

## ABOUT ICNCS 2025

Nonlinear Complex Systems, a domain within mathematics and physics, focuses on systems governed by nonlinear equations or laws. This field studies systems that exhibit intricate behaviors and often manifest chaotic patterns, characterized by their sensitivity to initial conditions. Researchers in this field apply its principles across various disciplines such as engineering, biology and economics, offering insights into complex dynamics that defy simple linear explanations.

This conference will focus on, but not limited to:

- Computational and data driven intelligence
- Nonlinear dynamics and complex systems
- Networks and control systems
- Modeling of physical and biological systems
- Graph based neural networks
- Quantum computing in dynamical systems
- Soft computing and fuzzy theory

## ABOUT THE SCHOOL

The School of Advanced Sciences (SAS) at Vellore Institute of Technology (VIT) Chennai, comprises Department of Mathematics, Physics and Chemistry. It offers the following programmes:

- ✓ Ph.D
- ✓ M.Sc Data Science, M.Sc Physics, M.Sc Chemistry

The school also offers a plethora of core and elective courses facilitating B.Tech, M.Tech, MCA, Integrated M.Tech, Management and Law programmes.

## VELLORE INSTITUTE OF TECHNOLOGY

VIT was founded in 1984 as Vellore Engineering College, a self-financing institution dedicated to providing quality higher education. In 2001, the Union Ministry of Human Resource Development conferred university status on the institution under Section 3 of the University Grants Commission (UGC) Act, 1956. VIT is led by its visionary Founder and Chancellor, Dr. G. Viswanathan, a former Parliamentarian and Minister in the Government of Tamil Nadu. In recognition of his exceptional contributions to education, Dr. G. Viswanathan was awarded an honorary doctorate by West Virginia University (USA) in 2009 and the State University of New York (USA) in 2024. With a commitment to delivering world-class education on par with international standards, VIT continually adopts innovative approaches to teaching and research. Our Memoranda of Understanding with various international universities, being a major strength, enable meaningful collaborations via student and faculty exchanges and foster joint research projects. Many of our students, working in international organizations and universities, deliver high-quality solutions and conduct research that bring esteem to India and make us proud of our legacy. At VIT, the pursuit of excellence in

education and research is complemented by a dynamic ecosystem of innovation, research and global engagement. As we advance steadily, we remain steadfast in our mission to nurture leaders and innovators who can make a meaningful impact on the world.

## VIT CHENNAI

VIT Chennai was established in 2010 and has since become a beacon of excellence in higher education. Spearheaded by Vice-President Dr. G. V. Selvam, a pioneering visionary who laid the foundation of VIT Chennai, he is an insightful architect of its evergreen campus and an ingenious leader whose comprehensive vision and mission have shaped its growth. Under his guidance, VIT Chennai has rapidly evolved into a hub of innovation and academic distinction. The leadership team, including Vice-Chancellor Dr. V. S. Kanchana Bhaaskaran, Pro-Vice Chancellor Dr. T. Thyagarajan, Director Dr. K. Sathiyarayanan and Additional Registrar Dr. P. K. Manoharan, drives its mission of delivering transformative education and impactful research. Strategically located in the capital city of Tamil Nadu, VIT Chennai is a globally engaged, competitive, and research-enriched institution.

VIT Chennai proactively addresses industrial, social, economic and environmental challenges, fostering application-based learning that produces industry-ready professionals. Known for its cosmopolitan atmosphere, VIT Chennai attracts students from across the globe, fostering a vibrant and multicultural community. Committed to maximizing industrial connectivity and establishing Centers of Excellence in cutting-edge research areas, VIT Chennai enriches technological and managerial human capital through a collaborative and inclusive academic environment. It serves as a platform for intellectual exchange, encouraging the convergence of diverse ideas to drive innovation and learning. Dedicated to societal and industrial advancement, VIT Chennai leverages its resources to benefit the community, supports national knowledge-building initiatives and fosters international collaborations for mutual progress in research and education. With a clear vision and an unwavering mission, VIT Chennai continues to redefine the landscape of higher education in India and beyond.

### PUBLICATION

We are presently engaging with journals indexed in **SCI/SCIE and SCOPUS** as well as checking the possibility of publishing as a conference Proceedings. An updated list of these journals will be furnished later in the website <https://icncsvit.in/icncs-2025/publication/>



**VIT**  
**CHENNAI**



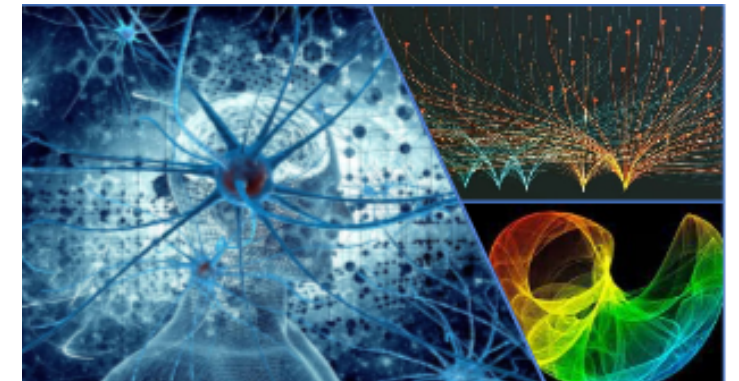
# ICNCS 2025

**2<sup>nd</sup> International Conference on Emerging Frontiers in Nonlinear Complex Systems, Computational Intelligence and their Applications**  
**(Hybrid mode)**

**08 - 10<sup>th</sup> OCTOBER, 2025**

Supported by

**Anusandhan National Research Foundation (ANRF)**



## Convener

**Dr. A. Manivannan**  
**(+91 98940 91336)**

**organized by**

**Department of Mathematics**  
**School of Advanced Sciences**  
**Vellore Institute of Technology, Chennai**

**To Register : <https://icncsvit.in/>**

**✉ [icncsvit@gmail.com](mailto:icncsvit@gmail.com)**

**VIT - A Place to Learn; A Chance to Grow**

COMMITTEE

CHIEF PATRON

Dr. G. Viswanathan, Founder & Chancellor, VIT

PATRONS

Mr. Sankar Viswanathan, Vice-President, VIT  
Dr. Sekar Viswanathan, Vice-President, VIT  
Dr. G. V. Selvam, Vice-President, VIT  
Dr. V. S. Kanchana Bhaaskaran, Vice-Chancellor, VIT  
Dr. T. Thyagarajan, Pro-Vice Chancellor, VIT, Chennai  
Dr. K. Sathiyarayanan, Director, VIT, Chennai  
Dr. P. K. Manoharan, Additional Registrar, VIT, Chennai

SCIENTIFIC ADVISORY COMMITTEE

Prof. Jürgen Kurths, Humboldt University, Germany  
Prof. Chee Peng Lim, Swinburne University of Technology, Australia  
Prof. Fathalla Ali Rihan, UAE University, UAE  
Prof. Jessie (Ju H.) Park, Yeungnam University, South Korea  
Prof. Saeid Nahavandi, Swinburne University of Technology, Australia  
Prof. Jinde Cao, Southeast University, China  
Prof. Hieu Trinh, Deakin University, Australia  
Prof. Evgeny Solomin, South Ural State University, Russia  
Prof. Yongping Pan, Sun Yat-sen University, China  
Prof. Hao Shen, Anhui University of Technology, China  
Prof. Tae Hee Lee, Jeonbuk National University, South Korea  
Prof. Syamala Krishnannair, University of Zululand, South Africa  
Prof. J. Keerthana, Northumbria University, United Kingdom

NATIONAL ADVISORY COMMITTEE

Prof. Maithili Sharan, IIT Delhi, India  
Prof. M. Lakshmanan, Bharathidasan University, India  
Prof. P. Kandasamy, Bharathiar University, India  
Prof. Raju K. George, IIST Thiruvananthapuram, India  
Prof. P. Balasubramaniam, The Gandhigram Rural Institute (Deemed to be University), India  
Prof. Malay Banerjee, IIT Kanpur, India  
Prof. R. Rakkiyappan, Bharathiar University, India  
Prof. K. N. Raghavan, IMSc, India  
Prof. S. R. Manam, IIT Madras, India  
Prof. K. Murugesan, NIT Tiruchirappalli, India  
Prof. V. Lakshmana Gomathi Nayagam, NIT Tiruchirappalli, India  
Prof. Ardak Kashkynbayev, Nazarbayev University, Kazakhstan  
Prof. M. Anand Kumar, NIT Karnataka, India  
Prof. K. Sakthivel, IIST Trivandrum, India  
Prof. P. Muthukumar, The Gandhigram Rural Institute (Deemed to be University), India

CALL FOR PAPERS

- Classical and fractional differential equations
- Machine learning in nonlinear dynamics
- Artificial intelligence (AI) in mathematical perspective
- Quantum computing in dynamical systems
- Soft computing & fuzzy theory
- Algebraic methods and graph theory in network dynamics
- Classical and fractional order models for computer vision
- Control theory and its applications
- Multi-agent systems with game theory
- Computational models for biological systems
- Stability and bifurcation analysis of dynamical systems
- Fractal theory and its applications
- Synchronization and state estimations
- Numerical analysis and development of algorithms
- Chaos in fluid dynamics
- Computational fluid dynamics
- Stochastic modeling of complex systems
- Time-delays/uncertainties phenomena

INVITED SPEAKERS

Prof. Jürgen Kurths, Humboldt University, Germany  
Prof. G. P. Raja Sekhar, Andhra University, India  
Prof. Maithili Sharan, IIT Delhi, India  
Prof. M. Lakshmanan, Bharathidasan University, India  
Prof. P. Kandasamy, Bharathiar University, India  
Prof. Kurunathan Ratnavelu, UCSI University, Malaysia  
Prof. K. Balachandran, Bharathiar University, India  
Prof. Raju K. George, IIST Thiruvananthapuram, India  
Prof. G. Ambika, IISER Thiruvananthapuram, India  
Prof. P. Balasubramaniam, The Gandhigram Rural Institute (Deemed to be University), India  
Prof. Chee Peng Lim, Swinburne University of Technology, Australia  
Prof. Fathalla Ali Rihan, UAE University, UAE  
Prof. Malay Banerjee, IIT Kanpur, India  
Prof. S. Chakraverty, NIT Rourkela, India  
Prof. S. Muralisankar, Madurai Kamaraj University, India  
Prof. Praveen Agarwal, Anand International College of Engineering, India  
Prof. Sanjeewa Perera, University of Colombo, Sri Lanka  
Prof. R. Rakkiyappan, Bharathiar University, India  
Prof. P. Muthukumar, The Gandhigram Rural Institute (Deemed to be University), India  
Prof. Hemen Dutta, Gauhati University, India

Important Dates for Paper	
Abstract submission	23-08-2025 to 16-09-2025
Acceptance notification	18-09-2025
Full paper submission	19-09-2025 to 30-09-2025

Category	Early Bird Registration (on or before 29-09-2025)		Late Registration (30-09-2025 to 02-10-2025)	
	Physical Mode	Virtual Mode	Physical Mode	Virtual Mode
Indian Academicians /Industry Delegates	₹ 4500	₹ 3750	₹ 5000	₹ 4250
Research Scholars	₹ 3500	₹ 2550	₹ 4000	₹ 3050
UG/PG Students	₹ 2500	₹ 2250	₹ 3000	₹ 2750
Foreign Delegates	\$ 120	\$ 100	\$ 150	\$ 130
Participation Only	₹ 2000	₹ 1550	₹ 2500	₹ 2050

\*GST is included in the registration fees.

ABSTRACT SUBMISSION GUIDELINES

Sign Up/Log In ---> Create a Log In ID ---> Submit Abstract

ACCOMMODATION

Accommodation for the participants will be arranged on payment basis inside the campus, if required.

CO-CONVENERS

Dr. S. Lakshmanan (+91 88254 93496)  
Dr. S. Dhanasekar (+91 99628 81058)  
Dr. V. Parthiban (+91 98657 54883)  
Dr. A. Felix (+91 86084 60768)  
Dr. David Raj M (+91 75028 78908)  
Dr. C. Rajivganthi (+91 99421 97280)  
Department of Mathematics, SAS  
VIT, Chennai.

MEMBERS

All faculty members and research scholars of the Department of Mathematics, SAS, VIT, Chennai.