

CURRICULUM VITAE

Y.Rameshwar

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EDUCATION

2006 : Ph.D. (Applied Mathematics), Osmania University, Hyderabad.

Title: Nonlinear Rayleigh-Bénard and Thermohaline convection.

1998 : M.Phil. (Applied Mathematics), University of Hyderabad, Hyderabad.

Title: Magnetoconvection in Rotating Fluids.

1996 : M.Sc.(Applied Mathematics), Osmania University, Hyderabad.

PROFESSIONAL EXPERIENCE

Teaching

- 25th May, 2007 to till date: Assistant Professor, Department of Mathematics, University College of Science, (Osmania University), Hyderabad – 500007.
- 6th January 2007 to 21st May 2007: Assistant Professor, Department of Mathematics, Kottagudem School of Mines, Kottagudem, Kakatiya University.
- June 2005 to Jan. 2007: Part time faculty, Department of Mathematics, University College of Science (Osmania University), Saifabad, Hyderabad-500004.

Post Doc:

- 18th Dec. 2010 to 12th July 2011: Worked as a project scientist (visiting) on “Setting up of supercomputing facility at IIT Kanpur,” Uttar Pradesh.

Foreign Visits:

- To deliver an invited talk in the conference “2019 Spring Progress in Mathematical and Computer Studies on Science and Engineering Problems” from March 15-17, 2019, Center for Advanced Study in Theoretical Sciences, National Taiwan University, Taiwan.
- 23rd Nov. 2018 to 2nd Dec. 2018: International research collaboration with Prof. Tony Wen-Hann Sheu, The Center for Advanced Study in Theoretical Sciences”, National Taiwan University, Taiwan.
- To deliver an invited talk in the conference “2nd Conference on Natural Dynamos”, from 25th June to 1st July, 2017, Valtice, Czech Republic, Europe.
- 15th May 2017 to 14th July 2017: Visiting Scientist, Department of Astronomy, Physics of the Earth and Meteorology, Comenius University, Bratislava, Slovakia.
- 19th Oct. 2009 to 16th Jan. 2010: Visiting scientist, Faculty of Mathematics, Physics and Informatics, Comenius university, Bratislava, Slovakia, in the frame of the National Scholarship Programme of the Slovak Republic, administrated by SAIA.
- 1st May 2006 to 10th June 2006: Visiting Scientist, Department of Astronomy, Physics of the Earth and Meteorology, Comenius University, Bratislava, Slovak Republic, Europe.

EC Member :

- Executive Council (EC) member of Indian Society of Theoretical and Applied Mechanics (ISTAM) society for the academic years 2021-2023.

Selection Committee member:

- Selection Committee member, Aurora's post graduate college, (Affiliated to Osmania University), for the academic years 2021-2023, Nampally, Hyderabad.

Research Collaboration:

- Prof. M.K. Verma, Turbulence group, Department of Physics, IIT Kanpur, during 21-24th July 2010.

PROJECT:

“Nonlinear convection in Porous media” Ref No. MRP-2499/08 UGC-SERO, duration: Mar. 2008- Mar. 2011.

PUBLICATIONS: (Mendeley Number of Citations:62 and h. Index:04)

(a) In journals

1. Hari Ponnamma Rani, V. Narayana, **Y. Rameshwar** and Sergey Vladimirovich Starchenko (2019), Aspect ratio effects on bottom heated 2d cavity using energy streamlines and field synergy principle. *Latin American Applied Research An International Journal*. Accepted (ISSN number: 03270793)
2. Hari Ponnamma Rani, **Yadagiri Rameshwar** and Jozef Brestenský (2019), Topology of Rayleigh–Bénard convection and magnetoconvection in plane layer, *Geophysical & Astrophysical Fluid Dynamics*, **113**,208-221. (Impact Factor: 1.583)
3. **Y. Rameshwar**, V. Anuradha, G. Srinivas, L. M. Pérez, D. Laroze, and H. Pleiner, (2018), Nonlinear convection of binary liquids in a porous medium, *Chaos***28**, 075512(1-9). (Impact Factor: 2.643)
4. H.P. Rani, V. Narayana, **Y. Rameshwar** (2018) Analysis of Vortical structures in a differentially heated lid driven cubical cavity, *International Journal of Heat and Technology*, **36(2)**, 548-556.
5. **Y. Rameshwar**, M.A. Rawoof Sayeed, H.P. Rani, D. Laroze, (2017), Finite amplitude cellular convection under the influence of a vertical magnetic field, *International Journal of Heat and Mass Transfer*, **114**, 559–577. (Impact Factor 3.54)
6. H.P. Rani, G Janardhana Reddy, C.N. Kim, **Y. Rameshwar** (2015), Transient couple stress fluid past a vertical cylinder with Bejan's heat and mass flow visualization for steady-state, *Journal of Heat Transfer*, **137(3)**, 032501. (Impact Factor 2.06)
7. **Y. Rameshwar**, M.A. Rawoof Sayeed, H.P. Rani, D. Laroze(2013), “Mean flow effects in Magnetoconvection” *International Journal of Heat and Mass Transfer*, **65**, 855–862. (Impact Factor 2.857)
8. **Y. Rameshwar**, Shakira Sultana, S. G. Tagare(2013), “Küppers-Lortz instability in rotating Rayleigh–Bénard convection in a porous medium” *Mechanica*, **48(10)**, 2401-2414. (Impact Factor 1.815)
9. **Y. Rameshwar**, Hari Singh Naik and Ishak Hashim (2012), “Onset of convection in a rotating fluid with variable viscosity”, *International Journal of Mathematics and Computer Applications Research*, **2(1)**, 49-90. (Impact Factor 2.0534)

10. D. Laroze, J. Martinez Mardones, L.M. Perz and **Y. Rameshwar** (2009), “Amplitude equation for stationary convection in a rotating binary ferrofluid” *International Journal of Bifurcation and Chaos*, **19**, 2755-2764. (Impact Factor 0.755)
11. S.G. Tagare, **Y. Rameshwar** and Shakira Sultana (2008), “Kuppers-Lortz instability in rotating thermohaline convection with finite Prandtl Number”, *Journal of Physical Society of Japan*, **77**, 104401-104407. (Impact Factor 2.364)
12. S.G. Tagare, A. Benerji Babu and **Y. Rameshwar** (2008), “Rayleigh-Bénard convection in rotating fluids” *International Journal of Heat and Mass Transfer*, **51**, 1168-1178. (Impact Factor 2.407)
13. S.W. Raja, M.D. Rahim and M.V. Ramana Murthy and **Y. Rameshwar** (2007), “Blood Flow through a diverging channel” *International Journal of Applied Mathematical Analysis and Applications*, **2**, 243-256. (ISSN: 0973-3868).
14. S.G. Tagare, M.V. Ramana Murthy and **Y. Rameshwar** (2006), “Nonlinear thermohaline convection in rotating fluids” *International Journal of Heat and Mass Transfer*, **50**, 3122-3140. (Impact Factor 2.407)
15. S.G. Tagare, **Y. Rameshwar**, A. Benerji Babu and J. Brestensky (2006), “Rotating compositional and thermal convection in Earth's outer core”, *Contributions to Geophys. And Geod.* **36**, 87-113. (ISSN (printed): 1335-2806. ISSN (electronic): 1338-0540)
16. S.G. Tagare and **Y. Rameshwar** (2003), “*Magnetoconvection in rotating stars*”, *Astrophys and Space Science*, **284**, 983-999. (Impact factor 1.686)
17. S.G. Tagare, **Y. Rameshwar**, J. Brestensky and S. Sevesik (2001), “Thermohaline magnetoconvection in Earth's outer core” *Acta Astron. Et Geophys. Univ. Comeniana XXIII*, 49-62.

(b) in Conference Proceedings

1. **Yadagiri Rameshwar**, V. Anuradha,, Hari Ponnamma Rani, S.V. Starchenko, (24-27 March 2021) “Nonlinear convection in rotating ferromagnetic fluids” 13th International Conference and School «Problems of Geocosmos» held via Zoom, Russia.
2. **Yadagiri Rameshwar**, Gudukuntla Srinivas, Hari Ponnamma Rani, Jozef Brestensky, and Enrico Filippi, (4-8 May, 2020) “Convection of electrically conducting fluid in a rotating magnetic system: cross rolls”, EGU General Assembly.
3. H. P. Rani, **Y. Rameshwar**, S. V. Starchenko, (May 15-16, 2019), Magnetoconvection in plane layer. // Collection of extended abstracts. All-Russian open scientific conference «Pushkov readings: magnetism on Earth and in Space», Moscow, Troitsk, IZMIRAN. Edited by V.G. Petrov. P.131-134. DOI: 10.31361/pushkov2019.031
4. Starchenko S.V., Rani H.P., **Rameshwar Y.** (May 15-16, 2019), “Planetary magnetoconvection scaling and turbulence”. // Collection of extended abstracts. All-Russian open scientific conference, «Pushkov readings: magnetism on Earth and in

- Space», Moscow, Troitsk, IZMIRAN. Edited by V.G. Petrov. P. 163-166. 2019. DOI: 10.31361/pushkov2019.039
5. H.P. Rani, V. Narayana and **Y.Rameshwar** (3-6 September 2019), “Analysis of field synergy in bottom heated lid driven cubical cavity”, XII International Conference on Computational Heat, Mass and Momentum Transfer, Rome, Italy.
 6. H.P. Rani, Koragoni Naresh, **Y. Rameshwar** (3-6 September 2019), “Field synergy principle for natural convective rotating fluid flow past a vertical cylinder”, XII International Conference on Computational Heat, Mass and Momentum Transfer, Rome, Italy.
 7. **Y.Rameshwar**, H.P. Rani, Jozef Brestensky, “Plane Layer Dynamors”, 2nd Conference on Natural Dynamors Natural Dynamors during 25th June to 1st July 2017 at Valtice, Czech Republic.
 8. H.P. Rani, **Y.Rameshwar**, Jozef Brestensky, “Topology of Plane Layer Dynamors”, 2nd Conference on Natural Dynamors Natural Dynamors during 25th June to 1st July 2017 at Valtice, Czech Republic.
 9. V. P. Anurada, **Y. Rameshwar** and H. P. Rani (Dec. 16-19, 2015), “Finite amplitude convection in a binary fluid in a porous medium”, Proceedings of 60th Congress of ISTAM, held at MNIT, Jaipur-302017, Rajasthan, India,. Paper No. 60-istam-fm-fp-220.
 10. V.P.Anurada, **Y.Rameshwar**,H.P.Rani and D.Laroze, (March 20-21, 2015), “Onset of oscillatory convection in a binary fluid in a porous medium”, International Conference on New Frontiers in Chemical, Energy and Environmental Engineering, organised by Department of Chemical Engineering, National Institute of Technology, Warangal. pp no.111-112.
 11. H.P. Rani, B.Vasu and **Y. Rameshwar**, (Feb 28 - Mar 3, 2015), “Transient Bio-convective flow of a nanofluid over a vertical cylinder embedded in a non-Darcy porous medium”, International Conference on Mathematical and Computational Biology, organized by IIT Kanpur. pp no.31.
 12. V.P. Anurada, **Y. Rameshwar** and H. P. Rani, D. Laroze (Dec. 17-20, 2014), “Natural convection in a binary fluid in a porous medium”, Paper No. 59-istam-fm-fp-226, Proceedings of 59th Congress of ISTAM. Held at Alliance University, Anekal, Bangalore – 562106, Karnataka.
 13. V.P.Anurada, **Y.Rameshwar** and H.P.Rani, (25th-26th, 2014) “Convective instability of a binary mixture in a porous medium”, National seminar on New trends in Analysis, organized by Department of Mathematics, Nehru Arts and Science College, Kasaragod District.
 14. Shakira Sultana, **Y.Rameshwar** and H.P.Rani, (Dec. 17-20, 2014), “Effect of rotating magnetoconvection in porous medium in the presence of horizontal magnetic field”, Paper No. 59-istam-fm-fp-259, Proceedings of 59th Congress of ISTAM. Held at Alliance University, Anekal, Bangalore – 562106, Karnataka.

RESEARCH INTERESTS:

Nonlinear Dynamical systems, Hydrodynamic and Hydromagnetic Stability, Ferrohydrodynamics Convection, Geofluid Dynamics.

Ph.D. GUIDANCE:

- **D. Praveen**, Topic: Natural convection in Ferromagnetic fluids (Ongoing)..

- **A. Krishna Rao**, Topic: Convection in the rotating spherical shells (Ongoing)..
- **G. Srinivas**, Topic: Finite amplitude cellular Convection (Awarded, 2019).
- **P.Anuradha**, Topic: Nonlinear Convection in Binary Ferromagnetic Fluids (Awarded, 2017).
- **M.A. Rawoof Sayeed**, Topic: Mean Flow Effects and Heatline Visualization of Rayleigh-Benard and Thermohaline Convection (Awarded, 2017).
- **Harisingh Naik**, Topic: Rayleigh-Benard and Thermohaline convection with variable viscosity (Awarded, 2013).

CONFERENCE/ WORKSHOP/ GIAN COURSE ORGANIZED:

- **FDP** on “High accuracy, High performance computing of fluid flows”, from 30 Dec. 2019 – 03 Jan. 2020, jointly organized by the Departments of Mathematics and Mechanical Engineering, UCE,OU, sponsored by TEQIP-III.
- A two day conference on “Contemporary approaches in scientific computing,” from 29-30, Aug. 2017, in honour of Prof. M.V. Ramana Murthy’s superannuation, Department of Mathematics, UCS,OU.
- **MHRD** funded **One-month GIAN** course was jointly organized by Departments of Mathematics and Mechanical Engineering, UCE,OU, on “Nonlinear Dynamics of Classical Magnetic Systems” from 22 Nov. 2017 to 22 Dec. 2017.
- Co-convenor to the international conference on “62nd Congress of Indian Society of Theoretical and Applied Mechanics (**ISTAM**)” conducted during 15-18, Dec. 2017.
- Three day workshop on “Applications of Numerical Methods in Science and Engineering” by Departments of Mechanical Engineering and Mathematics, 21-23, Oct., 2016, sponsored by TEQIP-II.
- Two Weeks Certificate cum Instructional symposium on “Implementation of Finite Element Methods and Relevance of Mathematics to Real World Problems” organized by the Department of Mathematics, Osmania University, 1st - 14th August 2014.

Participation in Orientation Program/Training Program/STTPs/Workshop

- Attended 10 days GIAN course on “Hydrodynamic Stability and Dynamo Theory”, 9-20, Dec., 2016, at National Institute of Technology, Warangal funded by MHRD, India
- Attended 10 days GIAN course on “Designing and developing flipped class room, e-learning instruction for engineering and science education” from 9-18,2016 at NIT Warangal.
- Attended 88th Orientation program at University of Hyderabad from 19th June to 16th July-2014.
- Attended two week workshop on “Fluid Mechanics” organized by IIT-Kharagpur held at NIT Warangal, from 20 to 30th May 2014.
- QIP short term course on “Modern Control Perspectives in Solid and Fluid Mechanics”, from 18– 22, Jan 2014, organized by Department of Applied Mechanics and Mathematics, IIT Madras.
- Faculty development program in entrepreneurship, during 4 –11, Jan 2014 organised by The Entrepreneurship Development Cell, Osmania University, Hyderabad.

- National workshop on “Advanced computational applications using ANSYS Fluent”, 7th Jan 2011, Department of Mathematics, National Institute of Technology, Warangal.
- Short term training program (STTP) on “Advanced Computational Techniques”, Jan. 27-31, 2009, Department of Mathematics, National Institute of Technology, Warangal.
- Orientation program from 12-22, June 2007, Organized by Osmania University, Hyderabad.
- Training program on “Mathematical modeling on ground water pollution” from 1st May to 31st May-2005, Bangalore University, Bangalore.

Invited Lecture:

- Delivered a talk on “Nonlinear convection in rotating Ferromagnetic fluid”, 13th International Conference and School «Problems of Geocosmos» held via Zoom on 24-27, March 2021, Russia.
- Invited talk on “Analysis of fluid problems and viscous flows” for STP-Finite Element Analysis and Design of Hydraulic Structures using ANSYS to the Engineers of irrigation and water resources development division, Engineering Staff College of India, during 2-4, September, 2019.
- Plenary talk on “Introduction to perturbation methods” in the national conference on Recent trends in Applied Mathematics at PG and Research Center, Department of Mathematics, Theivanai Ammal College for Women – Autonomous, Villupuram, Tamil Nadu, during August 30, 2019.
- Invited talk in the conference “2019 Spring Progress in Mathematical and Computer Studies on Science and Engineering Problems” during March 15-17, 2019 on “Nonlinear Thermohaline convection.” CASTS, National Taiwan University, Taiwan.
- Delivered a talk on “Finite amplitude cellular convection of binary mixture in a porous media near the onset of stationary convection” National conference on Mathematical Sciences and Applications, Osmania University, 30-31, June, 2018.
- Delivered an invited talk on “Topology of Plane Layer Dynamos”, 2nd Conference on Natural Dynamos, Valtice, Czech Republic, Europe, 25th June to 1st July, 2017.
- Delivered a talk in a workshop on ICT on the topic “An introduction to computational fluid dynamics” UGC-HRDC, Osmania University, on 21-03-2016.
- Delivered a talk on “Role of ICT in Rural Girls Education” Two day national conference on “Women in Higher Education: Perspective and Challenges in Digital Era”, NIT Warangal, May 30-31, 2016.

ADMINISTRATIVE RESPONSIBILITIES:

- Jan. 2018 – Aug. 2020: **Head** of the Department of Mathematics, University College of Engineering, Osmania University, Hyderabad.
- Dec 2012 – Dec 2013: **Head** of the Department of Mathematics, University College of Science (Osmania University), Saifabad, Hyderabad.

- Dec 2012 – Dec 2013: Hostel coordination committee member, University college of science (Osmania University), Saifabad, Hyderabad.
- Aug 2011 – Dec 2013: Member of Board of studies in Mathematics under Faculty of Science, Osmania University, Hyderabad.

Memberships in Scientific Bodies :

- Member of “Indian Society of Theoretical and Applied Mechanics”, Bharat.
- Member of “European Geophysical Union”, Munich, Germany.
- Member of “International Association of Engineers”, Hong Kong, China.