

# CURRICULUM VITAE

## SAMIRON KUMAR SAHA

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Department of Physics,  
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### Career Objective:

To involve myself in the teaching and research activities and help the students to make better understanding on science and technology through the better understanding of basic and advanced physics.

### Professional Experience:

1. 2<sup>nd</sup> April 2012 – 1<sup>st</sup> October 2014  
Lecturer, Department of Physics  
Pabna University of Science and Technology, Pabna-6600, Bangladesh
2. 2<sup>nd</sup> October 2014 to 21<sup>st</sup> December, 2020  
Assistant Professor, Department of Physics  
Pabna University of Science and Technology, Pabna-6600, Bangladesh
3. 22<sup>nd</sup> December 2020 to Present  
Associate Professor, Department of Physics  
Pabna University of Science and Technology, Pabna-6600, Bangladesh

### Professional Experience:

1. Director, Student Advisor Office,  
Pabna University of Science and Technology, Pabna, Bangladesh  
From 10.02.2021 to 09.02.2023.

### Last Degree Awarded:

Doctor of Philosophy (PhD) in Bioscience  
Obtained in September 2020,  
Shizuoka University, Japan.

### Research Work:

M.S. Thesis entitled “3D PHANTOM STUDIES FOR MEASURING LIQUID VOLUME IN STOMACH USING 6-ELECTRODE FOCUSED IMPEDANCE METHOD” under the supervision of Professor, Mr. Golam Dastagir Al-Quaderi, Department of Physics and the co-supervision of Professor, Dr. Khondkar Siddique-e-Rabbani, Department of Biomedical Physics and Technology, University of Dhaka.

PhD Thesis entitled “Membrane Tension in Negatively Charged Lipid Bilayers under Osmotic Pressure and its Effects on their Membrane Dynamics” under the supervision of Professor Dr. Masahito Yamazaki, Department of Bioscience, Graduate School of Science and Technology, Shizuoka University, Japan.

I served as a Research Assistant at Professor Dr. Yamazaki Lab in Department of Bioscience, Graduate School of Science and Technology, Shizuoka University, Japan from October 2017 to September 2020.

### Member/Fellowship:

- Biophysical Society of Japan, Japan Member no.: 8411
- Bangladesh Medical Physics Association (BMPA), Dhaka, Bangladesh.
- PhD (Abroad) Fellow, 2017-2018 (2nd Phase), Bangabandhu Science and Technology Fellowship Trust, Government of People’s Republic of Bangladesh

### Attendant Conferences:

- International conference on recent advances in physics, RAP 2010, March 27-29, 2010, Dhaka University, (Bangladesh).
- National Conference on Development of Physics, BUET, 2011, Dhaka, Bangladesh.

- Regional conference on medical physics, 18 February 2011, Dhaka, Bangladesh.

#### Poster Presentation:

1. Md. Masum Billah, **Samiron Kumar Saha** and Masahito Yamazaki, “Effect of Osmotic Pressure on Antimicrobial Peptide Magainin 2-Induced Pore Formation and its Evolution”, The 7th International Symposium on Biomedical Engineering (ISBE2022), Online Conference, 25 November 2022.
2. Md. Masum Billah, **Samiron Kumar Saha**, Md. Mamum Or Rashid, Farzana Hossain and Masahito Yamazaki, “Effect of osmotic pressure (II) on antimicrobial peptide magainin 2 (Mag)-induced pore formation in giant unilamellar vesicles (GUVs)”, The 59th Annual Meeting of the Biophysical Society of Japan (BSJ2021), November 25-27, 2021, Online Conference, Poster number 2-10-1600.
3. **Samiron Kumar Saha** and Masahito Yamazaki “The Effect of Osmotic Pressure on the Transbilayer Movement (Flip-Flop) of Lipid Molecules”, The 58<sup>th</sup> Annual Meeting of the Biophysical Society of Japan (BSJ2020), September 16-18, 2020, Online Conference.
4. **Samiron Kumar Saha**, Sayed Ul Alam Shibly and Masahito Yamazaki “Estimation of Membrane Tension of DOPG/DOPC-GUVs Induced by Osmotic Pressure”, The 6<sup>th</sup> International Symposium toward the Future of Advanced Researches in Shizuoka University, March 5, 2020, Japan, PS-35.
5. Md. Mizanur Rahman Moghal, Md. Zahidul Islam, Farzana Hossain, **Samiron Kumar Saha** and Masahito Yamazaki, “Effects of Membrane Potential on Interaction of Cell-Penetrating Peptides Transportan 10 with Single Vesicles”, The 64<sup>th</sup> Annual Meeting of the Biophysical Society (BPS), February 15-19, 2020, San Diego, California, USA.
6. **Samiron Kumar Saha**, Sayed Ul Alam Shibly and Masahito Yamazaki, Estimation of Membrane Tension of DOPG/DOPC-GUVs Induced by Osmotic Pressure, The 4<sup>th</sup> International Symposium on Biomedical Engineering (ISBE2019), November 14-15, 2019, Act City Hamamatsu Congress Center, Hamamatsu, Japan, P1-08.
7. **Samiron Kumar Saha**, Sayed Ul Alam Shibly and Masahito Yamazaki “Estimation of Membrane Tension of DOPG/DOPC-GUVs Induced by Osmotic Pressure” The 57<sup>th</sup> Annual Meeting of the Biophysical Society of Japan (BSJ2019), September 24-26, 2019, Miyazaki, Japan, 2Pos180.
8. Md. Mizanur Rahman Moghal, Md. Zahidul Islam, **Samiron Kumar Saha** and Masahito Yamazaki, “Effects of Membrane Potential on Interaction of Cell-Penetrating Peptides Transportan 10 with Single Vesicles”, The 57<sup>th</sup> Annual Meeting of the Biophysical Society of Japan (BSJ2019), September 24-26, 2019, Miyazaki, Japan, 2Pos171\*.
9. Md. Mizanur Rahman Moghal, Md. Zahidul Islam, **Samiron Kumar Saha** and Masahito Yamazaki, “Effects of Membrane Potential on Interaction of Cell-Penetrating Peptides Transportan 10 with Single Vesicles”, The Annual Meeting of Cooperative Research at Research Center of Biomedical Engineering, Tokyo Medical and Dental College, March 8, 2019, Japan.
10. Moynul Hasan, Samiron Kumar Saha, and Masahito Yamazaki “Effect of Membrane Tension on Transbilayer Movement of Lipids”, The 5<sup>th</sup> International Symposium toward the Future of Advanced Researches in Shizuoka University, March 6, 2019, Japan, Ps-G13.
11. Moynul Hasan, Samiron Kumar Saha, Rajib Ahmed, and Masahito Yamazaki “Effect of Membrane Tension on Transbilayer Movement of Lipids”, The 20<sup>th</sup> Takayanagi Kenjiro Memorial Symposium and the 4<sup>th</sup> International Conference on Nano Electronics Research and Education (ICNERE2018), November 27-29, 2018, Shizuoka University, Hamamatsu, Japan, PS-24, pp.135-136.
12. Moynul Hasan, **Samiron Kumar Saha**, and Masahito Yamazaki “Effect of Membrane Tension on Transbilayer Movement of Lipids” The 56<sup>th</sup> Annual Meeting of the Biophysical Society of Japan (BSJ2018), September 15-17, 2018, Okayama, Japan, 1Pos087, pp. S136.

#### List of Publications:

1. “First-Principles Study of the Physical Properties of  $\text{CuV}_2\text{S}_4$  under Pressure”, Md. Atikur Rahman, Jannatul Ferdose Lubna, Sushmita Sarker, Rukaia Khatun, **Samiron Kumar Saha**, Md. Zahidur Rahaman, Khandaker Monower Hossain, Md. Rasheduzzaman, Md. Zahid Hasan, 2022, Physics of the Solid State (Springer), Volume 64, Issue 8, pp. 929–941, ISSN: 1063-7834 (print); 1090-6460 (web).

2. **“Effect of Osmotic Pressure on Pore Formation in Lipid bilayers by the Antimicrobial Peptide Magainin 2”** Md. Masum Billah, **Samiron Kumar Saha**, Md. Mamum Or Rashid, Farzana Hossain and Masahito Yamazaki, 2022, Physical Chemistry Chemical Physics (Royal Society of Chemistry), Volume 24, Issue 11, pp. 6716–6731 ISSN: 1463-9076 (print); 1463-9084 (web).
3. **“Membrane Tension in Negatively Charged Lipid Bilayers in a Buffer under Osmotic Pressure”** **Samiron Kumar Saha**, Sayed Ul Alam Shibly, and Masahito Yamazaki, 2020, The Journal of Physical Chemistry B (ACS), Volume 124, Issue 27, pp. 5588–5599, ISSN: 1520-6106 (print) 1520-5207 (web).
4. **“Role of Membrane Potential on Entry of Cell-Penetrating Peptides Transportan 10 into Single Vesicles”** Md. Mizanur Rahman Moghal, Md. Zahidul Islam, Farzana Hossain, **Samiron Kumar Saha** and Masahito Yamazaki, Biophysical Journal, 2020, Volume 118, Issue 1, pp. 57-69, ISSN: 0006-3495 (print), 1542-0086 (online).
5. **“The Role of Membrane Tension on the Action of Antimicrobial Peptides and Cell-Penetrating Peptides in Biomembranes”** Moynul Hasan, Md. Mizanur Rahman Moghal, **Samiron Kumar Saha**, Masahito Yamazaki, Biophysical Reviews (Springer), 2019; Volume 11 (3), pp. 431–448, ISSN: 1867-2450 (Print) 1867-2469 (Online).
6. **“Effects of Transmembrane Asymmetric Distribution of Lipids and Peptides on Lipid Bilayers”** Victor Livadnyy, Moynul Hasan, **Samiron Kumar Saha**, Masahito Yamazaki, The Journal of Physical Chemistry B (ACS), 2019, Volume 123, ISSN: 1520-6106 (print) 1520-5207 (web), pp. 4645–4652
7. **“Effects of Membrane Tension on Transbilayer Movement of Lipids”** Moynul Hasan, **Samiron Kumar Saha**, Masahito Yamazaki, The Journal of Chemical Physics (American Institute of Physics), Volume 148, 24, pp. 245101 (2018), ISSN: 1727-6179 (Print); 2408-8358 (Online).
8. **“Photon and Electron Beam in the Treatment of Cancer Patient based on Monitor Unit Completion”**, Alamgir Hossain, Dayal Chandra Roy, **Samiron Kumar Saha**, Nazrul Islam, Science Publishing Group, Cancer Research Journal, 2016; Volume 4(6): pp. 90-105, ISSN: 2330-8192 (Print); ISSN: 2330-8214 (Online).
9. **“The Split-Function Effect of Renal Scintigraphy for the Evaluation of Renal Disorders Due to Tc- DTPA Pharmaceutical”** Alamgir Hossain, **Samiron Kumar Saha**, Pyrex Journal of Biomedical Research, Volume 1 (5) pp. 045-054 November 2015, ISSN: 2579-1222.
10. **“The Estimation of Glomerular Filtration Rate (GFR) for Renal Split Function with 99mTc-DTPA”**, Alamgir Hossain, Bedarul Islam, Chanchal K. Ckaki, **Samiron Kumar Saha**, Shariful I. Chowdhury, Journal of International Journal of Advance Research in Applied Science, Volume 2 Issue 11 November 2015, ISSN: 2208-2352, pp. 16-32.
11. **“Maximum Tolerance Level of Internal Radiation Absorbed Dose for Human Brain due to 99m-Tc pharmaceutical”**, Alamgir Hossain, Bedarul Islam, **Samiron Kumar Saha**, Kabiruzzaman Shah, Shariful Islam Chowdhury, International Research on Medical Sciences, Volume 3(2), pp. 020-027, December 2015, ISSN 2315-8845.
12. **“Polymethyl Methacrylate Phantom on CT Imaging to Evaluate Size-Specific Effective Dose in Pediatric and Adult Body”**, Alamgir Hossain, **Samiron Kumar Saha**, International Journal of Biomedical Science and Engineering, Volume 3, Issue 6, 2015, pp. 82-88, ISSN: 2376-7227 (Print); ISSN: 2376-7235 (Online).
13. **“3D Sensitivity of 8-Electrode FIM through Experimental Study in a Phantom”** **Samiron Kumar Saha**, Golam Dastagir Al-Quaderi, K Siddique-e-Rabbani, Bangladesh Journal of Medical Physics Volume 6, Issue 1, pp. 56-65 (2013), ISSN: 1727-6179 (Print); 2408-8358 (Online).
14. **“Measurement of Liquid Volume in Stomach Using 6-Elctorde FIM for Saline Water Intake at Periodic Intervals”** **Samiron K. Saha**, Pretam Kumr Das, Global Journal of Science Frontier Research Physics and Space Science (USA), Volume 13, Issue 7, Version 1.0, pp. 38-43 (2013), ISSN: 2249-4626 (Online), 0975-5896 (Print).
15. **“Nucleus-Nucleus (Non-monotonic) Potentials and Vector Analyzing Powers of 6Li Scattering by 16O”**, Pretam Kumar Das, **Samiron Kumar Saha**, International Journal of Scientific Engineering and Technology, Volume 2, Issue 11, pp: 1098 – 1102, 1 Nov. 2013, ISSN: 2277-1581

## Educational Qualifications:

Degree	Subject Or Group	Year	Institution	Result	Mark (%)
Doctor of Philosophy (PhD)	Bioscience	2020	Shizuoka University, Japan	Awarded	
M.S. (Thesis)	Physics	2008 (Held in 2010)	University of Dhaka	First Class (5 <sup>th</sup> position)	71.33
B.Sc. (Hon's)	Physics	2007 (Held in 2009)	University of Dhaka	First Class (8 <sup>th</sup> position)	61.90
H.S.C.	Science	2002	Notre Dame College, Dhaka	First Division	77.8
S.S.C.	Science	2000	Dhoba Khola Coronation (Natiabari) High School, Pabna	First Division	82.7

### Core Courses:

**PhD:** Japanese Language, Molecular Life Science, Practical Use Technology English Conversation II, Biomaterial, Environmental Measurement.

**M.S.:** Computational Physics, Non-Equilibrium statistical Mechanics, Nuclear Physics-I: Nuclear Reaction Theory and Structure, Advance Laser Physics-I.

**B.SC.:** Mechanic, Oscillations and Properties of Matter, Thermal Physics, Electricity and Magnetism, Calculus-I, Linear Algebra-I, Fundamentals of Chemistry, Chemistry Laboratory, Basic Statistics, Waves and Optics, Electronics, Mathematical Physics, Atomic and Molecular Physics, Advanced Language Skills, Calculus-II, Ordinary Differential Equation, Numerical Analysis, Principles of Statistics, Classical Mechanics and Special Theory of Relativity, Classical Electrodynamics, Quantum Mechanics, Nuclear Physics, Solid State Physics-I, Programming and Scientific Computing, Quantum Mechanics, Electronics and Computer, Solid State Physics-II, Statistical Mechanics, Nuclear Physics-II, Methods of Experimental Physics, Laboratory experiments during the four years period.

### Language Proficiency:

Considerably good both in written and spoken in English and Bengali. The medium of instruction was English at both Bachelor of Science (Honors) and Master of Science levels. I am taking our classes in English in my university.

### Computer Skills:

Operating Systems : Windows 2000, Windows XP, Windows Vista, Windows 7 and 10, Linux  
 Application Software : MS Office, Origin 6.1,18, 20 Plot, Adobe Photoshop, Adobe Illustrator  
 Programming Language : C, C++, FORTRAN 98

### Practical Skills:

- Research capability in the laboratory.
- Report writing ability.
- Interact with peoples of different jobs and taste.

### Core Strengths:

- Able to work in any challenging environment.
- Commitment to teamwork.
- Ability to work under pressure and punctual to any deadline.
- Willingness to share information and ideas.
- Commitment to continuous learning, skill development.
- Research and analysis.
- Excellent intercommunication skills.
- Dynamic, amicable, smart.
- Sincere, punctual, disciplined.

### Personal Profile:

Name : Samiron Kumar Saha  
Father's Name : Ratish Chandra Saha  
Mother's Name : Shusama Rani Saha  
Permanent Address : C/O Shusama Rani Saha, Vill.: Horinathpur, P.O: Puranvarenga, P.S.: Aminpur, Upazilla: Bera, District: Pabna-6683, Bangladesh  
Present Address : 1/E Manama Aranya, Shalgaria, Pabna Pourosova, Ward No. 3, Pabna Sadar, Pabna-6600, Bangladesh  
Mailing Address : Associate Professor, Department of Physics, Pabna University of Science and Technology, Pabna-6600, Bangladesh  
Date of Birth : 1 July, 1985  
Marital Status : Married  
Religion : Hindu  
Nationality : Bangladeshi (By Birth)  
Blood Group : A+  
National ID : 19857611673073463

### References:

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### Certification:

I certify that all information stated in the curriculum vitae is true and complete to the best of my knowledge. I authorize you to verify information provided in the curriculum vitae.

Signature.....  
(Samiron Kumar Saha)

Date: August, 2022