Curriculum Vitae

Name : Dr. Rinku Jacob

Surname : Vallanat Jacob

Nationality : Indian

Date of Birth : 04 May 1984

Present Address : Chembiserry House,
Anchumana Road, Mamangalam,
Kochi – 682024, Kerala, India

Permanent Address : Vallanat House,
H.No. 43/1218, Pallath Nagar,
South Janatha Road, Palarivattom,
Kochi – 682025, Kerala, India

Contact Number : 9446307919 (Mobile), 9072291657
0484 – 2337919 (Res)

E-mail : rinku.jacob.vallanat@gmail.com, rinkuj@rajagiritech.edu.in

Website : www.rinkujacob.co.in , http://people.rajagiritech.ac.in/rinkuj

Educational Qualifications:

Secondary School Leaving Certificate Examination
Year and Month of passing : March, 2000
Grade : First Class with Distinction (80%)

Higher Secondary School Examination
Year and Month of passing : March, 2002
Grade : First Class (73%)

University Degrees

Degree	University	Year	Grade
Bachelor of Science in Physics	Mahatma Gandhi University, Kottayam, Kerala, India	2002 – 2005	First Class with Distinction (82.3%)
Master of Science in Physics	Mahatma Gandhi University, Kottayam, Kerala, India	2005 – 2007	First Class with Distinction (80%)
Doctor of Philosophy in Physics	Mahatma Gandhi University, Kottayam, Kerala, India	2014 - 2018	

List of Publications in Refereed Journals

1. Rinku Jacob**,** Harikrishnan, K. P., Misra, R., & Ambika, G. (2016). Uniform framework for the recurrence-network analysis of chaotic time series. **Physical Review E (ISSN: 2470-0053)**, 93(1), 012202, doi.org/10.1103/PhysRevE.93.012202
2. Rinku Jacob, Harikrishnan, K. P., Misra, R., & Ambika, G. (2016). Characterization of chaotic attractors under noise: A recurrence network perspective. **Communications in Nonlinear Science and Numerical Simulation (ISSN: 1007-5704)**, 41, 32-47, doi.org/10.1016/j.cnsns.2016.04.028
3. Rinku Jacob, Harikrishnan, K. P., Misra, R., & Ambika, G. (2016). Can recurrence networks show small – world property?. **Physics Letters A(ISSN: 0375-9601)**, 380, 2718-2723, doi.org/10.1016/j.physleta.2016.06.038
4. Rinku Jacob, K. P. Harikrishnan, R. Misra and G. Ambika. Cross over of recurrence networks to random graphs and random geometric graphs, **Pramana – Journal of Physics (ISSN: 0973-7111)** (2017), 88:37, doi.org/10.1007/s12043-016-1339-y
5. Rinku Jacob, Harikrishnan KP, Misra R, Ambika G. (2017). Measure for degree heterogeneity in complex networks and its application to recurrence network analysis. **Royal Society Open Science (ISSN: 2054-5703)**, 4: 160757, doi.org/10.1098/rsos.160757
6. Rinku Jacob, K. P. Harikrishnan, R. Misra and G. Ambika. Recurrence network measures for hypothesis testing using surrogate data : Application to black hole light curves, **Communications in Nonlinear Science and Numerical Simulation (ISSN: 1007-5704)**, 54 (2018), 84-99, doi.org/10.1016/j.cnsns.2017.05.018
7. Rinku Jacob, K. P. Harikrishnan, R. Misra and G. Ambika. (2019). Weighted recurrence networks for the analysis of time- series data, **Proc. R. Soc. (ISSN: 1471-2946)**, 475: 20180256, http://dx.doi.org/10.1098/rspa.2018.0256

Other Scientific Papers and Publications:

1. K.P. Harikrishnan, Rinku Jacob, R. Misra and G. Ambika. Determining the minimum embedding dimension for state space reconstruction through recurrence networks, **Indian Academy of Sciences Conference Series** (2017) 1:1, 43-49, doi: 10.29195/iascs.01.01.0004
2. Rinku Jacob, Computer Controlled Telescope Motion, Master Thesis, submitted to Mahatma Gandhi University, Kottayam, 2007
3. Rinku Jacob, Nonlinear Time Series Analysis using Complex Network Measures, Doctoral Thesis, submitted to School of Pure and Applied Physics (SPAP), Mahatma Gandhi University, Kottayam, 2018

Job Experience:

Job	Institution	Period
Guest Lecturer	Aquinas College, Edacochin, Kerala, India	09 Aug 2007 – 28 Aug 2008
Guest Lecturer	St. Albert's College, Ernakulam, Kerala, India	29 Aug 2008 – 02 Feb 2012

JRF fellow in DST sponsored Major Research Project	The Cochin College, Kochi – 02, (Affiliated to Mahatma Gandhi University, Kottayam) Kerala, India	2 June 2013 – 30 May 2016
Research student (enrolled for Ph.D in M.G University)	The Cochin College, Kochi – 02, (Affiliated to Mahatma Gandhi University, Kottayam) Kerala, India	10 Jan 2014 – 24 July 2017
Assistant Professor	Rajagiri School of Engineering and Technology (RSET), Kakkanad, Kerala, India	11 Sep 2017 onwards

Other Achievements:

1. Secured the Merit of Proficiency in the year 2003 – 2004 and 2004 - 2005 while doing graduation in Physics (main) at Aquinas College, Edacochin.
2. Appeared in the Graduate Aptitude Test in Engineering (GATE) 2013 held on 20.01.2013 and has been declared successful on 15.03.2013

List of Projects submitted (during the last three years) :

Sl. No.	Title of the Project	Name of Organization	Status & File No.
1	Study and Characterization of cardiac dynamics from ECG signals based on complex network measures and to automate the classification of arrhythmias using convolutional neural network	Science and Engineering Research Board (SERB) – Core Research Grant (CRG)	Submitted for preliminary scrutiny File No.: CRG/2020/004001, Submitted on 9th March 2020

Other Academic activities

1. Delivered an online talk on "The importance of moon day" on 21st July 2020 for the students of Chovva Dharmasamajam U.P. School, Kannur
2. Visiting Associate of Inter-University Centre for Astronomy and Astrophysics (IUCAA), pune, from 1 August 2019 onwards for three years under IUCAA Associateship programme.
3. Reviewer of the Scientific Journal titled "Proceedings of the Royal Society A", published by The Royal Society.
4. Reviewer of the Elsevier Journal - Physics Letters A
5. Co-guide in Physics (specialization in Nonlinear Time series analysis using complex networks) registered under "APJ Abdul Kalam Technological University of Kerala (KTU)" from 21 May 2019 onwards.

6. Nodal officer at Rajagiri School of Engineering and Technology (RSET), Kakkanad, for participating the college in "Atal Ranking of Institutions on Innovation Achievements" (ARIIA - 2019), which is an initiative of MHRD, Govt. of India.
7. Conducted hands-on sessions in the workshop on Data Analysis and Machine Learning organized jointly by Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune and Indian Institute of Science Education and Research (IISER), Tirupati, held at IISER Tirupati, from 24 May – 28 May 2019
8. Developed Digital Spectroscopy Source Unit (DSSU) and Spectrum Analyzing Program for Arc and Absorption Spectrum, in the laboratory of the Department of Physics, St. Albert's College, Ernakulum during 2010 – 2011

Membership ID

1. Life Member of Indian Association of Physics Teachers (IAPT) and Membership number is 12091 L8048
2. Life Member of Indian Society for Technical Education (ISTE) and Membership number is LM 127650
3. Orcid ID : 0000-0003-2167-1703 (https://orcid.org/0000-0003-2167-1703)
4. Scopus Author ID : 57061792200
5. Researcher ID : W-7589-2018

Organizational skills and competences

1. Secretary of Physics Association (2004 – 2005), while studying for Bachelors Degree in Physics at Aquinas College, Edacochin.
2. Student Editor of the Physics Department Magazine (2004 – 2005), while doing graduation at Aquinas College, Edacochin.
3. Organizer of seminars, workshops and science exhibitions for plus two students and degree students.

Technical skills and competences

1. Typewriting (Lower passed)

Computer skills and competences

1. Operating System : Windows 7, 8, 10, Vista and Linux
2. Desktop Applications : MS Office 2007, 2010
3. Programming Languages : C, C++, JAVA, Visual Basic 6, FORTRAN 77 & 90, MATLAB 2018b, Latex
4. Web Designing Tools : HTML, Macromedia Dreamweaver
5. Designing Softwares : Photoshop 6, 7 and CS2

6. Data Analysis and Graphing Softwares for computation : Origin 8, MATLAB 2018b
7. Network Analysis softwares : Gephi 0.8.2, NodeXL

Artistic skills and competences

1. Drawing and Painting
2. Computer Graphic Designing

Languages Known

Language	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production			
Malayalam (Mother Tongue)	*	Yes	*	Yes	*	Yes	*	Yes	*	Yes
English	*	Yes	*	Yes	*	Yes	*	Yes	*	Yes

References

1. Dr. K.P. Harikrishan,
   Associate Professor (Retd.),
   Department of Physics,
   The Cochin College, Kochi 02, India
   (Mob : 09947771354)
   E-mail: kp_hk2002@yahoo.co.in

2. Dr. G. Ambika, Professor,
   Chair, Physics Dean, Academics,
   Indian Institute of Science Education & Research (IISER),
   Tirupati, Rami Reddy Nagar,
   Karakambadi Road, Mangalam (P.O.),
   Tirupati – 517507, Andra Pradesh, India.
   (Office : +91 (0877) 2500 400 , Mob: +91 877 2500 230)
   E-mail: g.ambika@iisertirupati.ac.in, g.ambika@iiserpune.ac.in,
   deanacademics@iisertirupati.ac.in

3. Dr. Ranjeev Misra,
   Professor,
   Inter University Centre for Astronomy and Astrophysics (IUCAA),
   Pune University Campus, Pune 411007,
   Maharastra, India.
   (Phone : +91 2025604116)
   E-mail : rmisra@iucaa.in

I hereby certify that all the information given above is complete and accurate to the best of my knowledge.

Place : Ernakulam Dr. Rinku Jacob