

Suman Majumdar

CONTACT INFORMATION	Suman Majumdar Department of Astronomy, Astrophysics and Space Engineering Indian Institute of Technology Indore, Indore-453552, M.P., India	<i>E-mail:</i> suman.majumdar@iiti.ac.in , mid.suman@gmail.com <i>Voice:</i> +91 6296136775 http://www.iiti.ac.in/people/~sumanm/
RESEARCH INTERESTS	Cosmic Dawn and Epoch of Reionization, 21-cm Cosmology, Square Kilometre Array, Simulations of CD-EoR and Large Scale Structures, N-body Simulations, Statistical Inference, Low Frequency Radio Interferometry.	
EDUCATION	Indian Institute of Technology Kharagpur , West Bengal, India Ph.D. , April, 2013 Probing the Epoch of Reionization through radio-interferometric observations of neutral hydrogen. Supervisors: Somnath Bharadwaj and Sugata Pratik Khastgir. M.Sc. in Physics , August, 2007, Performance: 1st Class. Maulana Azad College, University of Calcutta , Kolkata, West Bengal, India. B.Sc. (Honours) in Physics , August, 2005, Performance: 1st Class.	
ACADEMIC POSITIONS	Assistant Professor (Tenured) Department of Astronomy, Astrophysics and Space Engineering, Indian Institute of Technology Indore Research Associate Department of Physics, Imperial College Postdoctoral Fellow Department of Astronomy, Stockholm University CSIR Senior Research Fellow Indian Institute of Technology Kharagpur Senior Research Fellow Indian Institute of Technology Kharagpur Junior Research Fellow Indian Institute of Technology Kharagpur	May, 2018 - present Indore, India December, 2015 - April, 2018 London, UK December, 2012 - November, 2015 Stockholm, Sweden May, 2011 - September, 2012 Kharagpur, India July, 2009 - April, 2011 Kharagpur, India July, 2007 - June, 2009 Kharagpur, India
FELLOWSHIPS, GRANTS, AWARDS AND MEMBERSHIPS	<ul style="list-style-type: none">• PI of the project “Unveiling the Cosmic Dawn: novel techniques to study the reionization of the early universe” funded by the ASEM-DUO fellowship (2020-2021), (6000 euro).• PI of the project “Imaging the first billion years of the universe with next-generation telescopes” funded under the “Scheme for Promotion of Academic and Research Collaboration (SPARC)” from the Ministry of Education, India (2019-2021), (5400000 INR ~ 62000 euro).• Academic Visitor, Scuola Internazionale Superiore di Studi Avanzati (SISSA), Italy (since Nov, 2019).• Academic Visitor, International Centre for Theoretical Physics (ICTP), Italy (since June, 2019).• Academic Visitor, Imperial College London, UK (since May, 2018).• Fellow of the Royal Astronomical Society, UK (since January, 2017).• Alva and Lennart Dahlmark Research Grant, Sweden (2015), (10000 SEK ~ 75000 INR).• Member of the “Epoch of Reionization and the Dark Ages” international science working group for the Square Kilometre Array (SKA) (since February, 2015).• Member of the “Epoch of Reionization” science working group for the LOFAR International Telescope (since 2015).• Member of the “Square Kilometre Array - India” collaboration for the “Cosmic Dawn and the Epoch of Reionization” (since 2015).• Jubilee Donation Grant, K & A Wallenberg Foundation, Sweden (2014), (7000 SEK ~ 52000 INR).• Alva and Lennart Dahlmark Research Grant, Sweden (2014), (17500 SEK ~ 129000 INR).	

- Senior Research Fellowship, from Council of Scientific and Industrial Research, India (2011-2012).
- Senior Research Fellowship, from IIT Kharagpur (2009-2011).
- Junior Research Fellowship, from IIT Kharagpur (2007-2009).
- Best Speaker Award in the Research Scholar Day, Department of Physics, IIT Kharagpur (2009).
- Best Speaker Award in the Young Astronomers Meet, India (2009).

PUBLICATIONS

Total 33 publications in peer-reviewed journals with 900+ citations. h-index 17.

See Appendix - I for the detailed publication list.

arXiv: https://arxiv.org/a/majumdar_s_1.html.

ORCID: <https://orcid.org/0000-0001-5948-6920>.

Google Scholar: <https://scholar.google.com/citations?user=-ceigSYAAAAJ>.

TALKS AND PRESENTATIONS

Total 56 talks/lectures (15 Invited, 16 Colloquia and 25 Contributed).

See Appendix - II for the detailed list of talks.

COMPUTING SKILLS

Programming Language: C, python

Semi-numerical simulations of reionization: https://github.com/midsuman/ionz_codes

Particle-Mesh (PM) N-Body simulation

Bayesian inference through MCMC using cosmoHammer

Emulation of cosmological observables through Artificial Neural Network

Application Packages:

Scientific Packages: Numerical Recipes in C, scipy in python, cosmoHammer, keras, GNU Scientific Library, GNU Octave, AIPS (Astronomical Image Processing Software), MATLAB

Text Processing: LaTeX, MS Office, OpenOffice

Graphics: Gnuplot, matplotlib in python, PGPLOT, Xfig

ACADEMIC VISITS

Scuola Internazionale Superiore di Studi Avanzati (SISSA), Trieste, Italy, 07 Nov - 15 Dec, 2019.

International Centre for Theoretical Physics (ICTP), Trieste, Italy, 09-30 June and 08-18 July, 2019.

Stockholm University and Uppsala University, Stockholm and Uppsala, Sweden, 01-07 July, 2019.

Astrophysics Group, Imperial College London, London, U.K., 15-19 April, 2019.

Department of Physics, University of Western Cape, Cape Town, South Africa, 6 - 11 June, 2015.

Korea Astronomy and Space Science Institute, Daejeon, Korea, 13 - 15 Nov, 2014.

Asia Pacific Centre for Theoretical Physics, Pohang, Korea, 10 - 13 Nov, 2014.

Harish-Chandra Research Institute, Allahabad, India, 22 Jan-4 Feb, 2011; 23 Jan-6 Feb, 2012.

STUDENT SUPERVISION

PhD Supervision:

- Chandra Shekhar Murmu (since July 2019 - ongoing) (IITI).
- Mohd Kamran (since July 2018 - ongoing) (IITI).

PhD Mentorship:

- Dr. Claude Schmit (2016-2018). PhD at Imperial College London → Biosensors Beyond Borders, UK.
- Dr. Rajesh Mondal (2014-2017). PhD at Indian Institute of Technology Kharagpur, India → Postdoc at University of Sussex, UK → Postdoc at Stockholm University, Sweden.
- Dr. Hannes Jensen (2013-2015). PhD at Stockholm University, Sweden → King.com, Sweden.

M.Sc. Project Supervision (2020-2021):

- Aadarsh Pathak (since July 2020 - ongoing).

M.Sc. Project Supervision (2019-2020):

- Anchal Saxena. Recipient of the Best Project Award among all M.Sc. Projects at IITI in 2020. M.Sc. Astronomy at IITI (2020) → PhD at University of Groningen, Netherlands.
- Himanshu Tiwari. M.Sc. Astronomy at IITI (2020) → PhD at Curtin University, Australia.

- Samanvith A. M.Sc. Astronomy at IITI (2020).

Summer Project Supervision:

- Souvik Jana (2018). Summer Research Fellowship of the Indian Academy of Sciences.

TEACHING AND RELATED EXPERIENCES

Indian Institute of Technology Indore, India

Lecturer and Developer: Relativity and Cosmology, M.Sc. Astronomy, Autumn 2019, 2020.

Lecturer and Developer: Astrostatistics, M.Sc. Astronomy, Spring 2019, 2020, 2021.

Lecturer and Developer: Large Scale Structures of the Universe, M.Sc. Astronomy, Spring 2019.

Lab Instructor and Designer: Optics Experiments, M.Sc. Astronomy, Spring 2019, 2020, 2021.

Lecturer and Developer: Astrophysical Processes, Astronomy Minor Prog., Autumn 2018, 2019, 2020.

Instructor and Designer: Numerical Techniques in Astronomy, M.Sc. Astronomy, Autumn 2018.

Imperial College London, UK

Lab Instructor: B.Sc. Physics (2nd year), 2017 - 2018, 2 terms.

Lab Instructor: B.Sc. Physics (1st year), 2016 - 2017, 2 terms.

Stockholm University, Sweden

B.Sc. Thesis Examiner: Analysing the topology of reionization using Minkowski functional, June 13, 2013.

Tutor: Introduction to Cosmology, B.Sc. Astrophysics (3rd year), 2013 - 2014, 1 semester.

Indian Institute of Technology Kharagpur, India

Tutor: PHYSICS II, B.Tech. (2nd year), 2009 - 2010, 2 semesters.

Tutor: PHYSICS I, B.Tech. (1st year), 2009, 1 semester.

Lab Instructor: Computational Physics, M.Sc. Physics (1st year), 2010 - 2011, 2 semesters.

Lab Instructor: Optics, M.Sc. Physics (1st year), 2008 - 2010, 2 semesters.

Lab Instructor: PHYSICS I Lab, B.Tech. (1st year), 2008 - 2010, 3 semesters.

Lab Instructor: Electronics, M.Sc. Physics (1st year), 2008, 1 semester.

Lab Instructor: B.Tech. Prep. Lab, 2007 - 2010, 2 semesters.

POSITION OF LEADERSHIP AND RESPONSIBILITY

- Leading the **Cosmology with Statistical Inference (CSI) Research Group** at IIT Indore, India.
- Leading member of the **Square Kilometre Array - India collaboration** for the **Cosmic Dwan and the Epoch of Reionization**.
- Member of the International Science Working Group for the **Cosmic Dwan and the Epoch of Reionization** science using the **Square Kilometre Array**.
- Member of the **Epoch of Reionization** collaboration for the **LOFAR Radio Telescope**.
- **Convener** of the **Departmental Postgraduate Committee** at the Department of Astronomy, Astrophysics and Space Engineering, IIT Indore, India (since September 2019).
- **Coordinator** of the **PhD programme** at the Department of Astronomy, Astrophysics and Space Engineering, IIT Indore, India (since September 2019).
- **Coordinator** of the **M.Sc. in Astronomy** programme at the IIT Indore, India (July 2018 - July 2020).
- **Faculty Advisor** for six B.Tech. and six M.Sc. students at the IIT Indore, India (since July 2018).
- **Postdoc Representative** at the Astrophysics Group, Department of Physics, Imperial College London (2017-2018).

JOURNAL REVIEWER

Monthly Notices of the Royal Astronomical Society
Astrophysical Journal

CONFERENCE
AND
MEETING
ORGANIZATION

- **39th Annual Meeting of the Astronomical Society of India (ASI)**, Member of the Virtual Organizing Committee, 18-23 February 2021, Online, <https://astron-soc.in/asi2021/home>.
- **SAZERAC sip: The 21-cm Signal from Cosmic Dawn and the Epoch of Reionisation**, Main organizer and SOC Convener, 29th January 2021, Online, <http://sazerac-conference.org/SIPS2021/3.html>.
- **The First Billion Years of the Universe Using Next Generation Telescopes**, Main organizer, LOC Chair and SOC Convener, A two week long international conference and school, 20-31 January 2020, IIT Indore, India, <http://www.iiti.ac.in/people/~firstbillion/>.
- **Royal Astronomical Society specialist meeting on The Epoch of Reionisation: UK community update**, One of the main organizer, 9th February, 2018, RAS, London, UK.
- **The SKA Key Science Workshop**, Member of the LOC, 24th - 27th August, 2015, Wenner-Gren Center, Stockholm, Sweden.
- **Lyman Continuum Leakage and Cosmic Reionization**, Member of the LOC, 13th - 15th August, 2014, Stockholm University, Stockholm, Sweden.
- **Photo-Evaporation in Astrophysical Systems**, Member of the LOC, 3rd - 28th June, 2013, NORDITA, Stockholm, Sweden.
- **Young Astronomers' Meet**, Member of the LOC and the Web Team, 14th - 16th March, 2009, Indian Institute of Technology Kharagpur, India.

OUTREACH
ACTIVITIES

Reaching for the Stars: IAU 100 Hours of Astronomy Event, IIT Indore, India (2019).
Bapu Khagol Mela (Gandhi Astro Fair), IIT Indore, India (2018).
Cosmic Dawn stand talks, Imperial Festival, Imperial College London, UK (2018).
Planetarium show talks, Imperial Festival, Imperial College London, UK (2016).
Telescope Night, Department of Astronomy, Stockholm University, Sweden (2013, 2015).
Fysik i Kungsträdgården (Physics in the Royal Garden), Stockholm, Sweden (2013).
Cosmology for All, Lund Observatory, Sweden (2013).

COLLABORATORS

Jonathan R. Pritchard (Imperial College London, UK), Garrelt Mellema (Stockholm University, Sweden), Somnath Bharadwaj (IIT Kharagpur, India), Tirthankar Roy Choudhury (NCRA-TIFR, India), Erik Zackrisson (Uppsala University, Sweden), Matteo Viel (SISSA, Italy), Ilian T. Iliev (University of Sussex, UK), Kanan K. Datta (Presidency University, India), Rajesh Mondal (Stockholm University, Sweden), Catherine A. Watkinson (Queen Mary University of London, UK), Koki Kakiichi (University College London, UK).

REFERENCES

Prof. Jonathan R. Pritchard, Astrophysics Group, Department of Physics, Imperial College London, Blackett Laboratory, Prince Consort Road, London-SW7 2AZ, UK, j.pritchard@imperial.ac.uk, +44-207-594-7557

Prof. Garrelt Mellema, Department of Astronomy, Stockholm University, SE-10691, Stockholm, Sweden, garrelt@astro.su.se, +46-8-5537-8552

Prof. Somnath Bharadwaj, Department of Physics, IIT Kharagpur, Kharagpur-721302, West Bengal, India, somnath@phy.iitkgp.ernet.in, somnathbharadwaj@gmail.com, +91-3222-283806

Prof. Tirthankar Roy Choudhury, NCRA-TIFR, Pune University Campus, Post Bag 3, Ganeshkhind, Pune-411007, India, tirth@ncra.tifr.res.in, +91-20-25719270

Dr. Erik Zackrisson, Department of Physics and Astronomy, Uppsala University, Box 516, Uppsala-751 20, Sweden, erik.zackrisson@physics.uu.se, +46-18-471-5975

Dr. Matteo Viel, Scuola Internazionale Superiore di Studi Avanzati (SISSA), via Bonomea, 265, I-34136 Trieste, Italy, viel@sissa.it, +39-040-3787517

Prof. Ilian T. Iliev, Department of Physics and Astronomy, University of Sussex, Brighton-BN19QH, UK, I.T.Iliev@sussex.ac.uk, +441273873737

Dr. Sugata Pratik Khastgir, Department of Physics, IIT Kharagpur, Kharagpur-721302, West Bengal, India, pratik@phy.iitkgp.ernet.in, +91-3222-283858

Total 33 publications in peer-reviewed journals with 900+ citations. h-index 17. i10 index 22.
 arXiv: https://arxiv.org/a/majumdar_s_1.html.
 ORCID: <https://orcid.org/0000-0001-5948-6920>.
 Google Scholar: <https://scholar.google.com/citations?user=-ceigSYAAAAJ>.

200+ citations: 1 article; 100+ citations: 1 article; 50+ citations: 2 articles; 40+ citations: 2 articles.

As first author:

1. **Suman Majumdar**, Mohd Kamran, Jonathan R. Pritchard, Rajesh Mondal, Arindam Mazumdar, Somnath Bharadwaj, Garrelt Mellema, *Redshifted 21-cm Bispectrum I: Impact of the Redshift Space Distortions on the Signal from the Epoch of Reionization*, **Monthly Notices of the Royal Astronomical Society**, 499, 4, 5090-5106 (2020), arXiv:2007.06584, DOI:<https://doi.org/10.1093/mnras/staa3168>
2. **Suman Majumdar**, Jonathan R. Pritchard, Rajesh Mondal, Catherine A. Watkinson, Somnath Bharadwaj, Garrelt Mellema, *Quantifying the non-Gaussianity in the EoR 21-cm signal through bispectrum*, **Monthly Notices of the Royal Astronomical Society**, 476, 3, 4007-4024 (2018), arXiv:1708.08458, DOI:<https://doi.org/10.1093/mnras/sty535>
3. **Suman Majumdar**, Kanan K. Datta, Raghunath Ghara, Rajesh Mondal, T. Roy Choudhury, Somnath Bharadwaj, Sk. Saiyad Ali, Abhirup Datta, *Line-of-Sight Anisotropies in the Cosmic Dawn and Epoch of Reionization 21-cm Power Spectrum*, “Science with the SKA: an Indian perspective” special issue of **Journal of Astrophysics and Astronomy**, 37, 4, 32, (2016), arXiv:1610.08180, DOI:<https://doi.org/10.1007/s12036-016-9402-0>
4. **Suman Majumdar**, Hannes Jensen, Garrelt Mellema, Emma Chapman, Filipe B. Abdalla, Kai Yan Lee, Ilian T. Iliev, Keri L. Dixon, Kanan K. Datta, Benedetta Ciardi, Elizabeth R. Fernandez, Vibor Jelić, Léon V. E. Koopmans, Saleem Zaroubi, *Effects of the sources of reionization on 21-cm redshift space distortions*, **Monthly Notices of the Royal Astronomical Society**, 456, 2, 2080-2094 (2016), arXiv:1509.07518, DOI:<https://doi.org/10.1093/mnras/stv2812>
5. **Suman Majumdar**, Garrelt Mellema, Kanan K. Datta, Hannes Jensen, T. Roy Choudhury, Somnath Bharadwaj, Martina M. Friedrich, *On the use of seminumerical simulations in predicting the 21-cm signal from the epoch of reionization*, **Monthly Notices of the Royal Astronomical Society**, 443, 4, 2843-2861 (2014), arXiv:1403.0941, DOI:<https://doi.org/10.1093/mnras/stu1342>
6. **Suman Majumdar**, Somnath Bharadwaj, T. Roy Choudhury, *The effect of peculiar velocities on the epoch of reionization 21-cm signal*, **Monthly Notices of the Royal Astronomical Society**, 434, 3, 1978-1988 (2013), arXiv:1209.4762, DOI:<https://doi.org/10.1093/mnras/stt1144>
7. **Suman Majumdar**, Somnath Bharadwaj, T. Roy Choudhury, *Constraining quasar and intergalactic medium properties through bubble detection in redshifted 21-cm maps*, **Monthly Notices of the Royal Astronomical Society**, 426, 4, 3178-3194 (2012), arXiv:1111.6354, DOI:<https://doi.org/10.1111/j.1365-2966.2012.21914.x>
8. **Suman Majumdar**, Somnath Bharadwaj, Kanan K. Datta, T. Roy Choudhury, *The impact of anisotropy from finite light travel time on detecting ionized bubbles in redshifted 21-cm maps*, **Monthly Notices of the Royal Astronomical Society**, 413, 2, 1409-1418 (2011), arXiv:1006.0430, DOI:<https://doi.org/10.1111/j.1365-2966.2011.18223.x>

As second author:

9. Anchal Saxena, **Suman Majumdar**, Mohd Kamran, Matteo Viel, *Impact of dark matter models on the EoR 21-cm signal bispectrum*, **Monthly Notices of the Royal Astronomical Society**, 497, 3, 2941-2953 (2020), arXiv:2004.04808, DOI:<https://doi.org/10.1093/mnras/staa1768>
10. Erik Zackrisson, **Suman Majumdar**, Rajesh Mondal, Christian Binggeli, Martin Sahlen, Umberto Maio, Benedetta Ciardi, Kanan Datta, Tirthankar Roy Choudhury, Ikkoh Shimizu, Garrelt Mellema, *Mapping the galaxy content of individual ionized bubbles in the intergalactic medium at $z > 6$ with EUCLID, WFIRST, JWST and ELT*, **Monthly Notices of the Royal Astronomical Society**, 493, 1, 855-870 (2020), arXiv:1905.00437, DOI:<https://doi.org/10.1093/mnras/staa098>

11. Debanjan Sarkar, **Suman Majumdar**, Somnath Bharadwaj, *Modelling the post-reionization neutral hydrogen (HI) 21-cm bispectrum*, **Monthly Notices of the Royal Astronomical Society**, 490, 2, 2880–2889 (2019), arXiv:1907.01819, DOI:<https://doi.org/10.1093/mnras/stz2799>
12. Catherine A. Watkinson, **Suman Majumdar**, Jonathan R. Pritchard, Rajesh Mondal, *A fast estimator for the bispectrum and beyond - A practical method for measuring non-Gaussianity in 21-cm maps*, **Monthly Notices of the Royal Astronomical Society**, 472, 2, 2436-2446 (2017), arXiv:1705.06284, DOI:<https://doi.org/10.1093/mnras/stx2130>
13. Koki Kakiichi, **Suman Majumdar**, Garrelt Mellema et al., *Recovering the HII region size statistics from 21-cm tomography*, **Monthly Notices of the Royal Astronomical Society**, 471, 2, 1936-1954 (2017), arXiv:1702.02520, DOI:<https://doi.org/10.1093/mnras/stx1568>
14. Hannes Jensen, **Suman Majumdar**, Garrelt Mellema, Adam Lidz, Ilian T. Iliev, Keri L. Dixon, *The wedge bias in reionization 21-cm power spectrum measurements*, **Monthly Notices of the Royal Astronomical Society**, 456, 1, 66-70 (2016), arXiv:1509.02277, DOI:<https://doi.org/10.1093/mnras/stv2679>
15. Kanan K. Datta, **Suman Majumdar**, Somnath Bharadwaj, T. Roy Choudhury, *Simulating the impact of HI fluctuations on matched filter search for ionized bubbles in redshifted 21 cm maps*, **Monthly Notices of the Royal Astronomical Society**, 391, 1900 (2009), arXiv:0805.1734, DOI:<https://doi.org/10.1111/j.1365-2966.2008.14008.x>

With significant contribution:

16. Mohd Kamran, Raghunath Ghara, **Suman Majumdar**, Rajesh Mondal, Garrelt Mellema, Somnath Bharadwaj, Jonathan R. Pritchard, Ilian T. Iliev, *Redshifted 21-cm bispectrum II: Impact of the spin temperature fluctuations and redshift space distortions on the signal from the Cosmic Dawn*, **Monthly Notices of the Royal Astronomical Society**, 502, 3, 3800–3813 (2021), arXiv:2012.11616, DOI: <http://dx.doi.org/10.1093/mnras/stab216>
17. Rajesh Mondal, Abinash Kumar Shaw, Ilian T. Iliev, Somnath Bharadwaj, Kanan K. Datta, **Suman Majumdar**, Anjan K. Sarkar, Keri L. Dixon, *Predictions for measuring the 21-cm multi-frequency angular power spectrum using SKA-Low*, **Monthly Notices of the Royal Astronomical Society**, 494, 3, 4043-4056 (2020), arXiv:1910.05196, DOI: <https://doi.org/10.1093/mnras/staa1026>
18. Cathryn M. Trott, Catherine A. Watkinson, Christopher H. Jordan, Shintaro Yoshiura, **Suman Majumdar**, ..., A. Williams, C. Wu, *Gridded and direct Epoch of Reionisation bispectrum estimates using the Murchison Widefield Array*, **Publications of the Astronomical Society of Australia**, 36, id. e023, (2019), arXiv:1905.07161, DOI: <https://doi.org/10.1017/pasa.2019.15>
19. Anne Hutter, Pratika Dayal, Sangeeta Malhotra, James Rhoads, ..., **Suman Majumdar**, ..., Erik Zackrisson, *Astro2020 Science White Paper: A proposal to exploit galaxy-21cm synergies to shed light on the Epoch of Reionization*, **Astronomy and Astrophysics Decadal Survey (Astro2020)** in the **Bulletin of the American Astronomical Society**, 51, 3, id. 57 (2019), arXiv:1903.03628, DOI: <https://ui.adsabs.harvard.edu/abs/2019BAAS...51c...57H/abstract>
20. Sambit K. Giri, Anson D'Aloisio, Garrelt Mellema, Eiichiro Komatsu, Raghunath Ghara, **Suman Majumdar**, *Position-dependent power spectra of the 21-cm signal from the epoch of reionization*, **Journal of Cosmology and Astroparticle Physics**, 2019, 02, 058-058, (2019), arXiv:1811.09633, DOI: <https://doi.org/10.1088/2F1475-7516/2F2019/2F02/2F058>
21. Rajesh Mondal, Somnath Bharadwaj, Ilian T. Iliev, Kanan K. Datta, **Suman Majumdar**, Abinash K. Shaw, Anjan K. Sarkar, *A method to determine the evolution history of the mean neutral Hydrogen fraction*, **Monthly Notices of the Royal Astronomical Society: Letters**, 483, 1, L109-L113, (2019), arXiv:1810.06273, DOI: <https://doi.org/10.1093/mnras/lsy226>
22. Raghunath Ghara, Garrelt Mellema, Sambit K. Giri, T. Roy Choudhury, Kanan K. Datta, **Suman Majumdar**, *Prediction of the 21-cm signal from reionization: comparison between 3D and 1D radiative transfer schemes*, **Monthly Notices of the Royal Astronomical Society**, 476, 2, 1741-1755 (2018), arXiv:1710.09397, DOI:<https://doi.org/10.1093/mnras/sty314>
23. A.H. Patil, S. Yatawatta, L.V.E. Koopmans, A.G. de Bruyn,, **S. Majumdar**,et al., *Upper limits on the 21-cm Epoch of Reionization power spectrum from one night with LOFAR*, **Astrophysical Journal**, 838, 1, 16 (2017), arXiv:1702.08679, DOI:<https://doi.org/10.3847/1538-4357/aa63e7>

24. Rajesh Mondal, Somnath Bharadwaj, **Suman Majumdar**, *Statistics of the epoch of reionization (EoR) 21-cm signal – II. The evolution of the power spectrum error-covariance*, **Monthly Notices of the Royal Astronomical Society**, 464, 3, 2992-3004 (2017), arXiv:1606.03874, DOI:<https://doi.org/10.1093/mnras/stw2599>
25. Kanan K. Datta, Raghunath Ghara, **Suman Majumdar**, T. Roy Choudhury, Somnath Bharadwaj, Himadri Roy, Abhirup Datta, *Probing individual sources during reionization and cosmic dawn using SKA HI 21-cm observations*, “Science with the SKA: an Indian perspective” special issue of **Journal of Astrophysics and Astronomy**, 37, 4, 27, (2016), arXiv:1610.08177, DOI:<https://doi.org/10.1007/s12036-016-9405-x>
26. T. Roy Choudhury, Kanan K. Datta, **Suman Majumdar**, Raghunath Ghara, Aseem Paranjape, Rajesh Mondal, Somnath Bharadwaj, Saumyadip Samui, *Modelling the 21 cm Signal From the Epoch of Reionization and Cosmic Dawn*, “Science with the SKA: an Indian perspective” special issue of **Journal of Astrophysics and Astronomy**, 37, 4, 29, (2016), arXiv:1610.08179, DOI:<https://doi.org/10.1007/s12036-016-9403-z>
27. Rajesh Mondal, Somnath Bharadwaj, **Suman Majumdar**, *Statistics of the epoch of reionization (EoR) 21-cm signal: I - power spectrum error covariance*, **Monthly Notices of the Royal Astronomical Society**, 456, 2, 1936-1947 (2016), arXiv:1508.00896, DOI:<https://doi.org/10.1093/mnras/stv2772>
28. L.V.E.Koopmans, J.Pritchard, G.Mellema, F.Abdalla,....., **S. Majumdar**,, S.Wyithe, *The Cosmic Dawn and Epoch of Reionization with the Square Kilometre Array*, **Proceedings of Science, Advancing Astrophysics with the Square Kilometre Array**, (2015), arXiv:1505.07568, DOI:<http://adsabs.harvard.edu/abs/2015aska.confE...1K>
29. Ilian T. Iliev, Mario G. Santos, Andrei Mesinger, **Suman Majumdar**, Garrelt Mellema, *Epoch of Reionization modelling and simulations for SKA*, **Proceedings of Science, Advancing Astrophysics with the Square Kilometre Array**, (2015), arXiv:1501.04213, DOI:<http://adsabs.harvard.edu/abs/2015aska.confE...7I>
30. Garrelt Mellema, León Koopmans, Hemant Shukla, Kanan K. Datta, Andrei Mesinger, **Suman Majumdar**, on behalf of the CD/EoR Science Working Group, *HI tomographic imaging of the Cosmic Dawn and Epoch of Reionization with SKA*, **Proceedings of Science, Advancing Astrophysics with the Square Kilometre Array**, (2015), arXiv:1501.04203, DOI:<http://adsabs.harvard.edu/abs/2015aska.confE...10M>
31. Rajesh Mondal, Somnath Bharadwaj, **Suman Majumdar**, Apurba Bera, Ayan Acharyya, *The effect of non-Gaussianity on error predictions for the Epoch of Reionization (EoR) 21-cm power spectrum*, **Monthly Notices of the Royal Astronomical Society: Letters**, 449, 1, L41-L45 (2015), arXiv:1409.4420, DOI:<https://doi.org/10.1093/mnrasl/s1v015>
32. Kanan K. Datta, Hannes Jensen, **Suman Majumdar**, Garrelt Mellema, Ilian T. Iliev, Yi Mao, Paul R. Shapiro, Kyungjin Ahn, *Light cone effect on the reionization 21-cm signal-II. Evolution, anisotropies and observational implications*, **Monthly Notices of the Royal Astronomical Society**, 442, 2, 1491-1506 (2014), arXiv:1402.0508, DOI:<https://doi.org/10.1093/mnras/stu927>
33. Tapomoy Guha Sarkar, Sourav Mitra, **Suman Majumdar**, Tirthankar Roy Choudhury, *Constraining large scale HI bias using redshifted 21-cm signal from the post-reionization epoch*, **Monthly Notices of the Royal Astronomical Society**, 421, 4, 3570-3578 (2012), arXiv:1109.5552, DOI:<https://doi.org/10.1111/j.1365-2966.2012.20582.x>

PUBLICATIONS IN CONFERENCE PROCEEDINGS

34. **Suman Majumdar**, Garrelt Mellema, Kanan K. Datta, Hannes Jensen, Somnath Bharadwaj, T. Roy Choudhury, Martina M. Friedrich, *Simulations of cosmic reionization: comparison between different techniques*, **ASI Conference Series**, Vol. 13, pp. 309-311, (2014), Edited by J. N. Chengalur & Y. Gupta, DOI:<http://adsabs.harvard.edu/abs/2014ASInC...13..309M>
35. Kanan K. Datta, Hannes Jensen, **Suman Majumdar**, Garrelt Mellema, Ilian T. Iliev, *Does the light cone effect make reionization HI 21-cm power spectrum anisotropic?*, **ASI Conference Series**, Vol. 13, pp. 313-314, (2014), Edited by J. N. Chengalur & Y. Gupta, DOI:<http://adsabs.harvard.edu/abs/2014ASInC...13..313D>

36. **Suman Majumdar**, Somnath Bharadwaj, T. Roy Choudhury, *Simulating matched filter detection of ionized bubble around a quasar in the epoch of reionization*, **Journal of Physics Conference Series**, 405, 012021 (2012), DOI:<http://iopscience.iop.org/article/10.1088/1742-6596/405/1/012021>
37. Kanan K. Datta, **Suman Majumdar**, Somnath Bharadwaj, T. Roy Choudhury, *Searching for Ionized Bubbles in 21-cm Maps*, **The Low-Frequency Radio Universe ASP Conference Series**, 407, 39 (2009), DOI:<http://adsabs.harvard.edu/abs/2009ASPC..407...39D>

Total 58 talks/seminars (16 Invited, 16 Colloquia and 26 Contributed).

2021

Invited(4):

- Winter School on Observational Astronomy, Varahamihir Astronomical Observatory, Dongla and Ujjain Planetarium, Madhya Pradesh, (India).
- TEQIP-III Sponsored Workshop on Astroparticle Physics and Cosmology, National Institute of Technology, Meghalaya, Shillong, (India).
- Workshop on the HI 21-cm Cosmology and Reionization, Indian Institute of Science, Bengaluru, (India).
- South Western Institute for Astronomy Research, Yunnan University, (China).

Contributed(1):

- SKA 2021 science conference “A precursor view of the SKA sky”, SKA Global Headquarters, Manchester, (UK).

2020

Invited(4):

- Invited lectures in the faculty training programme on “Artificial Intelligence and Machine Learning”, NPIU/TEQIP, Indian Institute of Technology Indore, (Indore, India).
- Invited lectures in the faculty training programme on “Data Science and Analytics”, NPIU/TEQIP, Indian Institute of Technology Indore, (Indore, India).
- Invited lectures in the AICTE-QIP short term course on “Satellite Based Navigation System”, Indian Institute of Technology Indore, (Indore, India).
- Invited lectures in the international school on “The First Billion Years of the Universe Using Next Generation Telescopes”, Indian Institute of Technology Indore, (Indore, India).

Colloquia(1):

- Department of Astronomy, Astrophysics and Space Engineering, Indian Institute of Technology Indore, (Indore, India).

2019

Invited(1):

- URSI-Asia Pacific Radio Science Conference (India Habitat Centre, New Delhi, India).

Colloquia(3):

- Scuola Internazionale Superiore di Studi Avanzati (SISSA), (Trieste, Italy).
- Institute for Fundamental Physics of the Universe, (Trieste, Italy).
- High Energy, Cosmology and Astroparticle Physics Group, International Centre for Theoretical Physics, (Trieste, Italy).

Contributed(1):

- SKA General Science Meeting and Key Science Workshop (SKA Global Headquarters, Manchester, UK).

2018

Invited(3):

- Frontiers in 21 cm Cosmology Workshop (Kodaikanal Solar Observatory, Indian Institute of Astrophysics, Kodaikanal, India).
- Lectures in the Frontiers in 21 cm Cosmology School (Kodaikanal Solar Observatory, Indian Institute of Astrophysics, Kodaikanal, India).
- The Epoch of Reionisation: UK community update (Royal Astronomical Society, London, UK).

2017

Invited(2):

- Universe after the first 200 million years (Presidency University, Kolkata, India).
- UK SKA Science Community Workshop (Royal Observatory of Edinburgh, UK).

Colloquia(2):

- Centre of Astronomy, (Indian Institute of Technology Indore, Indore, India).
- Astrophysics Group, Department of Physics (Imperial College London, UK).

Contributed(3):

- IAU Symposium 333: Peering towards Cosmic Dawn (Dubrovnik, Croatia).
- National Astronomy Meeting 2017 (University of Hull, UK).
- LOFAR EoR Plenary Meeting (Technion, Haifa, Israel).

2016

Invited(1):

- Mullard Space Science Laboratory (University College London, UK).

Colloquia(3):

- Department of Physics (Indian Institute of Technology Bombay, Mumbai, India).
- Department of Physics (Indian Institute of Technology Madras, Chennai, India).
- Department of Physics (Indian Institute of Technology (BHU), Varanasi, India).

Contributed(2):

- SKA 2016: Science for the SKA Generation (Goa, India).
- Workshop on Cosmic Reionization (Munich Institute for Astro- and Particle Physics, Garching, Germany).

2015

Invited(1):

- Cosmology with the HI 21-cm Line (Raman Research Institute, Bangalore, India).

Colloquia(1):

- Department of Physics (University of Western Cape, South Africa).

Contributed(3):

- Advanced Workshop on Cosmological Structures from Reionization to Galaxies (ICTP, Trieste, Italy).
- The Olympian Symposium on Cosmology and the Epoch of Reionization (Paralia Katerini, Greece).
- Reionization: A Multiwavelength Approach (Kruger Park, South Africa).

2014

Colloquia(3):

- Asia Pacific Center for Theoretical Physics (Pohang University of Science and Technology, Pohang, Korea).
- Korea Astronomy and Space Science Institute (Daejeon, Korea).
- Centre for Theoretical Physics (Jamia Millia Islamia, New Delhi, India).

Contributed(3):

- LOFAR EoR Plenary Meeting (Spineto, Italy).
- Workshop on Cosmology and Structure Formation (Korea Institute for Advanced Study, Seoul, Korea).
- LOFAR EoR Plenary Meeting (Kapteyn Institute, Groningen, The Netherlands).

2013

Colloquia(1):

- Department of Astronomy, Stockholm University (Sweden).

Contributed(5):

- Cosmology for all (Lund University, Lund, Sweden).
- LOFAR EoR Science Meeting (Max Planck Institute for Astrophysics, Garching, Germany).
- LOFAR EoR Plenary Meeting (Sitges, Spain).
- Astronomdagarna (Lund University, Lund, Sweden).
- The Metre Wavelength Sky (National Centre for Radio Astrophysics - Tata Institute of Fundamental Research, Pune, India).

2012

Colloquia(1):

- IUCAA Resource Centre (Delhi University, New Delhi, India).

Contributed(1):

- COSGRAV 12 (Indian Statistical Institute, Kolkata, India).

2011

Colloquia(1):

- Astro-Group at Harish-Chandra Research Institute (Allahabad, India).

Contributed(2):

- 7th International Conference on Gravitation and Cosmology (Goa, India).
- 26th Indian Association for General Relativity and Gravitation Meeting (Harish-Chandra Research Institute, Allahabad, India).

2010

Contributed(3):

- Cosmological Reionization (Harish-Chandra Research Institute, Allahabad, India).
- SERC School on Astronomy and Astrophysics (National Centre for Radio Astrophysics - Tata Institute of Fundamental Research, Pune, India).
- Department of Physics (Indian Institute of Technology Kharagpur, India).

2009

Contributed(2):

- Research Scholar Day (Indian Institute of Technology Kharagpur, India);
- Young Astronomers Meet 2009 (Indian Institute of Technology Kharagpur, India).