelastic fluids.

1. Name: P Kaushik
2. Designation: Assistant Professor
3. Office Address: Room No. M12, Department of Mechanical Engineering.
4. Telephone (Direct) (Optional):

   Telephone : +91-431-2504092 Extn (Optional): 4092

   Mobile (Optional): +91-9632253573
5. Email (Primary): pkaushik@nitt.edu Email (Secondary) :
6. Field(s) of Specialization: Fluid Dynamics, Computational Fluid Mechanics, Non-Newtonian Fluids
7. Employment Profile

Job Title	Employer	From	To
Assistant Professor	NIT Trichy	Mar 2018	Present
Assistant Professor	MSRIT, Bengaluru	Aug 2017	Feb 2018
Research Associate	Microfluidics Lab, IIT Kharagpur	Oct 2016	Mar 2017

8. Academic Qualifications (From Highest Degree to High School):

Examination	Board / University	Year	Division/ Grade	Subjects
Ph.D.	IIT	2017	-	"Numerical Studies on

	Kharagpur			the Dynamics of Complex Fluids in Narrow Confinements"
M.Tech	IIT Kharagpur	2011	-	Thermal Science and Engineering
B.E	VTU Belgaum, Karnataka	2009	First Class with Distinction	Mechanical Engineering
Class 12	CBSE	2005	-	Science
Class 10	CBSE	2003	-	

9. Academic/Administrative Responsibilities within the University

Position	Faculty/Department/Centre/Institution	From	To
Faculty Advisor	Mechanical Department, NITT	22-07-2019	24-09-2021
Department stock verification officer	Production Department, NITT	16-07-2018	16-07-2018
Central Library Stock Verification Officer	Central Library, NITT	23-10-2018	31-07-2019
Convocation committee member 2019	NITT	19-06-2019	01-08-2019
Convocation committee member 2020	NITT	01-10-2020	09-11-2020
Convocation committee member 2021	NITT	31-08-2021	24-09-2021
Department stock verification officer	Mechanical Department, NITT	29-10-2021	30-06-2022
Lab In-charge	Advanced Engineering Simulation Laboratory	07-06-2019	Present
Member of PhD admission committee	Mechanical Department, NITT	19-11-2018	19-11-2018
Convocation duty committee member	Mechanical Department, NITT	15-07-2019	01-08-2019
Lab in-Charge	HEFA Funded Centre for Combustion and Emission Studies	21-04-2021	Present

10. Academic/Administrative Responsibilities outside the University - NIL

Position	Institution	From	To

11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2019-20	Commendable performance in teaching, research and institutional development	NITT

12. Fellowships

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2011	Institute Research Fellowship for pursuing Ph.D. at IIT Kharagpur	MHRD, Govt. of India	July 2011	July 2016
2009	GATE Fellowship for Pursuing M.Tech. at IIT Kharagpur	MHRD, Govt. of India	July 2009	May 2011

13. Details of Academic Work

(i) Curriculum Development
- Updated the syllabus for Computational Fluid Dynamics course for UG and PG levels in the year 2018.

(ii) Courses taught at Postgraduate and Undergraduate levels
- UG - Fluid Mechanics, Fluid Mechanics and Machines, Computational Fluid Dynamics, Oil Hydraulics and Pneumatics, SOM/FM Laboratory.
- PG – Advanced Fluid Mechanics, Computational Fluid Dynamics, Advanced Engineering Simulation Laboratory.

(iii) Projects guided at Postgraduate level – 9 completed and 3 ongoing

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Hunting Representative Sensors and Constructing Regression Model	GTRE, DRDO	07.12.2020	06.06.2022	Completed

Between Engine Sensor Outcomes Using Machine Learning, Computational Intelligence and Dimensionality Reduction Techniques				

15. Number of PhDs guided- NIL

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
November 13, 2018	Workshop	National	Participant	ISRO, Dehradun	Dehradun
July 09-11, 2018	Conference	International Conference	Paper presenter	5th International Conference on Computational Methods for Thermal Problems	IISc Bangalore
December 28-31, 2013	Conference	International Conference	Paper presenter	22nd National and 11th ISHMT - ASME Heat and Mass Transfer Conference, 2013	IIT Kharagpur
August 18-19, 2012	Workshop	International	Participant	INDO-US Centre for research excellence on fabrionics	Bengal Engineering and Science university, Shibpur

17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convenor / Co-Convenor)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
International Mechanical Engineering Congress – 2019 (Conference)	International	29-11-2019 to 01-12-2020	Organizing Secretary	NITT

10. Invited Talks delivered

Topic	Date	Inviting Organization
Computational Methods in Heat Transfer	07-12-2019	University College of Engineering Villupuram, Kakuppam, Villupuram - 605 103.
Finite Volume Method For Engineering Problems	09-04-2021	WFANA – 2021, Mathematics Department, NITT
Maple for Engineering Problems	05-08-2021	WSMS – 2021, Mathematics Department, NITT
CFD Aided by the Finite Volume Method: Fundamentals and Benefits	04-07-2022	Contemporary in Thermal energy and Fluids, Kalasalingam University, Krishnankoil - 626 126.

11. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
November 13, 2018	Workshop	National	Participant	ISRO, Dehradun	Dehradun
July 09-11, 2018	Conference	International Conference	Paper presenter	5th International Conference on Computational Methods for Thermal	IISc Bangalore

				Problems	
December 28-31, 2013	Conference	International Conference	Paper presenter	22nd National and 11th ISHMT - ASME Heat and Mass Transfer Conference, 2013	IIT Kharagpur
August 18-19, 2012	Workshop	International	Participant	INDO-US Centre for research excellence on fabrionics	Bengal Engineering and Science university, Shibpur

12. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal (Optional)
P Kaushik, S Shyam, PK Mondal	Mixing in small scale fluidic systems swayed by rotationality effects	Physics of Fluids	34(6)	062008	2022	3.521
M Patel, SSH Kruthiventi, **P Kaushik**	Polyelectrolyte layer grafting effect on the rotational electroosmotic flow of viscoplastic material	Microfluidics and Nanofluidics	25(2)	1-20	2021	2.529
S Balasubramanian, **P Kaushik**, PK Mondal	Dynamics of viscoelastic fluid in a rotating soft microchannel	Physics of Fluids	32(11)	112003	2020	3.521
N Kumma, A Moideen, **P Kaushik**, SSH Kruthiventi	Modified thermal balance method for estimating minimum inerting concentration of flammable refrigerant mixtures	Journal of Thermal Analysis and Calorimetry	141(6)	2201-2210	2020	4.626
M Patel, SSH	Rotating electroosmotic flow of power-law fluid	Colloids and Surfaces B:	193	111058	2020	5.268

Kruthiventi, **P Kaushik**	through polyelectrolyte grafted microchannel	Biointerfaces				
D Kumar, SMK Shakya, **P Kaushik**	Inlet swirl decay and mixing in a laminar micro-pipe flow with wall slip	Physics of Fluids	32(2)	022008	2020	3.521
A Kathail, CM Pranav, **P Kaushik**	Inlet swirl decay of non-Newtonian fluid in laminar flows through tubes	*Sādhanā*	44(12)	1-10	2019	0.769
P. Kaushik, Mondal, P. K., Kundu, P. K., & Wongwises, S	Rotating electroosmotic flow through a polyelectrolyte-grafted microchannel: An analytical solution.	*Physics of Fluids*	31	022009	2019	2.279
P. Kaushik, S. Mandal, & S. Chakraborty	Transient Electroosmosis of a Maxwell fluid in a Rotating Microchannel	*Electrophoresis*	38	2741–2748	2017	2.744
P. Kaushik, P. K. Mondal, & S. Chakraborty	Rotational electrohydrodynamics of a non-Newtonian fluid under Electrical Double Layer Phenomenon: The role of lateral confinement	*Microfluidics and Nanofluidics*	21	122	2017	2.344
P. Kaushik & S. Chakraborty	Startup electroosmotic flow of a viscoelastic fluid characterized by Oldroyd-B model in a rectangular microchannel with symmetric and asymmetric wall zeta potentials	*Journal of Non-Newtonian Fluid Mechanics*	247	41-52	2017	2.536
P. Kaushik, P. Abhimanyu, P. K. Mondal, & S. Chakraborty.	Confinement effects on the rotational microflows of a viscoelastic fluid under Electrical double layer phenomenon.	*Journal of Non-Newtonian Fluid Mechanics*	*244*	123-137	2017	2.536
P. Kaushik, P. K. Mondal, S.	Heat transfer and entropy generation characteristics of a non Newtonian fluid	*Journal of Heat Transfer*	139(2)	022004-022004-	2017	1.866

Pati, & S. Chakraborty.	squeezed and extruded between two parallel plates.			9.		
P. Abhimanyu, **P. Kaushik**, P. K. Mondal, & S. Chakraborty.	Transiences in rotational electro-hydrodynamics microflows of a viscoelastic fluid under electrical double layer phenomena.	*Journal of Non-Newtonian Fluid Mechanics*	*231*	56-67	2016	2.536
P. Kaushik, P. K. Mondal, & S. Chakraborty.	Flow dynamics of a viscoelastic fluid squeezed and extruded between two parallel plates.	*Journal of Non-Newtonian Fluid Mechanics*	*227*	56-64	2016	2.536
S. Pati, **P. Kaushik,** S. K. Som, & S. Chakraborty.	Film condensation in presence of non-condensable gases: Interplay between variable radius of curvature and interfacial slip.	*International Communications in Heat and Mass Transfer*	*56*	31-36	2014	3.718
P. Kaushik, S. Pati, S. K. Som, & S. Chakraborty.	Hydrodynamic and thermal transport characteristics of swirling flows through microchannels with interfacial slip.	*International Journal of Heat and Mass Transfer*	*55*(15)	4359-4365.	2012	3.458
P. Kaushik, S. Pati, S. K. Som, & S. Chakraborty.	Hydrodynamic Swirl Decay in Microtubes with Interfacial Slip.	*Nanoscale and Microscale Thermophysical Engineering*	*16*(2)	133-143	2012	3.182

(B) Conferences/Workshops/Symposia Proceedings

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
S. Pati, **P.**	Effects of interfacial	*22nd National*	HM	Heat and	IIT	2013

Kaushik, S. K. Som, & S. Chakraborty	slip on film condensation over horizontal tubes with progressively increasing radius of curvature in the direction of gravity	*and 11th ISHMT - ASME Heat and Mass Transfer Conference*	TC 130 028 1	Mass Transfer	Kharagpur, India	
N. Sharma, K. Chaudhury, **P. Kaushik** , & S. Chakraborty	Breakup and wrapping of free surface within a laterally oscillating container: effect of multimodal evolution of surface energy	*3rd Thermal and Fluids Engineering Conference (TFEC)*	TFEC-2018-21868	Thermal and Fluids Engineering	Fort Lauderdale, FL, USA	2018
C. M. Pranav, A. Kathail & **P. Kaushik**	Effect of swirl device on the heat transfer characteristics in a decaying laminar swirling flow through a pipe	*Fifth International Conference on Computational Methods for Thermal Problems THERMACOMP2018*		Computational Methods for Thermal Problems	Indian Institute of Science, Bangalore, INDIA.	2018
P Kaushik	Heat transfer characteristics of a viscoelastic fluid squeezed and extruded between two parallel plates	*Fifth International Conference on Computational Methods for Thermal Problems THERMACOMP2018*		Computational Methods for Thermal Problems	Indian Institute of Science, Bangalore, INDIA.	2018
P Kaushik & S S Harish Kruthiventi	Perturbation Solution of a Viscoelastic Fluid Squeezed and Extruded Between Two Parallel Plates	*7th International and 45th National Conference on Fluid Mechanics and Fluid Power (FMFP)*	PAPER NO. 612	Fluid Mechanics	IIT Bombay, Mumbai, India	2018