

## Dr. Indra Vir Singh

Associate Professor,  
Department of Mechanical and Industrial Engineering,  
Indian Institute of Technology Roorkee, Roorkee 247667, Uttarakhand, India  
Ph. No.: +91-1332-285888 (O), Fax: 91-1332-285665, 9837351804 (Mobile)  
E-mail: [ivsingh@gmail.com](mailto:ivsingh@gmail.com), [indrafme@iitr.ac.in](mailto:indrafme@iitr.ac.in)

Website:

<http://www.iitr.ac.in/departments/ME/pages/People+Faculty+indrafme.html>

Orcid: <http://orcid.org/0000-0002-0482-8505>



### Research Interests

- ❖ FEM, XFEM, Isogeometric Analysis, Meshfree Methods;
- ❖ Multi-scale Modeling, Phase Field Modeling, Constitutive Modeling;
- ❖ Fracture Mechanics, Fatigue, Damage Mechanics, Plasticity, Composites;

### Educational Qualifications

S.No.	Class/Degree	School/College/University	Year
1.	B.Sc. Engg. (Mechanical)	A.M.U. Aligarh	1996
2.	M.Tech. (Applied Mechanics)	I.I.T. Delhi	1998
3.	Ph.D. (Mechanical)	BITS, Pilani	2004

### Professional Experience

S.No.	Position Held	College/University	Responsibility	From	To
1.	Research Associate	IIT Delhi, India	Research	02,1999	05/1999
2.	Lecturer	BITS, Pilani, India	Teaching/Research	05/1999	07/2005
3.	Postdoctoral Researcher	Shinshu University Nagano, Japan	Research	09/2005	03/2007
4.	Assistant Professor	IIT Roorkee, India	Teaching/Research	04/2007	10/2012
5.	Associate Professor	IIT Roorkee, India	Teaching/Research	10/2012	Till Date

### Publications

	Published/Accepted	In-Review	Total
Journals	95	2	97
Conference/Symposium	90	-	90
Total	185		187

### Thesis/Dissertation Guidance

	Completed/Submitted	In-Progress	Total
Ph.D.	9	6	15
M. Tech.	44	1	45

## Computer/Software Skills

- ❖ **Software Packages:** ANSYS, ABAQUS, SolidWorks
- ❖ **Computer Languages:** MATLAB, FORTRAN, C

## Membership

- ❖ Indian Association for Computational Mechanics
- ❖ Indian Society of Theoretical and Applied Mechanics
- ❖ International Association of Engineers

## Honors, Awards and Fellowships

- ❖ Selected for Marquis's Who's Who in the World, 2005, 2007, 2008, 2009, 2010, 2011, 2012.
- ❖ Sir Rajendra Nath Mookherjee Memorial Best Paper Award by Institution of Engineers, 2007.
- ❖ Ministry of Human Resource Development, New Delhi, GATE Fellowship, 1997-1998.
- ❖ Merit Scholarship during Bachelor Degree Course, 1993-1996.
- ❖ Merit Scholarship from Class IX to XII.

## Foreign Visits

- ❖ **Japan** (Shinshu University, Nagano), **Postdoctoral Researcher** from **September 2005 – March, 2007**.
- ❖ **USA** (Los Angeles, California) to present a paper in 7<sup>th</sup> World Class Congress on Computational Mechanics, **July 16 – 22, 2006**.
- ❖ **Canada** (Vancouver) to chair a session in 9th International ASTM/ESIS Symposium on Fatigue and Fracture Mechanics (37th ASTM National Symposium on Fatigue and Fracture Mechanics), **May 20 – 22, 2009**.
- ❖ **South Korea**, Korea Railroad Research Institute, Uiwang City, **June 22 – July 21, 2009**.
- ❖ **Germany** (Aachen) to present a paper in ECCOMAS Thematic Conference on the XFEM, **September 28 – 30, 2009**.
- ❖ **South Korea**, Korea Railroad Research Institute, Uiwang City, **June 14 – July 03, 2010**.
- ❖ **Portugal** (University of Aveiro), Indo-Portugal joint research project, **June 14 – 21, 2011**.
- ❖ **UK** (Cardiff University), to present a paper in 2<sup>nd</sup> International Conference on Extended Finite Element Method, **June 29 – July 01, 2011**.
- ❖ **Singapore** (National Technological University), to present paper in Eleventh Asia-Pacific Conference on Engineering Plasticity and Its Applications (AEPA2012), **December 5-7, 2012**.
- ❖ **Germany** (Ulm), International Forum for Testing Materials, Zwick, Ulm, **October 14-17, 2013**.
- ❖ **France** (Ensta Paris Tech), to present paper in Multi-physics Modeling of Solids (MPMS), An International Colloquium, Paris, France, **October 6-8, 2014**.
- ❖ **Australia**, Deakin University, Warun Ponds Campus, Geelong, Australia, **June 15-19, 2015**.
- ❖ **Singapore**, ICMAE Conference, **December 12-14, 2015**.
- ❖ **Japan**, Kyushu University, Fukuoka Japan, **October 22-24, 2016**.

## Invited Lectures

- ❖ Meshfree Methods in Engineering, BARC Mumbai, India, June 30 – July 1, **2007**.

- ❖ Meshfree Methods, Short Term Course on “Computational Fluid Dynamics” by Dr. B.K. Gandhi and Dr. K. M. Singh, IIT Roorkee, June 23, **2008**.
- ❖ Handling of Strong Discontinuities by Element Free Galerkin Method, Korea Railroad Research Institute, Uiwang City, South Korea, July 2, **2009**.
- ❖ Two-dimensional Finite Element Analysis, Short Term Course on “Computer Aided Design” by Dr. P. M. Pathak and Dr. B. K. Mishra, IIT Roorkee, December 22, **2009**.
- ❖ Meshfree Methods in Heat Transfer, BARC Mumbai, India, March 4–5, **2010**.
- ❖ Modeling and Simulation of Strong Discontinuities by XFEM, Korea Railroad Research Institute, Uiwang City, South Korea, June 28, **2010**.
- ❖ Fracture Mechanics Simulations using Meshfree Method, Meshfree Conference, IISc Bangalore, India, January 10–11, **2011**.
- ❖ Numerical Simulations of Fracture Mechanics Problems using Meshfree Methods, University of Aveiro, Portugal, June 20, **2011**.
- ❖ Finite Element Methods: Fundamentals, DEAL, Dehradun, June 5-6, **2012**.
- ❖ Three-Dimensional Fracture Mechanics Simulations Using Extended Finite Element Method, *Fourth International Conference on Structural Stability and Dynamics (ICSSD)*, MNIT, Jaipur, India, Vol. 2, pp. 863–877, January 4–6, **2012**.
- ❖ Finite Element Methods for Solid Mechanics Problems, MNIT, Jaipur, June 4-5, **2013**.
- ❖ Composites: Introduction, Mechanics and Failure Analysis, MNIT, Jaipur, June 14, **2013**.
- ❖ Introduction to Meshfree Methods and Extended Finite Element Methods, IIT Mandi, July 4, **2013**.
- ❖ Introduction to Finite Element Methods, GNDEC, Ludhiana, TEQIP sponsored STC, July 22, **2013**.
- ❖ Finite Element Analysis, DCRUST, Murthal, TEQIP sponsored STC, September 25, **2013**.
- ❖ Finite Element Methods and Its Applications, DEAL, Dehradun, December 16, **2013**.
- ❖ Finite Element Methods, DTU, Delhi, June 10, **2014**.
- ❖ Introduction to Meshfree, XFEM and Isogeometric Analysis, IIT Mandi, HP, June 27, **2014**.
- ❖ Meshfree Methods and Applications, NIT Patna, March 23-34, **2015**.
- ❖ Numerical Simulations of Fracture Mechanics Problems by XFEM, IISc Bangalore, May 29, **2015**.
- ❖ Advanced Numerical Simulations for Fatigue-fracture problems, Deakin University, Australia, June 18, **2015**.
- ❖ **Japan**, Invited talk in Mathematical Analysis of Continuum Mechanics and Industrial Applications II (CoMFos16), Kyshu University, Fukuoka Japan, **October 22-24, 2016**.

## Special Issues

- ❖ Chief Editor for Recent Advances in Computational Mechanics (RACM), Advances in Mechanical Engineering, Sage Publications, <http://ade.sagepub.com/content/5/158572>
- ❖ Guest Editor for Special Issue on Advances in Mechanical Problems of Functionally Graded Materials and Structures, [http://www.mdpi.com/journal/materials/special\\_issues/AMPFGMS](http://www.mdpi.com/journal/materials/special_issues/AMPFGMS)

## New Courses Developed

- ❖ Extended Finite Element Method at IIT Roorkee

## Conference Organized

- ❖ Joint Organizing Secretary, 1<sup>st</sup> International and 16<sup>th</sup> National Conference on Machines and Mechanism, IIT Roorkee, December 18-20, **2013**.

## Session Chair

- ❖ Chaired a Session in Interquadrennial Conference of the International Congress of Fracture (**IQICF**), IISc Bangalore, India, August 3–7, **2008**.
- ❖ Chaired a Session in Ninth International ASTM/ESIS Symposium on Fatigue and Fracture Mechanics (37th ASTM National Symposium on Fatigue and Fracture Mechanics), Vancouver, Canada, May 20–22, **2009**.
- ❖ Chaired a session in Meshfree Conference, IISc Bangalore, India, January 10–11, **2011**.
- ❖ Chaired a session in Fourth International Conference on Structural Stability and Dynamics (ICSSD 2012), MNIT Jaipur, India, January 4–6, **2012**.

## Short Term Course Organized

- ❖ Organized a short term course (under QIP scheme) on “Design and Analysis using FEM, XFEM and Meshfree Methods” July 12 – 16, **2010**.
- ❖ Organized a short term course on “Simulation and Design using Extended Finite Element Method (XFEM)” December 13 – 17, **2010**.
- ❖ Organized a short term course on “Modeling and Simulations using Meshfree Methods” May 23 – 27, **2011**.
- ❖ Organized a short term course on “Numerical Simulations Using FEM, XFEM and Meshfree Methods” December 24 – 28, **2012**.
- ❖ Organized a short term course on “Fatigue and Fracture of Advanced Materials” July 20 – 23, **2013**.
- ❖ Organized a short term course (under QIP scheme) on “Modeling and Simulations using Finite Element Methods” January 7 – 11, **2014**.
- ❖ Organized one-day workshop (under QIP scheme) on “Failure Analysis and Life Assessment”, March 14, **2015**.
- ❖ Organized a short term course (under QIP scheme) on “Finite Element Methods for Engineering Applications” June 12 – 16, **2017**.

## Books/Monographs

- ❖ Akhilendra Singh and Indra Vir Singh, Element Free Galerkin Methods for Heat Transfer: Fundamentals and Formulations, Lambert Academic Publisher, Germany, **July 2010**.

## Sponsored Research Projects

S. N.	Title	Funding Agency	Duration	PI/Co-PI	Status
1.	Development of Elasto-Plastic Element Free Galerkin Code	BRNS, DAE, Mumbai, India	3 years (April 2008–Dec 2011)	PI	Completed
2.	Thermo-mechanical Simulations of Elasto-Plastic Fracture Mechanics Problems Using XFEM and Meshless Methods	Indo-Portugal Joint Research Project, DST, New Delhi	3 years, (January 2011–December 2013)	PI	Completed
3.	Development of XFEM Software for the Simulation of Fracture and Ductile Crack Tearing in Nuclear Components	BARC, Mumbai, India	January 2011–August 2013	PI	Completed
4.	Mechanical Behavior of Ultrafine	BRNS, DAE,	3 years	Co-PI	Completed

	grained Zr and Zr-Nb alloys Processed by Cryorolling (Experimental & Simulation Studies)	Mumbai, India,	(July 2011–June 2014)		
5.	Development of Meshfree Codes for the Simulation of Damage in Metallic Materials Used in Nuclear Industries	BARC, DAE, Mumbai, India	April 2012–September 2015	PI	Completed
6.	Prediction of Graphite Failure Strength using RVE Approach and XFEM	BRNS, DAE, Mumbai, India	3 years (August, 2014 - August, 2017)	PI	Completed
7.	Failure Analysis of Engineering Components of Intricate Shape using Extended Isogeometric Analysis	DST, New Delhi, India	3 years (Sep, 2014 - Sep, 2017)	PI	Completed
8.	The Study of Tensile and Impact Behaviour of Reduced Activation Ferritic-Martensitic Steel	BARC, DAE, Mumbai, India	Feb. 2015 – Feb. 2017	PI	Completed
9.	Simulation of High Temperature Elasto-plastic Fatigue Crack Growth using XFEM	DMRL, DRDO, Hyderabad, India	3 years (Nov, 2014 - Nov, 2017)	PI	In-progress
10.	Experimental and Numerical Studies on Cold Swaging of Zr alloy Bars for End Cap Component Manufacturing in PHWR Assemblies	BRNS, DAE, BARC, Mumbai	3 years (2016 - 2018)	Co-PI	In-progress

#### Ph.D. Guidance

S.N.	Name of R/S	Thesis Title	Co-guide (if any)	Funding (FT or PT)	Month & Year of Completion
1.	Vibhuti Bhushan Pandey	Simulation of High Temperature Elasto-plastic Fatigue Crack Growth using XFEM	Prof. B. K. Mishra	DRDO (FT)	In-Progress
2.	Sanjay Samant	<i>A Study of Mechanical, Fracture and Fatigue Behavior of Modified 9Cr-1Mo Steel</i>	Dr. R. N. Singh	QIP (FT)	In-Progress
3.	Manish Kumar	<i>Creep Fatigue Simulations at Elevated Temperature Using FEM/XFEM</i>	---	MHRD (FT)	In-Progress
4.	Sunil Kumar Singh	<i>Failure Analysis of Engineering Structures Using NURBS/T-spline Based XIGA</i>	---	DST (FT)	In-Progress
5.	Manik Bansal	<i>Numerical Prediction of Failure Strength of Graphite Using RVE Based Multiscale XFEM</i>	Dr. Kamal Sharma	DAE (FT)	In-Progress
6.	Rangoli Goyal	<i>Numerical Simulation of Transport Phenomena &amp; Mechanics Problems using Advanced FE Techniques</i>	Prof. Rama Bhargava	DST (FT)	In-Progress
7.	Amit Shedbale	<i>Simulation of Indentation, Damage and Crack Growth Using Coupled FE-EFG</i>	---	MHRD (FT)	April, 2017

		<i>Approach</i>			
8.	Gagandeep Bhardwaj	<i>Fatigue Crack Growth Simulations using Extended Isogeometric Analysis</i>	---	MHRD (FT)	April, 2016
9.	Sachin Kumar	<i>Crack Growth Simulations in Ductile Materials using XFEM/Coupled FE-EFGM</i>	Prof. B. K. Mishra	MHRD (FT)	August, 2015
10.	Sunkalp Goel	<i>Experimental and Simulation Studies of Ultrafine Grained Zr and Zr-Nb Alloys Processed by Cryo-rolling</i>	Prof. R. Jayaganthan	DST (FT)	August, 2015
11.	Kamal Sharma	<i>Numerical Simulation of Crack Growth Problems Using EFGM/XFEM</i>	Prof. B. K. Mishra	BARC (PT)	April, 2015
12.	Vineet Kumar	<i>An Investigation of Mechanical and Fracture Behavior of Ultrafine Grained 6082 Al alloy</i>	Prof. B. K. Mishra	MHRD (FT)	February, 2015
13.	Somnath Bhattacharya	<i>Numerical Simulation of Fatigue Fracture in Functionally Graded Materials using XFEM</i>	Prof. B. K. Mishra	MHRD (FT)	July, 2012
14.	Rajesh K. Sharma	<i>Simulation of Transport Phenomena in Porous Media</i>	Prof. Rama Bhargava	MHRD (FT)	June, 2011
15.	Mohit Pant	<i>Simulation of Fracture Mechanics Problems under Thermo-Mechanical Loading</i>	Prof. B. K. Mishra	MHRD (FT)	Dec, 2010

## M.Tech. Guidance

S. N.	Candidate Name	Dissertation Title	Co-guide (if any)	Month & Year of Completion
1.	Mohit Goel	<i>Fracture Analysis of Piezoelectric Material by XFEM</i>	Prof. B. K. Mishra	June, 2016
2.	Aakash Bhuwal	<i>Elasto-plastic Crack Growth Simulation using XFEM</i>	Prof. B. K. Mishra	June, 2015
3.	Amit Kumar Sharma	<i>Modeling and Simulation of Nonlinear Problems Using XFEM</i>	Prof. B. K. Mishra	June, 2015
4.	Rajat Pratap	<i>Modelling and Simulation of Nuclear Graphite using XFEM</i>	Prof. B. K. Mishra	June, 2015
5.	Kirti Sharma	<i>Modelling and Simulation of Solid Mechanics Problems using Isogeometric Analysis</i>	Prof. B. K. Mishra	June, 2015
6.	Tarun Sachdeva	<i>Modeling and Finite Element Simulation of Smart Structures</i>	---	June, 2015
7.	Rajwinder Singh	<i>Mechanical Behavior of Aluminum Alloys: Experimental Study &amp; Simulation</i>	Prof. R. Jayaganthan	June, 2014
8.	Shantanu Kumar Das	<i>Experimental Investigation and Numerical Simulation of Accumulative Roll Bonded 5080 Aluminium Alloy</i>	Prof. B. K. Mishra	June, 2014
9.	Suneel Kumar	<i>Nonlinear Simulation of Solid Mechanics Problems</i>	Prof. B. K.	June, 2014

	Sharma	<i>Using EFGM/XFEM</i>	Mishra	
10.	Virender Kumar	<i>Numerical Simulation of Cracked Plate Using Isogeometric Analysis</i>	Prof. B. K. Mishra	June, 2014
11.	Yogesh Bisht	<i>Multiscale Modelling of Nuclear Graphite Using XFEM</i>	Prof. B. K. Mishra	June, 2014
12.	Amit Kumar	<i>Crack Growth Simulation in Laminated Composite Using FEM</i>	---	Dec., 2013
13.	Subrato Sarkar	<i>Extended Isogeometric Finite Element for the Simulation of Fracture Mechanics Problems</i>	Prof. B. K. Mishra	Dec., 2013
14.	Amit Shedbale	<i>Numerical Analysis of Nonlinear Solid Mechanics Problems Using XFEM</i>	Prof. B. K. Mishra	June, 2013
15.	Azher Jameel	<i>Numerical Simulation of Contact Problems Using XFEM/EFGM</i>	Prof. B. K. Mishra	June, 2013
16.	Sushil Kumar Maurya	<i>Crack Growth Analysis and Weight Optimization of Railway Casnub Bogie By Using FEM</i>	Prof. B. K. Mishra	June, 2013
17.	Pramod Kumar	<i>3-D Simulation of Interpenetrating Phase Composites By FEM/EFGM</i>	Prof. B. K. Mishra	June, 2013
18.	Vivek Kumar Sharma	<i>Numerical Simulation of Branched and Intersecting Cracks in the Presence of Multiple Discontinuities Using XFEM</i>	Prof. B. K. Mishra	June, 2013
19.	Kumar Gaurav	<i>Elasto-plastic Fracture and Fatigue Simulation Using FEM/XFEM</i>	Prof. R. Jayaganthan	June, 2013
20.	A. Raja	<i>Experimental and Numerical Simulation of Ultrafine Grained Zr-alloys</i>	Prof. R. Jayaganthan	June, 2013
21.	Ankit Agarwal	<i>Failure Analysis of Interpenetrating Phase Composites by Meshfree Methods</i>	Prof. B. K. Mishra	June, 2012
22.	Anil Kumar Sahoo	<i>Multi-scale modeling and simulation of 3D-Braided Composites Using FEM/XFEM</i>	Prof. B. K. Mishra	June, 2012
23.	Rajesh Kumar	<i>Numerical Simulation of Elasto-Plastic Large Deformation Problems Using FEM/EFGM</i>	Prof. B. K. Mishra	June, 2012
24.	Pravin Kumar	<i>An Isogeometric Approach for the Simulation of Solid Mechanics Problems</i>	Prof. B. K. Mishra	June, 2012
25.	Ravi Sewak	<i>Process Modeling of ECH with FEM</i>	Prof. P. K. Jain	June, 2012
26.	Saurabh Kumar Yadav	<i>Numerical simulation of 3-D cracks using XFEM</i>	---	June, 2011
27.	Mangesh Brahamnkar	<i>Numerical simulation of 3-D fracture mechanics problems using EFGM</i>	Prof. B. K. Mishra	June, 2011
28.	Roshan U. Patil	<i>Numerical simulation of 2-D fracture mechanics problems using XFEM</i>	Prof. B. K. Mishra	June, 2011
29.	Anurag Tiwari	<i>Mechanical behavior of ultrafine grained aluminium 2014 alloy</i>	Prof. R. Jayaganthan	June, 2011
30.	Prosenjit Das	<i>Mechanical properties and fracture studies of UFG 7075 Al alloy under different loads (Experimental and Simulation Studies)</i>	Prof. R. Jayaganthan	June, 2010
31.	Sumit Vispute	<i>Numerical simulation of fatigue crack problems using element free Galerkin method</i>	Prof. B. K. Mishra	June, 2010

32.	Gurwinder Singh	<i>The simulation of multiple cracks in welded structure using element free Galerkin method</i>	Prof. V. H. Saran	June, 2010
33.	Lalit Kralia	<i>Fracture studies of UFG Al-alloys</i>	Prof. P. M. Pathak	June, 2010
34.	Rinkel	<i>Development and characterization of Diopside (CaMgSi<sub>2</sub>O<sub>6</sub>) - Jadeite (NaAlSi<sub>2</sub>O<sub>6</sub>) based Glass-Ceramics</i>	Prof. R. Jayaganthan, Dr. R. Conrardt	June, 2010
35.	Bandaru Aswani Kumar	<i>Investigation of elasto-plastic fracture behaviour using EFGM</i>	Prof. V. H. Saran	June, 2009
36.	Ch. Raghuv eer	<i>The numerical simulation of bi-material problems using meshfree methods</i>	Prof. B. K. Mishra	June, 2009
37.	Rajeev Kumar	<i>Finite element simulation for the optimization of parameters in continuous casting of slabs</i>	Prof. P. K. Jha	June, 2009
38.	Sumit Kumar	<i>XFEM simulation of 2-D fracture mechanics problems</i>	----	June, 2009
39.	Ashok Boda	<i>Vibration analysis of single walled carbon nanotube (SWCNT) based mass sensor</i>	Prof. S. P. Harsha	June, 2008
40.	Gorla Lokeshwari	<i>Evaluation of the mechanical properties of carbon nanotube composites by finite element analysis</i>	Prof. S. P. Harsha	June, 2008
41.	Ravi Aher	<i>Analysis of edge crack problem using meshfree method</i>	---	June, 2008
42.	Amit Umdekar	<i>Application of meshless element free Galerkin method to three-dimensional heat transfer problems</i>	---	May, 2003
43.	Avinash Masurkar	<i>Solution of heat transfer problems using meshless EFG method</i>	---	May, 2003
44.	Parul Jain	<i>Parallelization of meshless element free Galerkin method in fluid flow problems</i>	---	May, 2003

## Journal Publications

1. V. B. Pandey, **I. V. Singh**, B. K. Mishra, S. Ahmad, A. Venugopal Rao, Vikas Kumar, Creep Crack Simulations Using Continuum Damage Mechanics and XFEM, *International Journal of Damage Mechanics* (In-press). (SCIE, IF=1.783)
2. Roshan Patil, B.K. Mishra, **I.V Singh**, An Adaptive Multiscale Phase Field Method for Brittle Fracture, *Computer Methods in Applied Mechanics and Engineering* (In-press). (SCI, IF= 3.949)
3. A.S. Shedbale, **I.V. Singh**, B.K. Mishra, Heterogeneous and Homogenized Models for Predicting the Indentation Response of Particle Reinforced Metal Matrix Composites, *International Journal of Mechanics and Materials in Design*, (SCI, IF=2.102)  
<http://dx.doi.org/10.1007/s10999-016-9352-3>
4. S. Kumar, **I.V. Singh**, B.K. Mishra, A. Singh, Kamal Sharma, I.A. Khan, A Homogenized Multigrid XFEM to Predict the Crack Growth Behavior of Ductile Material in the Presence of Microstructural Defects, *Engineering Fracture Mechanics*, (SCI, IF=2.151)  
<http://dx.doi.org/10.1016/j.engfracmech.2016.03.051>
5. Manik Bansal, **I.V Singh**, B.K. Mishra, Kamal Sharma, I.A. Khan, A two-scale stochastic framework for predicting failure strength probability of heterogeneous materials, *Composite Structures*, Vol. 179, pp. 294-325, 2017. (SCI, IF= 3.858)  
<https://doi.org/10.1016/j.compstruct.2017.07.044>



6. Manik Bansal, **I.V Singh**, B.K. Mishra, Kamal Sharma, I.A. Khan, A Numerical Prediction of Flexural Strength Probability for NBG-18 Nuclear Grade Graphite using Strength Pair Model, *The Journal of Strain Analysis for Engineering Design*, Vol. 52(3), pp. 204–211, **2017**. (SCI, IF=1.222)  
<https://doi.org/10.1177/0309324717698609>
7. Xiaofei Hu, Tinh Quoc Bui, Jining Wang, Weian Yao, Lan Hoang That Ton, **Indra Vir Singh**, Satoyuki Tanaka, A new cohesive crack tip symplectic analytical singular element involving plastic zone length for fatigue crack growth prediction under variable amplitude cyclic loading, *European Journal of Mechanics - A/Solids*, Vol. 65, pp. 79-90, **2017**. (SCI, IF=2.846)  
<http://dx.doi.org/10.1016/j.euromechsol.2017.03.008>
8. S.K. Singh, **I. V. Singh**, B.K. Mishra, G. Bhardwaj, T.Q. Bui, A Simple, Efficient and Accurate Bézier Extraction based T-spline XIGA for Crack Simulations, *Theoretical and Applied Fracture Mechanics*, Vol. 88, pp. 74-96, **2017**. (SCIE, IF=2.659)  
<http://dx.doi.org/10.1016/j.tafmec.2016.12.002>
9. Manik Bansal, **I.V Singh**, B.K. Mishra, Kamal Sharma, I.A. Khan, A Stochastic XFEM Model for the Tensile Strength Prediction of Heterogeneous Graphite based on Microstructural Observations, *Journal of Nuclear Materials*, Vol. 487, pp. 143-157, **2017**. (SCI, IF=2.048)  
<http://dx.doi.org/10.1016/j.jnucmat.2016.12.045>
10. Roshan Patil, B.K. Mishra, **I.V Singh**, A New Multiscale XFEM for the Elastic Properties Evaluation of Heterogeneous Materials, *International Journal of Mechanical Sciences*, Vol. 122, pp. 277-287, **2017**. (SCI, IF=2.884)  
<http://dx.doi.org/10.1016/j.ijmecsci.2017.01.028>
11. Vasanth Balakrishnan, P. Roshan, Sunkulp Goel, R. Jayaganthan, **I. V. Singh**, Experimental and XFEM Simulation of Tensile and Fracture Behavior of Al 6061 Alloy Processed by Severe Plastic Deformation, *Metallography, Microstructure, and Analysis*, Vol. 6, pp. 55-72, **2017**. (Scopus, IF=0.568)  
<http://dx.doi.org/10.1007/s13632-016-0332-7>
12. A.S. Shedbale, **I.V. Singh**, B.K. Mishra, Kamal Sharma, Ductile Failure Modeling and Simulations Using Coupled FE-EFG Approach, *International Journal of Fracture*, Vol. 203, pp. 183-209, **2017**.  
<http://dx.doi.org/10.1007/s10704-016-0137-3> (SCI, IF=2.247)
13. Himanshu Pathak, Akhilendra Singh, **I.V. Singh**, Three-Dimensional Quasi-Static Interfacial Crack Growth Simulations in Thermo-Mechanical Environment by Coupled FE-EFG Approach, *Theoretical and Applied Fracture Mechanics*, Vol. 86, Part B, pp. 267-283, **2016**. (SCIE, IF=2.659)  
<http://dx.doi.org/10.1016/j.tafmec.2016.08.001>
14. G. Bhardwaj, S.K. Singh, **I.V. Singh**, B.K. Mishra, T. Rabczuk, Fatigue Crack Growth Analysis of an Interfacial Crack in Heterogeneous Materials using Homogenized XIGA, *Theoretical and Applied Fracture Mechanics*, Vol. 85, Part B, pp. 294-319, **2016**. (SCIE, IF=2.659)  
<http://dx.doi.org/10.1016/j.tafmec.2016.04.004>
15. Sunkulp Goel, Nikhil Kumar, Devasri Fuloria, R. Jayaganthan, **I.V. Singh**, D. Srivastava G.K. Dey, and N. Saibaba, Evaluating Fracture Toughness of Rolled Zircaloy-2 at Different Temperatures using XFEM, *Journal of Materials Engineering and Performance*, Vol. 25(9), pp. 4046-4058, **2016**.  
<http://dx.doi.org/10.1007/s11665-016-2241-y> (SCIE, IF=1.331)
16. A.S. Shedbale, **I.V. Singh**, B.K. Mishra, A Coupled FE–EFG Approach for Modeling Crack Growth in Ductile Materials, *Fatigue & Fracture of Engineering Materials and Structures*, Vol. 39(10), pp. 1204-1225, **2016**. (SCIE, IF=2.335)  
<http://dx.doi.org/10.1111/ffe.12423>
17. Manish Kumar, **I.V. Singh**, B. K. Mishra, S. Ahmad, A. Venugopal Rao, Vikas Kumar, A Modified Theta Projection Model for Creep Behavior of Metals and Alloys, *Journal of Materials Engineering and Performance*, Vol. 25(9), pp. 3585-3592, **2016**. (SCIE, IF=1.331)  
<http://dx.doi.org/10.1007/s11665-016-2197-y>

18. Minh Ngoc Nguyen, Tinh Quoc Bui, Thien Tich Truong, Ngoc Anh Trinh, **Indra Vir Singh**, Tiantang Yu, Duc Hong Doan, Enhanced nodal gradient 3D consecutive-interpolation tetrahedral element (CTH4) for heat transfer analysis, *International Journal of Heat and Mass Transfer*, Vol. 103, pp. 14–27, **2016**. (SCI, IF= 3.458)  
<http://dx.doi.org/10.1016/j.ijheatmasstransfer.2016.07.038>
19. **I.V. Singh**, A.S. Shedbale, B.K. Mishra, Material Property Evaluation of Particle Reinforced Composites Using Finite Element Approach, *Journal of Composite Materials*, Vol. 50(20), pp. 2757–2771, **2016**. (SCI, IF= 1.494)  
<http://dx.doi.org/10.1177/0021998315612539>
20. A.S. Shedbale, **I.V. Singh**, B.K. Mishra, K. Sharma, Evaluation of Mechanical Properties using Spherical Ball Indentation and Coupled FE-EFG Approach, *Mechanics of Advanced Materials and Structures*, Vol. 23 (7), pp. 832–843, **2016**. (SCI, IF= 1.196)  
<http://dx.doi.org/10.1080/15376494.2015.1029171>
21. G. Bhardwaj, **I.V. Singh**, B.K. Mishra, Virender Kumar, Numerical Simulations of Cracked Plate using XIGA under Different Loads and Boundary Conditions, *Mechanics of Advanced Materials and Structures*, Vol. 23, pp. 704–714, **2016**. (SCI, IF= 1.196)  
<http://dx.doi.org/10.1080/15376494.2015.1029159>
22. S. Kumar, **I.V. Singh**, B.K. Mishra, A. Singh, New Enrichments in XFEM to Model Dynamic Crack Response of 2-D Elastic Solids, *International Journal of Impact Engineering*, Vol. 87, pp. 198–211. **2015**. (SCI, IF= 2.938)  
<http://dx.doi.org/10.1016/j.ijimpeng.2015.03.005>
23. Himanshu Pathak, Akhilendra Singh, **I.V. Singh**, S.K. Yadav, Fatigue Crack Growth Simulations of 3-D Linear Elastic Cracks under Thermal Load by XFEM, *Frontiers of Structural and Civil Engineering*, Vol. 9(4), pp. 359–382, **2015**. (SCIE, IF= 0.721)  
<http://dx.doi.org/10.1007/s11709-015-0304-z>
24. Sachin Kumar, A.S. Shedbale, **I.V. Singh**, B.K. Mishra, Elasto-Plastic Fatigue Crack Growth Analysis of Plane Problems in the Presence of Flaws Using XFEM, *Frontiers of Structural and Civil Engineering*, Vol. 9(4), pp. 420–440, **2015**. (SCIE, IF= 0.721)  
<http://dx.doi.org/10.1007/s11709-015-0305-y>
25. G. Bhardwaj, **I.V. Singh**, B.K. Mishra, Fatigue Crack Growth in Functionally Graded Material using Homogenized XIGA, *Composite Structures*, Vol. 134, pp. 269–284, **2015**. (SCI, IF= 3.858)  
<http://dx.doi.org/10.1016/j.compstruct.2015.08.065>
26. Himanshu Pathak, Akhilendra Singh, **I.V. Singh**, M. Brahmanekar, Three-Dimensional Stochastic Quasi-Static Fatigue Crack Growth Simulations Using Coupled FE-EFG Approach, *Computers & Structures*, Vol. 160, pp. 1–19, **2015**. (SCI, IF= 2.847)  
<http://dx.doi.org/10.1016/j.compstruc.2015.08.002>
27. G. Bhardwaj, **I.V. Singh**, Fatigue Crack Growth Analysis of a Homogeneous Plate in the Presence of Multiple Defects using Extended Isogeometric Analysis, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, Vol. 37(4), pp. 1065–1082, **2015**. (SCI, IF= 1.235)  
<http://dx.doi.org/10.1007/s40430-014-0232-1>
28. Sunkulp Goel, R. Jayaganthan, **I.V. Singh**, D. Srivastava, G.K. Dey, N. Saibaba, Texture Evolution and Ultrafine Grain Formation in Cross-Cryo-Rolled Zircaloy-2, *Acta Metallurgica Sinica*, Vol. 28, pp. 837–846, **2015**. (SCI, IF= 1.292)  
<http://dx.doi.org/10.1007/s40195-015-0267-z>
29. G. Bhardwaj, **I.V. Singh**, B.K. Mishra, T.Q. Bui, Numerical Simulation of Functionally Graded Cracked Plates using NURBS based XIGA under Different Load and Boundary Conditions, *Composite Structures*, Vol. 126, pp. 347–359, **2015**. (SCI, IF= 3.858)  
<http://dx.doi.org/10.1016/j.compstruct.2015.02.066>

30. Sunkulp Goel, Nachiket Keskar, R. Jayaganthan, **I.V. Singh**, D. Srivastava, G.K. Dey, S.K. Jha, N. Saibaba, Texture and Mechanical Behavior of Zircaloy-2 Rolled at Different Temperatures, *Journal of Materials Engineering and Performance*, Vol. 24(2), 618–625, **2015**. (SCIE, IF=1.331)  
<http://dx.doi.org/10.1007/s11665-014-1315-y>
31. Sunkulp Goel, Nachiket Keskar, R. Jayaganthan, **I.V. Singh**, D. Srivastava, G.K. Dey, N. Saibaba, Development of Ultrafine Grained Zircaloy-2 by Room Temperature Cross Rolling, *Journal of Materials Engineering and Performance*, Vol. 24, 609–617, **2015**. (SCIE, IF=1.331)  
<http://dx.doi.org/10.1007/s11665-014-1287-y>
32. S. Kumar, **I.V. Singh**, B.K. Mishra, A Homogenized XFEM Approach to Simulate Fatigue Crack Growth Problems, *Computers & Structures*, Vol. 150, pp. 1–22, **2015**. (SCI, IF= 2.847)  
<http://dx.doi.org/10.1016/j.compstruc.2014.12.008>
33. G. Bhardwaj, **I.V. Singh**, B.K. Mishra, Stochastic Fatigue Crack Growth Simulation of Interfacial Crack in Bi-layered FGMs using XIGA, *Computer Methods in Applied Mechanics and Engineering*, Vol. 284, pp. 186–229, **2015**. (SCI, IF= 3.949)  
<http://dx.doi.org/10.1016/j.cma.2014.08.015>
34. S. Kumar, **I.V. Singh**, B.K. Mishra, Timon Rabczuk, Modeling and Simulation of Kinked Cracks by Virtual Node XFEM, *Computer Methods in Applied Mechanics and Engineering*, Vol. 283, pp. 1425–1466, **2015**. (SCI, IF= 3.949)  
<http://dx.doi.org/10.1016/j.cma.2014.10.019>
35. **I.V. Singh**, G. Bhardwaj, B.K. Mishra, A New Criterion for Modeling Multiple Discontinuities Passing through an Element using XIGA, *Journal of Mechanical Science and Technology*, Vol. 29(3), pp. 1141–1143, **2015**. (SCI, IF= 1.128)  
<http://dx.doi.org/10.1007/s12206-015-0225-8>
36. Sunkulp Goel, Gaurav Kumar, R. Jayaganthan, **I.V. Singh**, D. Srivastava, G.K. Dey, N. Saibaba, Experimental Evaluation of Mechanical Properties and Fracture-Fatigue Simulation of Cryo and Room Temperature Rolled Zircaloy-2, *International Journal of Microstructure and Materials Properties*, Vol. 9(2), pp. 120–135, **2014**. (Scopus)  
<http://dx.doi.org/10.1504/IJMMP.2014.066573>
37. S. Kumar, **I.V. Singh**, B.K. Mishra, A Multigrid Coupled (FE-EFG) Approach to Simulate Fatigue Crack Growth in Heterogeneous Materials, *Theoretical and Applied Fracture Mechanics*, Vol. 72, pp. 121–135, **2014**. (SCIE, IF=2.659)  
<http://dx.doi.org/10.1016/j.tafmec.2014.03.005>
38. S. Kumar, **I.V. Singh**, B.K. Mishra, A Coupled Finite Element and Element-Free Galerkin Approach for the Simulation of Stable Crack Growth in Ductile Materials, *Theoretical and Applied Fracture Mechanics*, Vol. 70, pp. 49–58, **2014**. (SCIE, IF=2.659)  
<http://dx.doi.org/10.1016/j.tafmec.2014.02.006>
39. H. Pathak, A. Singh, **I.V. Singh**, Fatigue Crack Growth Simulations of Homogeneous and Bi-material Interfacial Cracks using Element Free Galerkin Method, *Applied Mathematical Modeling*, Vol. 38, pp. 3093–3123, **2014**. (SCI, IF=2.35)  
<http://dx.doi.org/10.1016/j.apm.2013.11.030>
40. S. Kumar, **I.V. Singh**, B.K. Mishra, XFEM Simulation of Stable Crack Growth using J-R Curve under Finite Strain Plasticity, *International Journal of Mechanics and Materials in Design*, Vol. 10, pp. 165–177, **2014**. (SCI, IF=2.102)  
<http://dx.doi.org/10.1007/s10999-014-9238-1>
41. **I.V. Singh**, B.K. Mishra, M. Brahmankar, V. Bhasin, K. Sharma, I.A. Khan, Numerical Simulations of 3-D Cracks Using Coupled EFGM and FEM, *International Journal for Computational Methods in Engineering Science & Mechanics*, Vol. 15, pp. 227–231, **2014**.  
<http://dx.doi.org/10.1080/15502287.2014.882438>

42. Vineet Kumar, **I.V. Singh**, B.K. Mishra, R. Jayaganthan, Improved Fracture Toughness of Cryorolled and Room Temperature Rolled 6082 Al Alloys, *Acta Metallurgica Sinica*, Vol. 27, pp. 359–367, **2014**. (SCI, IF= 1.292)  
<http://dx.doi.org/10.1007/s40195-014-0057-z>
43. A.K. Sahoo, **I.V. Singh**, B. K. Mishra, XFEM for the Evaluation of Elastic Properties of CNT-Based 3-D Full Five Directional Braided Composites, *Advanced Composite Materials*, Vol. 23, pp. 351–373, **2014**. (SCI, IF= 1.407)  
<http://dx.doi.org/10.1080/09243046.2013.871173>
44. S. Bhattacharya, **I.V. Singh**, B.K. Mishra, Fatigue Life Simulation of Functionally Graded Materials under Cyclic Thermal Load Using XFEM, *International Journal of Mechanical Sciences*, Vol. 82, pp. 41-59, **2014**. (SCI, IF=2.884)  
<http://dx.doi.org/10.1016/j.ijmecsci.2014.03.005>
45. Sunkulp Goel, Nachiket Keskar, R. Jayaganthan, **I.V. Singh**, D. Srivastava, G.K. Dey, N. Saibaba, Mechanical Behaviour and Microstructural Characterizations of Ultrafine grained Zircaloy-2 processed by Cryorolling, *Materials Science and Engineering: A*, Vol. 603, pp. 23-29, **2014**. (SCI, IF=3.094)  
<http://dx.doi.org/10.1016/j.msea.2014.02.025>
46. Sunkulp Goel, R. Jayaganthan, **I.V. Singh**, D. Srivastava, G.K. Dey, N. Saibaba, Mechanical and microstructural characterizations of ultrafine grained Zircaloy-2 produced by room temperature rolling, *Materials & Design*, Vol. 55, pp. 612-618, **2014**. (SCI, IF=4.364)  
<http://dx.doi.org/10.1016/j.matdes.2013.09.039>
47. H. Pathak, A. Singh, **I.V. Singh**, Fatigue Crack Growth Simulations of 3-D Problems Using XFEM, *International Journal of Mechanical Sciences*, Vol. 76, pp. 112-131, **2013**. (SCI, IF=2.884)  
<http://dx.doi.org/10.1016/j.ijmecsci.2013.09.001>
48. Kamal Sharma, **I.V. Singh**, B.K. Mishra and A.S. Shedbale, The Effect of Inhomogeneities on Edge Crack: A Numerical Study using XFEM, *International Journal for Computational Methods in Engineering Science & Mechanics*, Vol. 14(6), pp. 505-523, **2013**.  
<http://dx.doi.org/10.1080/15502287.2013.820227>
49. S. Bhattacharya, **I.V. Singh**, B.K. Mishra, Mixed-Mode Fatigue Crack Growth Analysis of Functionally Graded materials by XFEM, *International Journal of Fracture*, Vol. 183, pp. 81-97, **2013**. (SCI, IF=2.247)  
<http://dx.doi.org/10.1007/s10704-013-9877-5>
50. Ankit Agarwal, **I.V. Singh** and B. K. Mishra, Evaluation of Elastic Properties of Interpenetrating Phase Composites by Meshfree Method, *Journal of Composite Materials*, Vol. 47(11), pp. 1407-1423, **2013**. (SCI, IF= 1.494)  
<http://dx.doi.org/10.1177/0021998312448494>
51. S. Bhattacharya, **I.V. Singh**, B.K. Mishra, T.Q. Bui, Fatigue Crack Growth Simulations of Interfacial Cracks in Bi-layered FGMs using XFEM, *Computational Mechanics*, Vol. 52(4), pp.799-814, **2013**. (SCI, IF=2.861)  
<http://dx.doi.org/10.1007/s00466-013-0845-8>
52. H. Pathak, A. Singh, **I.V. Singh** and S.K. Yadav, A Simple and Efficient XFEM Approach for 3-D Cracks in Linear Elastic Materials, *International Journal of Fracture*, Vol. 181, pp. 189-208, **2013**. (SCI, IF=2.247)  
<http://dx.doi.org/10.1007/s10704-013-9835-2>
53. S. Bhattacharya, **I.V. Singh**, B.K. Mishra, Fatigue Life Estimation of Functionally Graded Materials using XFEM, *Engineering With Computers*, Vol. 29(4), pp. 427-448, **2013**. (SCI, IF=0.765)  
<http://dx.doi.org/10.1007/s00366-012-0261-2>
54. Ankit Agarwal, **I.V. Singh**, B.K. Mishra, Numerical Prediction of Elasto-Plastic Behaviour of Interpenetrating Phase Composites By EFGM, *Composites: Part B*, Vol. 51, pp. 327-336, **2013**. (SCI, IF=4.727) <http://dx.doi.org/10.1016/j.compositesb.2013.03.022>

55. Mohit Pant, **I.V. Singh** and B.K. Mishra, A Novel Enrichment Criterion for Modeling Kinked Cracks using Element Free Galerkin Method, *International Journal of Mechanical Sciences*, Vol. 68, pp. 140-149, **2013**. (SCI, IF=2.884) <http://dx.doi.org/10.1016/j.ijmecsci.2013.01.008>
56. H. Pathak, A. Singh, **I.V. Singh**, Fatigue Crack Growth Simulations of Bi-material Interfacial Cracks under Thermo-Elastic Loading by Extended Finite Element Method, *European Journal of Computational Mechanics*, Vol. 22(1), pp. 79–104, **2013**.  
<http://dx.doi.org/10.1080/17797179.2013.766017>
57. P. Das, **I. V. Singh**, R. Jayaganthan, Crack Growth Simulation of Bulk and Ultrafine Grained 7075 Al Alloy by XFEM, *International Journal of Materials and Product Technology*, Vol. 44(3/4), pp. 252-276, **2012**. (SCI, IF=0.365) <http://dx.doi.org/10.1504/IJMPT.2012.050192>
58. P. Das, **I.V. Singh**, R. Jayaganthan, An Experimental Evaluation of Material Properties and Fracture Simulation of Cryorolled 7075 Al Alloy, *Journal of Materials Engineering and Performance*, Vol. 21(7), pp. 1167-1181, **2012**. (SCIE, IF=1.331) <http://dx.doi.org/10.1007/s11665-011-0062-6>
59. H. Pathak, A. Singh, **I.V. Singh**, Numerical Simulation of Bi-material Interfacial Cracks Using EFGM and XFEM, *International Journal of Mechanics and Materials in Design*, Vol. 8, pp. 9-36, **2012**.  
(SCI, IF=2.102) <https://doi.org/10.1007/s10999-011-9173-3>
60. **I.V. Singh**, B.K. Mishra, S. Bhattacharya and R.U. Patil, The Numerical Simulation of Fatigue Crack Growth Using Extended Finite Element Method, *International Journal of Fatigue*, Vol. 36, pp. 109-119, **2012**. (SCI, IF=2.899) <http://dx.doi.org/10.1016/j.ijfatigue.2011.08.010>
61. **I.V. Singh**, B.K. Mishra, S. Bhattacharya, XFEM Simulation of Cracks, Holes and Inclusions in Functionally Graded Materials, *International Journal of Mechanics and Materials in Design*, Vol. 7, pp. 199-218, **2011**. (SCI, IF=2.102) <http://dx.doi.org/10.1007/s10999-011-9159-1>
62. P. Das, R. Jayaganthan, T. Chowdhury, **I.V. Singh**, Fatigue Behaviour and Crack Growth Rate of Cryorolled Al 7075 Alloy, *Materials Science and Engineering A*, Vol. 528, pp. 7124-7132, **2011**.  
(SCI, IF=3.094) <http://dx.doi.org/10.1016/j.msea.2011.05.021>
63. P. Das, R. Jayaganthan, T. Chowdhury, **I.V. Singh**, Improvement of Fracture Toughness ( $K_{Ic}$ ) of 7075 Al Alloy by Cryorolling Process, *Materials Science Forum*, Vol. 683, pp. 81-94, **2011**. (Scopus)  
<http://dx.doi.org/10.4028/www.scientific.net/MSF.683.81>
64. Mohit Pant, **I.V. Singh**, B.K. Mishra, Evaluation of Mixed Mode Stress Intensity Factors for Interface Cracks using EFGM, *Applied Mathematical Modeling*, Vol. 35, pp. 3443-3459, **2011**. (SCI, IF=2.35)  
<http://dx.doi.org/10.1016/j.apm.2011.01.010>
65. Mohit Pant, **I.V. Singh**, B.K. Mishra, A Numerical Study of Crack Interactions under Thermo-Mechanical Load Using EFGM, *Journal of Mechanical Science and Technology*, Vol. 25(2), pp. 403-413, **2011**. (SCI, IF= 1.128) <http://dx.doi.org/10.1007/s12206-010-1217-3>
66. P. Das, R. Jayaganthan, **I.V. Singh**, Tensile and Impact-Toughness Behaviour of Cryorolled Al 7075 Alloy, *Materials & Design*, Vol. 32(3), pp. 1298-1305, **2011**. (SCI, IF=4.364)  
<http://dx.doi.org/10.1016/j.matdes.2010.09.026>
67. **I.V. Singh**, B.K. Mishra, Mohit Pant, An Enrichment based New Criterion for the Simulation of Multiple Interacting Cracks using Element Free Galerkin Method, *International Journal of Fracture*, Vol. 167(2), pp. 157-171, **2011**. (SCI, IF=2.247)
68. Mohit Pant, **I.V. Singh**, B.K. Mishra, Numerical Simulation of Thermo-Elastic Fracture Problems using Element Free Galerkin Method, *International Journal of Mechanical Sciences*, Vol. 52, pp. 1745-1755, **2010**. (SCI, IF=2.884)
69. Mohit Pant, **I.V. Singh**, B.K. Mishra, Vivek Bhasin, Kamal Sharma and I. A. Khan, Meshfree Solution of 2-D Edge Crack Problems under Thermo-Mechanical Load, *Journal of ASTM International*, Vol. 7(5), pp. 12, **2010**.
70. **I.V. Singh**, B.K. Mishra, Mohit Pant, A Modified Intrinsic Enriched EFGM for Multiple Cracks Simulation, *Materials & Design*, Vol. 31 (1), pp. 628–632, **2010**. (SCI, IF=4.364)

71. **I.V. Singh**, Masa. Tanaka, M. Endo, Element Free Galerkin Method for Transient Thermal Analysis of Carbon Nanotube Composites, *Thermal Science*, Vol. 12 (2), pp. 39–48, **2008**. (SCIE, IF=1.093)
72. **I.V. Singh**, Masa. Tanaka, M. Endo, Effect of Interface on the Thermal Conductivity of Carbon Nanotube Composites, *International Journal of Thermal Sciences*, Vol. 46 (9), pp. 842–847, **2007**. (SCI, IF=3.615)
73. **I.V. Singh**, Masa. Tanaka, J. Zhang, M. Endo, Evaluation of Effective Thermal Conductivity of CNT-based Nano-Composites by Meshless EFG Method, *International Journal of Numerical Methods for Heat and Fluid Flow*, Vol. 17 (8), pp. 757–769, **2007**. (SCI, IF=1.713)
74. **I.V. Singh**, Masa. Tanaka, M. Endo, Meshless Method for Nonlinear Heat Conduction Analysis of Nano-Composites, *Heat and Mass Transfer*, Vol. 43 (10), pp. 1097–1106, **2007**. (SCI, IF=1.233)
75. A. Singh, **I.V. Singh**, R. Prakash, Numerical Analysis of Fluid Squeezed Between Two Parallel Plates by Meshless Method, *Computers and Fluids*, Vol. 36 (9), pp.1460–1480, **2007**. (SCI, IF=2.313)
76. **I.V. Singh**, Masa. Tanaka, M. Endo, Nonlinear Thermal Analysis of Carbon Nanotube Composites by Element Free Galerkin Method, *Numerical Heat Transfer-Part A*, Vol. 51 (11), pp. 1087–1102, **2007**. (SCI, IF=2.259)
77. W.T. Ang, **I.V. Singh**, Masa. Tanaka, An Axisymmetric Heat Conduction Model for a Multi-Material Cylindrical System with Application to Analysis of Carbon Nanotube Composites, *International Journal of Engineering Science*, Vol. 45 (1), pp. 22–33, **2007**. (SCI, IF=4.261)
78. **I.V. Singh**, Masa. Tanaka, M. Endo, Thermal Analysis of CNT-Based Nano-Composites by Element Free Galerkin Method, *Computational Mechanics*, Vol. 39(6), pp. 719–728, **2007**. (SCI, IF=2.861)
79. A. Singh, **I.V. Singh**, R. Prakash, Meshless Element Free Galerkin Method for Unsteady Nonlinear Heat Transfer Problems, *International Journal of Heat and Mass Transfer*, Vol. 50(5-6), pp. 1212–1219, **2007**. (SCI, IF= 3.458)
80. **I.V. Singh**, Masa. Tanaka, Heat Transfer Analysis of Composite Slabs Using Meshless Element Free Galerkin Method, *Computational Mechanics*, Vol. 36(6), pp. 521–532, **2006**. (SCI, IF=2.861)
81. **I.V. Singh**, Masa. Tanaka, Thermal Solution of Cylindrical Composite Systems Using Meshless Method, *Heat and Mass Transfer*, Vol. 42(8), pp. 689–707, **2006**. (SCI, IF= 1.233)
82. A. Singh, **I.V. Singh**, R. Prakash, Meshless Analysis of Unsteady-State Heat Transfer in Semi-infinite Solid with Temperature Dependent Thermal Conductivity, *International Communications in Heat and Mass Transfer*, vol. 33(2), pp. 231–239, **2006**. (SCI, IF=3.718)
83. A. Singh, **I.V. Singh**, R. Prakash, The Numerical Solution of Temperature Dependent Thermal Conductivity Problems using Meshless Method, *Numerical Heat Transfer, Part A*, Vol. 50(2), pp. 125–145, **2006**. (SCI, IF=2.259)
84. **I.V. Singh**, A Numerical Study of Weight Functions, Scaling and Penalty Parameters for Heat Transfer Applications, *Numerical Heat Transfer: Part A*, Vol. 47(10), pp. 1025–1053, **2005**. (SCI, IF=2.259)
85. **I.V. Singh**, P.K. Jain, Parallel Meshless EFG Solution for Fluid Flow Problems, *Numerical Heat Transfer, Part-B*, Vol. 48(1), pp. 45–66, **2005**. (SCI, IF=1.663)
86. **I.V. Singh**, P.K. Jain, Parallel EFG Algorithm for Heat Transfer Problems, *Advances in Engineering Software*, Vol. 36(8), pp. 554–560, **2005**. (SCI, IF=3.00)
87. **I.V. Singh**, K. Sandeep, R. Prakash, The Effect of Weight Function and Scaling Parameter on Meshless EFG Results in Heat Transfer Problems, *International Journal of Heat & Technology*, Vol. 23(1), pp. 13–20, **2005**. (Scopus, IF=1.25)
88. **I.V. Singh**, A Numerical Solution of Composite Heat Transfer Problems Using Meshless Method, *International Journal of Heat and Mass Transfer*, Vol. 47(10-11), pp. 2123–2138, **2004**. (SCI, IF= 3.458)
89. **I.V. Singh**, Parallel Implementation of the EFG Method for Heat Transfer and Fluid Flow Problems, *Computational Mechanics*, Vol. 34(6), pp. 453–463, **2004**. (SCI, IF=2.861)

90. **I.V. Singh**, Meshless EFG Method in 3-D Heat Transfer Problems: A Numerical Comparison, Cost and Error analysis, *Numerical Heat Transfer: Part A*, Vol. 46(2), pp. 199–220, **2004**. (SCI, IF=2.259)
91. **I.V. Singh**, K. Sandeep, R. Prakash, Application of Meshless Element Free Galerkin Method in Two-Dimensional Heat Conduction Problems, *Computer Assisted Mechanics and Engineering Sciences*, Vol. 11(4), pp. 265–274, **2004**.
92. **I.V. Singh**, The Numerical Solution of Viscous Fluid Problems Using Meshless Method, *International Journal of Heat and Technology*, Vol. 22(2), pp. 129–138, **2004**. (Scopus, IF=1.25)
93. **I.V. Singh**, K. Sandeep, R. Prakash, Meshless EFG Method in Transient Heat Conduction Problems, *International Journal of Heat and Technology*, Vol. 21(2), pp. 99–105, **2003**. (Scopus, IF=1.25)
94. **I.V. Singh**, K. Sandeep, R. Prakash, Heat Transfer Analysis of Two-Dimensional Fins Using Meshless Element-Free Galerkin Method, *Numerical Heat Transfer: Part A*, Vol. 44(1), pp.73–84, **2003**. (SCI, IF=2.259)
95. **I.V. Singh**, R. Prakash, The Numerical Solution of Three-Dimensional Transient Heat Conduction Problems Using Element Free Galerkin Method, *International Journal of Heat and Technology*, Vol. 21(2), pp. 73–80, **2003**. (Scopus, IF=1.25).