

Dr. Sarifuddin

Date of birth: 04-12-1974

Current position:

Assistant Professor of Mathematics, Raiganj Surendranath Mahavidyalaya

Research interests:

Mathematical Biology
Heat and Mass Transfer
Blood flow through stenosed artery
Computational Fluid Dynamics
Drug eluting stent

Education:

Degree	Year	University/ College
B.Sc. (Hons. in Mathematics)	1995	University of Calcutta, Kolkata, India
M.Sc. (Applied Mathematics)	1997	University of Calcutta, Kolkata, India
Ph.D. (Mathematics; Bio-fluid dynamics)	2009	Visva-Bharati, Santiniketan, WB, India

* Qualified UGC,CSIR- NET in 2001.

Title of Ph.D. Thesis: "Some Problems of Biomechanics of Blood Flow in Arteries".

Year: 2006; **University:** Visva-Bharati Univ., Santiniketan

Teaching Experience:

1. Presently working as Assistant Professor in the Department of Mathematics, Raiganj Surendranath Mahavidyalaya (since 25-03-2010).
2. Worked as Assistant Teacher in Saidabad Manindra Chandra Vidyapith., P.O. – Khagra , Murshidabad, West Bengal (from 2000 to 2010).
3. Worked as Assistant Teacher, Bharatpur Alia High School, P.O. – Bharatpur, Murshidabad, West Bengal (from 1999 to 2000).

Administrative Experience:

1. Member, Board of Studies (BOS), University of Gour Banga.
2. HOD, Department of Mathematics, Raiganj Surendranath Mahavidyalaya.
3. Member, Academic Committee, Raiganj Surendranath Mahavidyalaya.
4. Member, Admission Committee, Raiganj Surendranath Mahavidyalaya
5. Coordinator, workshop on Statistical Method: An Interdisciplinary Approach. Dept. of Mathematics and Botany, Raiganj Surendranath Mahavidyalaya.

Research Experience:

1. Actively engaged in research work with Professors in India and abroad (from 2009 to present).
2. Earlier Research Scholar, Visva Bharati University, Santiniketan, India (from 2003 to 2009).

Refereed Journal Articles:

1. International Journal for Numerical Methods in Fluids, John Wiley & Sons Ltd.
2. International Journal of Heat and Mass Transfer, Elsevier.
3. Computers in Biology and Medicine, Elsevier
4. Modern Applied Science, [Canadian Center of Science and Education](#).

Awards / Recognition etc.

1. Visited as a visiting researcher at UTM Centre for Industrial and Applied Mathematics (UTM-CIAM), Universiti Teknologi, Malaysia, during March 19, 2014 to April 16, 2014.

Research Publications:

Chakravarty, S., **Sarifuddin** and Mandal, P.K., "An unsteady flow of two-layered blood stream past a tapered flexible artery under stenotic conditions" *Computational Method of Applied Mathematics*, 4, 391-409 (2004).

Chakravarty, S., **Sarifuddin** and Mandal, P.K., "Effect of surface irregularities on unsteady pulsatile flow in a compliant artery". *International Journal Of Non- Linear Mechanics*, 40, 1268-1281 (2005).

Sarifuddin, Chakravarty, S., Mandal, P.K., and Layek G.C., "Numerical simulation of unsteady generalised Newtonian blood flow through differently shaped distensible arterial stenoses" *Journal of Medical Engineering & Technology*, 32, 385-399 (2008).

Sarifuddin, Chakravarty, S., Mandal, P.K., and Andersson, H.I., "Mass transfer to blood flowing through arterial stenosis" *Journal of Applied Mathematics and Physics (ZAMP)*, 60, 299-323 (2009).

Sarifuddin, Chakravarty, S., and Mandal, P.K., "Effect of heat of mass transfer on non-Newtonian flow – links to atherosclerosis" *International Journal of Heat and Mass transfer*, 52, 5719-5730 (2009).

Sarifuddin, Chakravarty, S., and Mandal, P.K., "Effect of asymmetry and roughness of stenosis on non-Newtonian flow past an arterial segment" *International Journal of Computational Methods (IJCM)*, 6, 361-388 (2009).

Ikbal, Md. A., Chakravarty, S., **Sarifuddin**, Mandal, P. K., "Numerical simulation of mass transfer to micropolar fluid flow past a stenosed artery" *International Journal of Numerical Methods in Fluids, Published online*, 67, 1655-1676 (2011).

Ikbal, Md. A., Chakravarty, S., **Sarifuddin**, Mandal, P. K., "Unsteady analysis of viscoelastic blood flow through arterial stenosis" *Chemical Engineering Communications (CEC)*, 199, 40-62 (2012).

Sarifuddin, Chakravarty, S., and Mandal, P.K., "Heat transfer to micropolar fluid flowing through an irregular arterial constriction" *International Journal of Heat and Mass transfer*, 56, 538-551 (2013).

Sarifuddin, Chakravarty, S., and Mandal, P.K., "Physiological flow of shear-thinning viscoelastic fluid past an irregular arterial constriction" *Korea-Australia Rheology Journal*, 2, 1-12, (2013).

Sarifuddin, "Simulation of Casson fluid flow and heat transport in differently shaped stenoses" *Journal of Mechanics in Medicine and Biology*, Vol. 14, No. 2 (2014) 1450024 (27 pages).

Sarifuddin, Chakravarty, S., and Mandal, P.K., "Numerical simulation of Casson fluid flow through differently shaped arterial stenoses" *Journal of Applied Mathematics and Physics (ZAMP)*, 65, 767-782 (2014).

Sarifuddin, Prashanta Kumar Mandal, "Effect of Diffusivity on the Transport of Drug Eluted from Drug-Eluting Stent" *International Journal of Applied Computational Mathematics*, DOI 10.1007/s40819-015-0060-8, (2015).

Akash Pradip Mandal, **Sarifuddin**, Prashanta Kumar Mandal, "An unsteady analysis of arterial drug transport from half-embedded drug-eluting stent" *Applied Mathematics and Computation*, Vol. 266 (2015), 968-981.

Ramprosad Saha, **Sarifuddin**, J. C. Misra, Prashanta Kumar Mandal, "Impact of luminal flow on mass transport through coronary arteries : a study relevant to drug-eluting stent" *International Journal of Mathematics and computation (2015, accepted)*.

Prashanta K. Mandal, **Sarifuddin**, Vijaya B. Kolachalama, "Computational model of drug-coated balloon delivery in a patient specific arterial vessels with heterogeneous tissue composition" *Cardiovascular Engineering and Technology*, DOI: 10.1007/s13239-016-0273-y, (2016).

Conference Proceeding:

Yan Bin Tan, Norzieha Mustapha and **Sarifuddin**, "Blood Flow through a Stenosed Artery Bifurcation under The Effects of Gravity" *AIP Conf. Proc.* 1635, 241 (2014); <http://dx.doi.org/10.1063/1.4903590>, Conference date: 12–14 August 2014; Location: Langkawi, Kedah Malaysia.

Research Collaborations:

1. **Vijaya B. Kolachalama, Ph.D.** Charles Stark Draper Laboratory, 555 Technology Square Cambridge, MA, USA – 02139, Cardiovascular Division, Brigham and Women's Hospital, 75 Francis Street Boston, MA, USA – 02115.
2. **Professor H I Andersson**, Norwegian University of Science and Technology, Trondheim, Norway.
3. **Professor Norsarahaida Amin** and **Dr. Norzieha Mustapha**, UTM Centre for Industrial & Applied Mathematics (UTM-CIAM), Universiti Teknologi Malaysia, 81310 UTM Skudai, Johor, Malaysia.
4. **Professor G. C. Layek**, Department of Mathematics, Burdwan University, Burdwan, West Bengal, India.
5. **Prof. P. K. Mandal** and **Prof. S. Chakravarty**, Visva-Bharati, Santiniketan, West Bengal, India.

Workshop/ Orientation / Refresher Programme attended:

Seven days workshop on Statistical Method: An Interdisciplinary Approach. Dept. of Mathematics and Botany, Raiganj Surendranath College, Raiganj, Uttar Dinajpur, W.B. Indaia, during September 5-11, 2012.

28 days UGC Sponsored Orientation Program during 13 September to 10 October, 2012 at the UGC-Academic Staff College, Kumaun University, Nainital, India.

21 days Refresher UGC Sponsored Refresher Course during 18th Novemner to 7th December 2013 in "Mathematical Methods, Technique and Applications", Jadavpur University, Kolkata.

2nd International Mathematics in Industry Study Group Malaysia (MISG-2014) held between March 17-21, 2014 at Universiti Teknologi Malaysia, 81310 Johor Bahru, Malaysia.

Workshop on Change in Question Pattern, Redistribution of Marks & Introduction to OMR Sheet at UG Level, University of Gour Banga, Malda, West Bengal, on December 18, 2014.

Workshop on Know Your CAS, Shree Agrasen Mahavidyalaya, Dalkhola, West Bengal, on February 14, 2015.

Workshop on Preparation of SSR (*Self Study Report*) for Assessment and Accreditation, University of Gour Banga, Malda, West Bengal, on 8th August, 2015.

Seminar / Conference / Symposia:

National Seminar on Analysis of Nonlinear System (ANS – 2011) Dept. of Mathematics, Siksha Bhawan, Visva-bharati, Santiniketan, 26 – 27 March, 2011. Present a paper title- "On shear-thinning viscoelastic blood flow through differently Shaped constricted arterial segment".

National Seminar on Mathematics of Nonlinear System (MNS – 2010), Dept. of Mathematics, Siksha Bhawan, Visva-Bharati, Santiniketan, 20- 21 March, 2010.

National Seminar on Different Horizons of Lokosanskriti, Raiganj Surendranath Mahavidyalaya, Raiganj, West Bengal, 2 – 3 May, 2015.

National Seminar on Women Empowerment: *Miles to go ...*, Shree Agrasen Mahavidyalaya, Dalkhola, West Bengal, 28 – 28 August, 2015.

National Seminar on Exploring Advancement in Mathematics (NCEAM -2015), Dept. of Math., University of Gour Banga, Malda, West Bengal, 16 -17 December, 2015. Present a paper title- "Simulation of non-Newtonian blood flow past an irregular arterial segment"

National Seminar on Advancement of Mathematical Science, Assam Academy of Mathematics & Dept. of Math. Gauhati University, Guwahati, on 22nd December, 2015. Present a paper title- "Numerical Simulation of Casson fluid flow and mass transfer in stenosed coronary arteries".

Membership in Scientific Societies:

1. Life member, International Association of Engineers (IAENG).

Articles published in Local / Vernacular / Popular magazine:

1. Sarifuddin, "Archimedes- Ganith, Padhertho-bidya abong Projukti-bidyar Ek Biswaikar Samarnoy", Bigyan Bhabna, published from Berhampore, West Bengal, 1st year, 3rd issue, November – 2005.
2. Sarifuddin, "Arsenic: Ekti Jiban Maran Samashaya", Bigyan Bhabna, published from Berhampore, West Bengal, 2nd year, 2nd issue, November – 2006.
3. Sarifuddin, "Dalton abong Paromanubader 200 bachar", Bigyan Bhabna, published from Berhampore, West Bengal, 3rd year, 1st issue, March– 2009.
4. Sarifuddin, " Leonhard Euler Ganith jogoter ekti biswaikar naam", Bigyan Bhabna, published from Berhampore, West Bengal, 3rd year, 4th issue, December– 2009.
5. Sarifuddin, "Higs Boson (Iswar kana?) kana abhiskarer nepothy", Uttar Reethi, published from Raiganj, West Bengal, Vol. 5, No. 2-3, October, 2015.