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**Specialization** : Applied Mathematics: PDE Theory and Applications, Boundary Value Problems, Numerical Methods, Theoretical and Computational Mechanics.

**Areas of Research Interest** : Mechanics of Soft Biomaterials, Multiphase mixture theory, PDE and Integral Equation (IE) theory for viscous flow

**Achievement & Awards** : Awarded ITS grant for Young scientists (SERB-DST) June 2018.  
Awarded National Post-Doctoral Fellowship (SERB-DST) August 2017.  
Awarded ICIAM-2015 grant (Republic of China).  
Awarded Institute JRF and SRF at IIT Kharagpur through GATE-2011.

### Professional experiences:

Research Associate, Department of Mathematics, Indian Institute of Technology Kharagpur, Nov 2016-April 2017.

Research Assistant Professor, SRM Research Institute & Department of Mathematics, SRM Institute of Science & Technology, Kattankulathur Campus, Tamil Nadu, June 2017-October 2018.

Assistant Professor, Department of Mathematics, University of North Bengal, Raja Rammohunpur, Dist.- Darjeeling, West Bengal- 734013, India, Nov 2018- till date

**Member of professional bodies:** Life member of Indian Society of Theoretical and Applied Mechanics (ISTAM), Life member of Indian Mathematical Society (IMS)

**Additional information:** For more details please visit:

**ResearchGate:** [https://www.researchgate.net/profile/Bibaswan\\_Dey2](https://www.researchgate.net/profile/Bibaswan_Dey2)

**Google Scholar :** <https://scholar.google.co.in/citations?user=8oNKDAYAAAAJ&hl=en>

**Personal Webpage:** <https://sites.google.com/view/bibaswandey/home>

## **Selected Publications:**

### **Journal Papers:**

[1] M. Alam, B. Dey, G. P. Raja Sekhar, Mathematical modeling and analysis of hydroelastodynamics inside a solid tumor containing deformable tissue, *Zeitschrift für Angewandte Mathematik und Mechanik(ZAMM)*, Vol. 99, No. 5 (2019), pp. e201800223.

[2] M. Alam, B. Dey, G. P. Raja Sekhar, Mathematical analysis of hydrodynamics and tissue deformation inside an isolated solid tumor, *Theoretical and Applied Mechanics*(Mathematical Institute SANU), Vol. 45, no. 2 (2018), pp. 253–278.

[3] B. Dey, G. P. Raja Sekhar and Sourav Kanti Mukhupadhyay, In-vivo mimicking model for solid tumor towards hydromechanics of tissue deformation and necrosis creation, *Journal of Biological Physics* (Springer), Vol.44 No. 3 (2018), Pgs. 361-400.

[4] P. Kumar, B. Dey, and G.P. Raja Sekhar, Nutrient transport through deformable cylindrical scaffold: An application in tissue engineering, *International Journal of Engineering Science*, Vol.127 (2018), pp. 201-216.

[5] B. Dey and G. P. Raja Sekhar, Hydrodynamics and Convection Enhanced Macromolecular Fluid Transport in soft Biological Tissues: Application to Solid Tumor, *Journal of Theoretical Biology*, Vol. 395(2016), pp. 62-86.

[6] Bibaswan Dey and G. P. Raja Sekhar, An analytical study on hydrodynamics of an unsteady flow and mass transfer through a channel asymmetrically lined with deformable porous layer, *European Journal of Mechanics B/Fluids*, Vol. 55(2016), pp. 71-87.

## **Paper presented in National and International Conferences:**

- [1] Bibaswan Dey and G. P. Raja Sekhar, Function of endothelial cell-glycocalyx layer (EGL) towards blood borne micro-particle transport: An application of biphasic mixture theory, *13th World Congress of Computational Mechanics-2018 (WCCM)*, New York, United States, July 22-27, 2018.
- [2] Bibaswan Dey and G. P. Raja Sekhar, Convection enhanced macromolecular nutrient transport through a tumor interstitial space with quadratically varying permeability layer, *8th International Congress of Industrial and Applied Mathematics-2015 (ICIAM 2015)*, Beijing, China. August 10-15, 2015.
- [3] Bibaswan Dey and G.P. Raja Sekhar, Effect of axial vibration of boundary in a Brinkman medium on the Mass transfer and wall Shear stress, *11th ASME-ISHMT Heat and Mass transfer conference-2013*, IIT Kharagpur, India, December 28-31, 2013.
- [4] Bibaswan Dey and G. P. Raja Sekhar, Unsteady electro-osmotic flow through a Channel lined with charged deformable porous layer, *60th congress of ISTAM-2015*, MNIT Jaipur, India, December 16-19, 2015.
- [5] Bibaswan Dey and G. P. Raja Sekhar, Dynamics of a Charged Soft Porous Particle in an unbounded Mono-disperse Suspension, *59th congress of ISTAM-2014*, Alliance University, Bengaluru, India, December 17-20, 2014