

Name **CHANDA J. JOG**

Academic Qualifications:

- Ph.D. (Physics)- 1982. State University of New York at Stony Brook, U.S.A.
- M.Sc. (Physics) - 1976. Indian Institute of Technology, Bombay, First Class.
- B.Sc. (Physics)- 1974. University of Bombay. First class with distinction and **First Rank in the University**

Professional Experience:

- January 2023- January 2026; INSA Senior Scientist, Indian Institute of Science, Bangalore.
- 1987-2025 July: Department of Physics, Indian Institute of Science, Bangalore. Professor from 2002-2020; Honorary Professor from August 2020- July 2025. & **Convener**, Joint Astronomy Programme, I.I.Sc., September 1994- October 2000, and also May 2007- October 2011.
- September 1986 - December 1986 : Visitor, Astronomy Program, State Univ. of New York at Stony Brook, U.S.A.
- September 1984 - August 1986 : Assistant Professor, Department of Astronomy, University of Virginia, U.S.A.
- September 1982 - August 1984 : Postdoctoral Research Associate with Prof. J.P. Ostriker, Princeton University, Department of Astrophysical Sciences, U.S.A.
- Held visiting positions at Observatory of Paris, France; Max-Planck Institute for Astrophysics, Garching, Germany; SUNY at Stony Brook, USA; University of Bochum, and MPA, Garching, Germany

Awards and Honours:

- **An invited review article titled "Vertical structure and dynamics of a galactic disk" in Physics Reports (2026), published online in December 2025.**
- Awarded **INSA Senior Scientist** position (January 2023- January 2026), by INSA, New Delhi.
- Awarded **J.C. Bose Fellowship** by the Department of Science and Technology, New Delhi, 2015-2020, extended from 2020-2022 November.
- Invited to give an **Anniversary lecture** at the **INSA-AGM**, December 2021.

- Awarded **Homi J. Bhabha Medal for Physical Sciences**, by INSA (Indian National Sciences Academy), New Delhi 2017.
- Offered **Honorary Professorship** at the Indian Institute of Science, Bangalore for five years after superannuation on 31st July 2020.
- Awarded **Alumni Award for Excellence in Research for Science**, Indian Institute of Science, Bangalore, 2016
- Elected **Fellow of The World Academy of Sciences (TWAS)**, Trieste, Italy, 2015
- Elected **Fellow of the Indian National Science Academy**, INSA, New Delhi, 2013
- Awarded the **MSIL Endowed Chair for Excellence in Physical Sciences**, Indian Institute of Science, Bangalore for 2012-2015
- Elected **Fellow of the National Academy of Sciences**, Allahabad, 2011
- Awarded the **Prof. S.K. Chatterjee award for an outstanding woman scientist**, Indian Institute of Science, Bangalore, 2011
- Elected **Fellow of the Indian Academy of Sciences**, Bangalore, 2007
- Elected member of the Third World Organization for Women in Science (TWOWS), Italy, 2000
- University of Bombay Prize (1974) for **First Rank in the University in B.Sc. (Physics-Mathematics)**
- **National Science Talent Scholarship by NCERT (1971)**- special selection in **Mathematics**

Professional Recognition/ Contributions:

- **Elected as a Council Member** of the Indian National Science Academy (INSA), New Delhi for the term 2017-2019
- **Elected as a Council Member** of the Indian Academy of Sciences, Bangalore for the term 2016-2018
- **Chair of the Indian National Committee for IAU** (International Astronomical Union) for the term 2016-2019, appointed by INSA-ICSU, New Delhi
- Elected member of **IUPAP** (International Union of Pure and Applied Physics) **Commission 19 on Astrophysics** for the terms 2014-2016, and 2017-2019
- Served as the **Chief Editor** of the **Journal of Astrophysics and Astronomy** published by the Indian Academy of Sciences, Bangalore, 2010- 2012

- Elected Member of the **Organizing Committee** of the International Astronomical Union **IAU Commission 28 on "Galaxies"** for the terms 2009-2012, 2012-2015
- Elected Member of the **Organizing Committee** of the International Astronomical Union **IAU Commission on 33 on "Structure and Dynamics of the Galactic system"** for the term 2012-2015
- Council Member of the **Governing Council of IUCAA**(Inter-University Centre for Astronomy & Astrophysics), Pune from 2011-2013
- Elected Councillor of the ASI (Astronomical Society of India), 2001-2004

Some noteworthy scientific collaborations/interactions:

- **Indo-French (Cefipra)** project (2003-2006) titled "Lopsided spiral galaxies", with Prof. Françoise Combes, Observatory of Paris, France. Received an "**Excellent**" rating by the Cefipra council at the end of the project.
- Invited to be a **Visiting Senior Scientist** at the European Union- Marie Curie International Training Network project on the "Spitzer Survey of Stellar Structure in Galaxies", a multi-nation project, with the main node at the Max Planck Institute of Astronomy (MPIA), Heidelberg, Germany, 2011
- Organized (with Paola di Matteo, France) a Special Session titled "**The structure of galaxy disks shaped by secular evolution and environmental processes**" at the **EWASS** (European Week of Astronomy and Space Sciences), July 1-6, 2012, held at Rome, Italy. Conference Proceedings published in *Memorie della Societa Astronomica Italiana Supplement*, v.25 (2013)
- Invited to join a multi-national project titled "Stars turbulent birth in galactic collisions"(PI Florent Renaud, UK). This was awarded 22 Million core hours by **PRACE (Partnership for advanced computing in Europe)**, a prestigious grant, in March 2015. I was the only Indian scientist on this 14-member International team.

List of Publications of Prof. Chanda J. Jog from 2013-present in refereed journals:

1. **Jog, C.J.**, (2026) "Vertical structure and dynamics of a galactic disk", an **Invited review**, **Physics Reports**, **1163**, pp. **1-98** This article is already published online. Impact factor of Physics Reports is 29.5.
2. Ghosh, S., di Matteo, P., **Jog, C.J.** & Frankel, N. (2025) "Chemical dissection of merger-induced m=1 lopsidedness in Milky-Way type galaxies", submitted for publication to "**Open Journal of Astrophysics**", (see <https://arxiv.org/pdf/2511.07549>), pp. 1-13
3. Nandakumar, M., Roy, N., **Jog, C.J.**, Menten, K. (2024) "Observational evidence for local vertical constraining of H I by molecular cloud complexes", **Mon. Not. Roy. Astron. Soc.**, **528**, pp. 3992-4009
4. Sivarani, T. et al. (including **Jog, C.J.**) (2025) "Stars and stellar populations in Milky way and the nearby galaxies", **Journal of Astroph. & Astron.**, **46**, Issue 1, id 15
5. Kale, R. et al. (including **Jog, C.J.**) (2025) "Galaxies, Clusters, and Intergalactic Medium" , **Journal of Astroph. & Astron.**, **46**, Issue 2, id 32
6. Sarkar, S., & **Jog, C.J.** (2022) "Gravitational potential energy of a multi-component galactic disk", **Astron. & Astrophys.**, **665**, A23
7. Ghosh, S., & **Jog, C.J.** (2022) "Dynamical interplay of disk thickness and interstellar gas: implication for the longevity of spiral density waves", **Astron. & Astrophys.**, **658**, A171
8. Ghosh, S, Saha, K., **Jog, C.J.**, Combes, F., & di Matteo, P. (2022) "Genesis of morpho-kinematic lopsidedness in minor merger of galaxies", **Mon. Not. Roy. Astron. Soc.**, **511**, pp. 5878-5896
9. Sarkar, S., & **Jog, C.J.** (2020b) "Vertical stellar density distribution in a non-isothermal galactic disc", **Mon. Not. Roy. Astron. Soc.**, **499**, pp. 2523-2533
10. Saikia, G., Patra, N.N., Roy, N., & **Jog, C. J.** (2020) "Gas-dust correlations in nearby galaxies: a case study of NGC 3184 and NGC 7793", **Mon. Not. Roy. Astron. Soc.**, **492**, pp. 2517-2527
11. Sarkar, S., & **Jog, C.J.** (2020a) "General model of vertical distribution of stars in the Milky Way using complete Jeans equations", **Mon. Not. Roy. Astron. Soc.**, **492**, pp. 628-633

12. Patra, N.N., & **Jog, C.J.** (2019) "Detection of a slow H I bar in the dwarf irregular galaxy DDO 168", **Mon. Not. Roy. Astron. Soc.**, **488**, pp. 4942-4951
13. Sarkar, S., & **Jog, C.J.** (2019) "Flaring stellar disk in the low surface brightness galaxy UGC 7321", **Astron. & Astrophys.**, **628**, A58
14. Sarkar, S. & **Jog, C.J.** (2018) "The constraining effect of gas and the dark matter halo on the vertical stellar distribution of the Milky Way", **Astron. & Astrophys.**, **617**, A42
15. Ghosh, S., & **Jog, C.J.** (2018) "Effect of finite disk-thickness on swing amplification of non-axisymmetric perturbations in a sheared galactic disk", **Astron. & Astrophys.**, **617**, A47
16. Ghosh, S., & **Jog, C.J.** (2018) "Dwarf irregular galaxies with extended HI gas disks: Suppression of small-scale spiral structure by dark matter halo", **New Astronomy**, **63**, pp. 38-47
17. Prasad, C., & **Jog, C.J.** (2017) "Off-center dark matter halo leading to strong central disk lopsidedness", **Astron. & Astrophys.**, **600**, A17
18. Ghosh, S., Saini, T.D., & **Jog, C.J.** (2017) "Effect of dark matter halo on global spiral modes in a collisionless galactic disk", **New Astronomy**, **54**, pp.72-77
19. Fensch, J., Renaud, F., Bournaud, F., Duc, P.-A., Agertz, O., Amram, P., Combes, F., Di Matteo, P., Elmegreen, B., Emsellem, E., **Jog, C. J.**, Perret, V., Struck, C., Teyssier, R. (2017) "High-redshift major mergers weakly enhance star formation", **Mon. Not. Roy. Astron. Soc.**, **465**, pp. 1934-1949
20. Ghosh, S., & **Jog, C.J.** (2016) "Dynamical effect of gas on spiral pattern speed in galaxies", **Mon. Not. Roy. Astron. Soc.**, **459**, pp. 4057-4065
21. Ghosh, S., Saini, T.D., & **Jog, C. J.** (2016) "Effect of dark matter halo on global spiral modes in galaxies", **Mon. Not. Roy. Astron. Soc.**, **456**, pp. 943-950
22. Ghosh, S., & **Jog, C.J.** (2015) "Role of gas in supporting grand spiral structure" **Mon. Not. Roy. Astron. Soc.**, **451**, pp. 1350-1355
23. Saha, K., & **Jog, C.J.** (2014) "Angular momentum transport and evolution of lopsided galaxies", **Mon. Not. Roy. Astron. Soc.**, **444**, pp. 352-363
24. **Jog, C.J.** (2014) "Effective Q Criterion for Disk Stability in an External Potential", **Astronomical Journal**, **147**, 132, pp.1-6

25. Ghosh, S., & **Jog, C.J.** (2014), "Suppression of gravitational instabilities by dominant dark matter halo in low-surface-brightness galaxies", **Mon. Not. Roy. Astron. Soc.**, **439**, pp. 929-935

26. Freundlich, J., **Jog, C. J.**, & Combes, F. (2014), "Local stability of a gravitating filament: a dispersion relation" **Astron. & Astroph.**, **564**, A7

27. **Jog, C.J.** (2013), " Jeans instability criterion modified by external tidal field", **Mon. Not. Roy. Astron. Soc. Letters**, **434**, L56-L60

28. Rathulnath, R., & **Jog, C.J.** (2013), "Dynamics of prolate spheroidal mass distributions with varying eccentricity", **Mon. Not. Roy. Astron. Soc.**, **433**, pp. 719-729

29. Banerjee, A., & **Jog, C.J.** (2013), "Why are some galaxy discs extremely thin?", **Mon. Not. Roy. Astron. Soc.**, **431**, 582-588