



### Personal Details

Name : Dr.Sijo Sebastian  
Department : Research and Postgraduate Department of Physics  
Designation : Assistant Professor  
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### Career Profile

S. No.	Institution/ Organization	Designation	Period
1.	St. Berchmans College, Changanacherry, Kerala	Guest Lecturer	June 2017- March 2022
2.	School of Pure and Applied Physics, Mahatma Gandhi University, Kerala	Junior Research Fellow (Project Assistant)	02-07-2012 to 20-02-2014
3.	St. Berchmans College, Changanacherry, Kerala	Guest Lecturer	June 2011- March 2012

### Positions Held or Holding if any

### Research Publications

S. No.	Publication
1.	<b>Fast and slow mode solitary waves in a five component plasma</b> Sijo Sebastian· Manesh Michael· Sreekala G· Anu Varghese· ChanduVenugopal <i>Brazilian Journal of Physics</i> 47 46 2017
2.	<b><u>Oblique solitary waves in a five component plasma</u></b> Sijo Sebastian· Manesh Michael·Sreekala G·Neethu Theresa Willington·Renuka G· ChanduVenugopal <i>Physics of Plasmas</i> 22 123704 2015
3.	<b><u>Solitary waves in a plasma with oppositely charged dust (heavier, pair ions) and kappa modeled lighter ions and electrons</u></b> Sijo Sebastian· Sreekala G·Manesh Michael· Noble P Abraham·Renuka G· ChanduVenugopal <i>Physica Scripta</i> 90 035601 2015
4.	<b>Rogue waves in multi-ion cometary plasmas</b> Sreekala G·Manesh Michael·Anu Varghese·Neethu Theresa Willington·Sijo Sebastian·ChanduVenugopal <i>Plasma Physics Reports</i> 44 102 2018

5	<b>Effect of lighter and heavier pair ions on solitary waves</b> Sijo Sebastian· Anu Varghese· Manesh Michael·Sreekala G·Neethu Theresa Willington·Savithri Devi E· ChanduVenugopal <i>Journal of Physics Conference Series</i> 836 012003 2017
6	<b><u>Stability of the magnetosonic wave in a cometary multi-ion plasma</u></b> Sreekala G· Anu Varghese·Manesh Michael· <b>Sijo Sebastian</b> · ChanduVenugopal <i>Advances in Space Research</i> 59 2679 2017
7	<b><u>Stability of ion acoustic waves in a pair-ion plasma with a third species of ions: Application to cometary plasmas</u></b> Noble P Abraham· <b>Sijo Sebastian</b> · Sreekala G· Savithri Devi E· Renuka G· ChanduVenugopal <i>Astrophysics and Space Science</i> 349 49 2014
8	<b><u>Ion-acoustic instabilities in a multi-ion plasma</u></b> Noble P Abraham· <b>Sijo Sebastian</b> ·Sreekala G· Jayapal R·Anilkumar C.P·ChanduVenugopal <i>Journal of Astrophysics</i> 2013 838534 2013
9	<b>Oblique ion acoustic shock waves in a magnetized, multi-species plasma</b> Manesh Michael·Anu Varghese·Neethu Theresa Willington· <b>Sijo Sebastian</b> · Savithri Devi E· Sreekala G·ChanduVenugopal <i>Journal of Physics Conference Series</i> 836 012007 2017
10	<b>Effect of anisotropy of lighter and heavier ions on solitary waves in a multi-ion plasma</b> Manesh Michael· <b>Sijo Sebastian</b> ·Anu Varghese· Sreekala G·Neethu Theresa Willington·Savithri Devi E·ChanduVenugopal <i>Physics of Plasmas</i> 24, 062905, 2017
11	<b><u>Stability of electrostatic electron cyclotron waves in a multi-ion plasma</u></b> Noble P Abraham· Samuel George· Sreekala G· <b>Sijo Sebastian</b> ·ChanduVenugopal· Renuka G. <i>Earth Moon and Planets</i> 111 115 2014
12	<b><u>Korteweg–deVries–Burgers (KdVB) equation in a five component cometary plasma with kappa described electrons and ions</u></b> Manesh Michael· Neethu Theresa Willington· NeethuJayakumar· <b>Sijo Sebastian</b> · SreekalaG· ChanduVenugopal <i>Journal of Theoretical and Applied Physics</i> 10 289 2016
13	<b><u>Stability of the kinetic Alfvén wave in a current-less plasma</u></b> Sreekala G· <b>Sijo Sebastian</b> · Manesh Michael· Noble P Abraham·Renuka G· ChanduVenugopal <i>Advances in Space Research</i> 55 2519 2015
14	<b><u>Kadomstev-Petviashvili-Burgers (KPB) equation in a five component cometary plasma with kappa described electrons and ions</u></b> Manesh Michael· Sreekala G· <b>Sijo Sebastian</b> ·Neethu Theresa Willington· Anu Varghese· Renuka G· ChanduVenugopal <i>Journal of Applied Mathematics and Physics</i> 3 1431 2015
15	<b><u>Negatively charged oxygen ions as a plasma diagnostic tool: Application to comets</u></b> Sreekala G· <b>Sijo Sebastian</b> · Noble P Abraham· Savithri Devi E· ChanduVenugopal· Renuka G. <i>OALibrary Journal</i> 1 e570 2014

16	<b><u>Stability of the ion-acoustic wave in permeating plasmas: Application to comets</u></b> Sreekala G. · <b>Sijo Sebastian</b> · Noble P Abraham · Manesh Michael · Neethu Theresa Willington · Renuka G. · Chandu Venugopal <i>International Journal of Science and Research</i> 3 1297 2014
17	<b><u>The influence of negatively charged heavy ions on Alfvén waves in a cometary environment</u></b> Sreekala G. · <b>Sijo Sebastian</b> · Manesh Michael · Neethu Theresa Willington · Noble P Abraham · Renuka G. · Chandu Venugopal <i>Journal of Advances in Physics</i> 3 644 2014
18	<b><u>Ion-acoustic double layers in a five component cometary plasma with kappa described electrons and ions</u></b> Manesh Michael · Sreekala G. · <b>Sijo Sebastian</b> · Neethu Theresa Willington · Anu Varghese · Chandu Venugopal <i>IOSR Journal of Applied Physics</i> 8 34 2016
19	<b><u>Stability of electrostatic waves in a multi-ion permeating plasma</u></b> Manesh Michael · <b>Sijo Sebastian</b> · Sreekala G. · Amir M. · Renuka G. · Chandu Venugopal <i>International Journal of Chemical and Physical Sciences</i> 4 77 2015
20	<b><u>Dust ion acoustic solitary waves in a pair-ion plasma with super thermal electrons</u></b> Sreekala G. · Manesh Michael · <b>Sijo Sebastian</b> · Noble P Abraham · Renuka G. · Chandu Venugopal <i>International Journal of Chemical and Physical Sciences</i> 4 83 2015
21	<b><u>Oblique solitary waves in a five component plasma with pair ions</u></b> Chandu Venugopal · <b>Sijo Sebastian</b> · Sreekala G. · Manesh Michael <i>Research &amp; Reviews: Journal of Pure and Applied Physics</i> 4 3 2016
22	<b><u>Stability of electrostatic ion cyclotron harmonic waves in a multi-ion plasma</u></b> Noble P Abraham · Sreekala G. · <b>Sijo Sebastian</b> · Manesh Michael · Prijil Mathew · Amir M. · Jayapal R. · Renuka G. · Chandu Venugopal <i>International Journal of Science and Research</i> 3 1290 2014
23	<b><u>Effect of anisotropic pressure of ions on solitary waves in cometary dusty plasmas with kappa described electrons</u></b> <b>Sijo Sebastian</b> · Manesh Michael · Sreekala G. · Neethu Theresa Willington · Chandu Venugopal <i>International Journal of Chemical and Physical Sciences</i> 4 66 2015
24	<b><u>Solitary waves in a five component dusty plasma with kappa described electrons and ions</u></b> <b>Sijo Sebastian</b> · Sreekala G. · Manesh Michael · Noble P Abraham · Antony S. · Renuka G. · Chandu Venugopal <i>International Journal of Science and Research</i> 3 1301 2014

**Books Published: Contributed author in**

1	<p><b>Stability of kinetic Alfvén wave (KAW) in a cometary plasma with streaming electrons and ions</b>  Sreekala G.·<b>Sijo Sebastian</b>· Manesh Michael·Savithri Devi E.· Anilkumar C.P.· ChanduVenugopal  <b>Plasma and Fusion Science from Fundamental Research to Technological Applications, Chapter 13, Apple Acad. Press, New Jersey</b> ISBN: 9781315365947 Jan 2018</p>
2	<p><b>Ion-acoustic solitary waves in a magnetized five component cometary plasma with kappa described electrons and non extensive pair ions</b>  Manesh Michael· Anu Varghese· Neethu Theresa Willington· <b>Sijo Sebastian</b>· Sreekala G.· ChanduVenugopal  <b>ISBN 9788192657974</b> 6 2016</p>
3	<p><b>Coupling of Electrostatic Ion Cyclotron and Ion Acoustic waves in a five component cometary plasma</b>  Manesh Michael · <b>Sijo Sebastian</b>· Shilpa S· ChanduVenugopal  <b>Advances in Highly Correlated Systems, River Publishers, Niels Jernes Vej 10, 9220 Aalborg, Denmark, ISBN 9788770224116, e-ISBN 9788770224109</b>  (Available from May 2022)</p>
4	<p><b>Effect of dust and ion pressure anisotropy on solitary waves in a five component plasma</b>  <b>Sijo Sebastian</b>· Neethu Theresa Willington· Anu Varghese· Manesh Michael· Sreekala G.· ChanduVenugopal  <b>ISBN 9788192657974</b> 16 2016</p>

**Invited Lectures/ Paper Presentations in Conferences-25**

S. No.	Conference & Presentation Details
<b>International Conferences-11</b>	
1.	<p>Nonlinear waves in multi-ion cometary plasma  47th Conference on Plasma Physics  Jun 21-24 2021  Sitges, Spain (Online mode)  European Physical Society</p>
2.	<p>Solitary waves in a multi-ion plasma  IUPAP Conference on Computational Physics (CCP2021)  Aug1-5 2021  Coventry, England  (Online mode)  <i>International Union of Pure and Applied Physics (IUPAP)</i>  Host: Coventry University's Centre for Fluid and Complex Systems, England</p>
3.	<p>Nonlinear waves in a multi-ion plasma with Kappa described electrons  43rd COSPAR scientific assembly  Jan 28- Feb4 2021  International Convention Centre  Sydney NSW, Australia (Online mode)  Committee on Space Research (COSPAR)</p>

4	<p>Nonlinear waves in multi-ion cometary plasma  13th International Conference on Plasma Science and Applications  Dec 26--28 Dec, 2020  Ravenshaw University, Cuttack (Online mode)  Host:Ravenshaw University, Cuttack</p>
5	<p>Effects of Pressure Anisotropy on Solitary Waves in Multi-ion Plasmas  30th IUPAP Conference on Computational Physics  Jul 29-Aug 2 2018  University of California, Davis, USA  <i>International Union of Pure and Applied Physics (IUPAP)</i>  Host: University of California, Davis, USA</p>
6	<p>Fast and Slow Mode Solitary Waves in a Multi-component Plasma with  Kappa Described Electrons  International Meeting on Highly Correlated Systems  Mar 24-26 2017  Mahatma Gandhi University, Kottayam, Kerala, India</p>
7	<p>Effect of Both Lighter and Heavier Pair ions on Solitary Waves in  Cometary Plasmas  International Conference on Nonlinear Physics: Theory and Experiment  Dec13-14 2016  Farook College, Calicut, Kerala, India</p>
8	<p>Pressure anisotropy effects on solitary waves in five component plasmas  Joint 13th Asia-Pacific Physics Conference &amp; 22nd  Australian Institute of Physics Congress  Dec 4-8 2016  Brisbane, Australia  Joint conference between Asian-Pacific Physics association and Australian Physics  association held at Brisbane convention and exhibition centre</p>
9	<p>Effect of Lighter and Heavier Pair Ions on Solitary Waves in a MultiComponent  Plasma  International Conference on Frontiers of Physics and Plasma Science  Nov 7-8 2016  Ujjain Engineering College, Ujjain, Madhya Pradesh, India</p>
10	<p>Fast and slow mode solitary waves in a five component multi-ion plasma  18th International Congress on Plasma Physics  Jun27-Jul1 2016  Kaohsiung, Taiwan  Institute of Space and Plasma Sciences, National Cheng Kung University held at <u>85  Sky Tower Hotel</u> 301a Grand Hall &amp; 304 Conference Room,  <u>Kaohsiung Exhibition Center</u></p>
11	<p>Negative Solitary Waves in a Five Component Collisional  Plasma  7th International Conference on the Frontiers of Plasma Physics &amp; Technology  April 13-17 2015  Cochin, Kerala, India  International Atomic Energy Agency</p>

	<b>National Conferences-14</b>
12	Nonlinear waves in multi-ion plasma Scholars Colloquium on Plasma Physics 2020 Sept 3-11 2020 Online <a href="https://plasma-webinar2020.blogspot.com/">https://plasma-webinar2020.blogspot.com/</a> An Association of Physicist Kolkata, 700032, India
13	Effect of Dust and Ion Pressure Anisotropy of Ions on Solitary Waves in a Five Component Plasma 5th PSSI-Plasma Scholars Colloquium Aug 27-28 2016 Ravenshaw University, Cuttack, Odisha, India Plasma Science Society of India
14	Dust Pressure Anisotropy in a Five Component Plasma 19th National Space Science Symposium Feb8-12 2016 VSSC, Trivandrum, Kerala, India ISRO and VSSC
15	Fast and Slow mode Solitary Waves in a Multi-Component Plasma National Seminar on Experimental Techniques in Astronomy & Space Sciences Dec14-16 2015 NSS College Chanaganacherry, Kottayam, Kerala, India
16	Oblique Solitary Waves in a Five Component Dusty Plasma PSSI-Plasma Students Colloquium Aug5-7 2015 Jadavpur University, Kolkata, India Plasma Science Society of India
17	Effect of Pressure of Ions on Solitary Waves in Cometary Multi- ion Plasmas with $\kappa$ described Electrons National Seminar on Advances in Space Science and Space Missions Mar11-13 2015 NSS College Chanaganacherry, Kottayam, Kerala, India
18	Effect of Anisotropic Pressure of Ions on Solitary Waves in Cometary Dusty Plasmas with $\kappa$ Described Electrons National Conference on Advances in Plasma Science & technology Feb19-21 2015 Sri Sakthi Institute of Engineering & Technology, Coimbatore, Tamilnadu, India
19	3D Solitary Waves In A Five Component Dusty Plasma 27th National Symposium on Plasma Science & Technology & International Conference on Plasma & Nanotechnology Dec 8-11 2014 Mahatma Gandhi University, Kottayam, Kerala, India Plasma Science Society of India and International centre of Nano science, MG university, Kerala
20	Solitary Waves in a Five Component Dusty Plasma with $\kappa$ described Electrons and Ions National Conference on Plasma Technology Aug 20-21 2014

	Sri Vasavi College, Erode, Tamilnadu, India
21	Solitary Waves in a Five Component Dusty Plasma with Kappa described Electrons and Ions National Seminar on Advances in Geophysics, Space & Atmospheric Research Mar 13-15 2014 Chengannur Christian College, Chengannur, Kerala, India
22	Large amplitude solitary waves in a five component dusty plasma with non thermal electrons and ions 18th National Space Science Symposium Jan 29-Feb 1 2014 Dibrugarh University, Dibrugarh, Assam, India ISRO and Dibrugarh University, Assam
23	Effect of lighter and heavier pair ions on solitary waves in a six component plasma 29th Kerala Science Congress Jan 28-30 2017 Marthoma College, Thiruvalla, Kerala, India Kerala State Council for Science, Technology & Environment
24	28th Kerala Science Congress Jan 30-31 2016 Calicut University, Malappuram, Kerala, India Kerala State Council for Science, Technology & Environment
25	Negative Solitary Waves in a five Component Collisional Plasma 27th Kerala Science Congress Jan 27-29 2015 Alappuzha, Kerala, India Kerala State Council for Science, Technology & Environment

#### Membership in Scientific/ Professional Societies

S. No.	Name of the Society	Nature of Membership
1.	Plasma Science Society of India (PSSI)	Life member
1	Association of Asia Pacific Physical Societies-Division of Plasma Physics-AAPPS DPP	Member