

# Dr. Abdul Khaleque

Assistant Professor  
Department of Physics

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## *Academic Qualifications*

- ➔ Ph.D in Theoretical Condensed Matter Physics, 2016  
**Thesis title:** *Dynamic phases and transitions in networks and other complex systems*  
**Thesis Supervisor:** Prof. Parongama Sen  
(Department of Physics, University of Calcutta)
- ➔ M.Sc., Presidency College, University of Calcutta, 2010
- ➔ B.Sc., Presidency College, University of Calcutta, 2008

## *Professional Experience*

- ➔ Post Doctoral Fellow, National Institute of Science Education and Research, 2016-17
- ➔ Faculty, Department of Physics, Bidhan Chandra College, University of Calcutta (2017-till present)

## *Research Interests*

Phase transitions and critical phenomena in complex systems, spin models, Statistical physics of Social dynamics, Modeling and analysis of empirical data, non-equilibrium statistical physics.

## *Research Skills*

Working knowledge in Fortran language, Gnuplot, Xfig, Latex, Mathematica

## **Awards and Honours**

- "UGC- Research Fellowship in Science for Meritorious Students " awarded by Department of Physics, University of Calcutta.

## **Publications**

1. **Abdul Khaleque** and Parongama Sen, "*The susceptible–infected–recovered model on a Euclidean network*", *Journal of Physics A:Mathematical and Theoretical*, Vol 46 (2013) 095007.
2. **Abdul Khaleque** and Parongama Sen, "*Damage spreading transition in an opinion dynamics model*", *Physica A*, Vol 413 (2014) 599.
3. **Abdul Khaleque**, Arnab Chatterjee and Parongama Sen, "*On the evolution and utility of annual citation indices*", [arXiv:1403.1745](https://arxiv.org/abs/1403.1745) (2014).
4. **Abdul Khaleque** and Parongama Sen, "*Effect of randomness in logistic maps*", *International Journal of Modern Physics C*, Vol 26 (2015) 1550086.
5. **Abdul Khaleque** and Parongama Sen, "*Frozen states and active-absorbing phase transitions of the Ising model on networks*", *Journal of Complex Networks*, CNV024 (2015) Oxford University Press.
6. **Abdul Khaleque**, Arnab Chaterjee and Parongama Sen, "*Annual Journal citation indices: a comparative study*", *Journal of Scientometric Research*, Vol 5 (2016) 25.
7. **Abdul Khaleque** and Parongama Sen, "*Condensation transition in a conserved generalized interacting zero range process*", *Physical Review E*, Vol 93 (2016): 042102.
8. **Abdul Khaleque** and Parongama Sen, "*An empirical analysis of the Ebola outbreak in West Africa*", *Scientific Reports*, Vol 7 (2017): 42594.

## *Participation in Scientific Activities*

- “International Nonequilibrium Winter School” held at IISER, Kolkata from 27<sup>th</sup> December 2011 to 11<sup>th</sup> January 2012.
- “RRI School on Statistical physics 2012” held at RRI, Bangalore from 26<sup>th</sup> March to 7<sup>th</sup> April, 2012.
- “One day workshop in Statistical Mechanics and Condensed Matter Physics” held at Ramakrishna Mission Vivekananda University, Kolkata on 15<sup>th</sup> september, 2012.
- “Two days meeting on physics” held at Department of Physics, University of Calcutta on 27-28 june ,2012.
- “RRI School on Statistical physics 2013” held at RRI, Bangalore from 1<sup>st</sup>April to 14<sup>th</sup> April, 2013.
- Advanced Level Training Program "Nonlinear Differential Equations: Dynamics of Complex Systems" held at Department of Applied Mathematics, University of Calcutta, Kolkata from 23<sup>rd</sup> Sept to 28<sup>th</sup> Sept, 2013 .
- “RRI School on Statistical physics 2014” held at RRI, Bangalore from 31<sup>st</sup>March to 12<sup>th</sup> April, 2014.
- “Condensed Matter Days 2014” held at University of Calcutta, kolkata from 26<sup>th</sup> August to 29<sup>th</sup> August, 2014.
- “Statphys-Kolkata VIII” held at S. N. Bose National Centre for Basic Sciences, kolkata from 1<sup>st</sup> December to 5<sup>th</sup> December, 2014.
- “CSAS 2016” held at Indian Institute of Technology Madras, Chennai from 1<sup>st</sup> February to 5<sup>th</sup> February, 2016.
- “Statphys-Kolkata IX” held at Saha Institute of Nuclear Physics, kolkata from 13<sup>th</sup> December to 16<sup>th</sup> December, 2016.