



**TEERTHANKER
MAHAVEER UNIVERSITY**
Accredited with NAAC A Grade
12-B Status from UGC



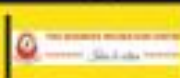
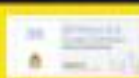
International Conference
on
**System Modeling and Advanced
Research Trends (SMART)**

13 Years of Dedication, Passion, and Milestones



Organized by
College of Computing Sciences & Information Technology
TEERTHANKER MAHAVEER UNIVERSITY
Delhi Road Moradabad (UP), India
www.tmu.ac.in

Sponsored by



ABOUT US

ABOUT THE UNIVERSITY

Teerthanker Mahaveer University was established under the Act of Government of Uttar Pradesh (No.30 of 2008) on 14th September, 2008 under the aegis of Teerthanker Mahaveer Institute of Management & Technology (Society), Moradabad. The University Grants Commission (UGC) empowers Teerthanker Mahaveer University to award degrees under section 22 of the UGC Act, 1956. The programs of few have the necessary approval from regulatory bodies. The University has earned international fame in the areas of medical science, dentistry, management, and engineering education. Students from all across the world are enrolled here for higher education in various disciplines.

ABOUT THE COLLEGE

College of Computing Sciences & Information Technology (CCSIT) is a prime constituent of the university established to meet the growing needs of education in Engineering and computing Sciences in diverse functional areas of the corporate world. The college has established itself as a hub of multi-faceted academic, research and consultancy activities and guides students on how to climb up the corporate ladder with total professionalism and commitment. The college offers a wide range of academic programmes at undergraduate, postgraduate and doctoral levels. All the courses are designed taking into consideration the specific needs of the market and industry. Emphasis is laid on both theoretical and practical training to provide exposure to students in various areas of engineering and computer studies. For this, the dignitaries of national and international repute are invited to guide the students. In addition to inputs from the acclaimed faculty of the college.

ABOUT IEEE

IEEE (Institute of Electrical and Electronics Engineers) is a global professional association dedicated to advancing technology for humanity, with a focus on electrical engineering, computing, robotics, telecommunications, and emerging technologies. Founded in 1963 through the merger of AIEE and IRE, IEEE has over 400,000 members across more than 160 countries. It plays a key role in publishing cutting-edge research through IEEE Xplore, developing industry standards like IEEE 802.11 (Wi-Fi), organizing international conferences, and providing educational resources for professionals. With its extensive network of technical societies and regional chapters, IEEE fosters innovation, collaboration, and knowledge-sharing within the global engineering and technology community.

ABOUT THE CONFERENCE

The College of Computing Sciences & Information Technology (CCSIT), Teerthanker Mahaveer University, Moradabad, is organizing its International Conference on System Modeling & Advancement in Research Trends SMART in technical co-sponsorship with the IEEE Uttar Pradesh Section. The International Conference on System Modeling & Advancement in Research Trends SMART will bring together leading researchers, engineers and scientists in the domain of interest from around the world by providing a platform to present new advances and research results in the fields of Computational Sciences, system modeling and computer science. Moradabad is a city in Uttar Pradesh state of India. This is situated at a distance of 167 km (104 miles) from the national capital, New Delhi, on the banks of the Ramganga River (a tributary of the Ganges). The city is famous for its huge export of brass handicrafts to North America, Europe, and the rest of the world and is thus also called the "Brass City" or "Peetal Nagri".

MESSAGE BOARD



Hon'ble Shri Suresh Jain
Chancellor, TMU

I would like to extend my warmest congratulations and best wishes for the successful execution of the International Conference on SMART being organized by CCSIT, Teerthankar Mahaveer University (TMU). This conference, with the esteemed technical and financial co-sponsorship of the IEEE Uttar Pradesh Section, represents a remarkable opportunity to bring together the brightest minds in the fields of system modeling, emerging technologies, and research advancements. The insights, ideas and innovations that will be shared during this event will undoubtedly have a significant impact on shaping the future of these fields.

I wish you all every success at the conference and look forward to seeing the exciting contributions and fruitful discussions. May SMART be a platform for meaningful advancements and foster lasting collaborations in the years to come!

I wholeheartedly extend my cordial congratulations and best wishes for the successful organization of the International Conference SMART. It is truly an exciting milestone for the conference to be held with technical and financial co-sponsorship from the IEEE Uttar Pradesh Section. This prestigious event provides an excellent platform for researchers, practitioners, and thought leaders to come together, share innovative ideas, and advance the fields of system modeling, emerging technologies, and cutting-edge research. We commend the efforts of the organizing committee in bringing together such an impactful event that will certainly pave the way for innovation and growth in the areas of system modeling, technological advancements and emerging research trends. I am confident that the discussions and interactions during SMART will lead to valuable insights, new ideas, and exciting opportunities for the global research community.

Wishing you all the best for the successful conduct of the conference, fruitful discussions, and inspiring interactions!!!



Hon'ble Shri Manish Jain
Group Vice Chairman, TMU



Hon'ble Shri Akshat Jain
Executive Director, TMU

I am very happy to congratulate SMART team members on organizing it's the International Conference 'System Modeling & Advancement in Research Trends' (SMART). Conferences aspire to be a central hub for research minds, offering a dynamic platform where a tapestry of ideas, innovations, and insights come together. The objective is to foster purposeful dialogue and collaboration across diverse domains. Conferences aim to cultivate an environment that encourages the cross-pollination of ideas, laying the foundation for pioneering research outcomes. If you plan to serve in computer science, you need to stay abreast of the trends—or risk falling behind. SMART will emphasize discussions on cutting-edge technologies and methodologies addressing global challenges and fostering innovative solutions. By promoting collaboration between scientists, technologists, and management professionals, the conference seeks to bridge the gap between research and practical application. This environment encourages interdisciplinary partnerships to drive meaningful advancements.

Technology is advancing at an unprecedented pace, with continuous innovations in various fields. These advancements are changing the way research is conducted, opening up new possibilities and enhancing the efficiency, accuracy, and outcomes of scientific endeavours. An educational institution stands for imparting quality education through dedicated teachers and refurbishing their academic knowledge by organizing seminars, conferences, and workshops. The College is known for imparting quality education, and its commitment to the cause of education is par excellence.

I am happy to learn that the CCSIT is organizing the International Conference on SMART. I congratulate the Principal, Organizers, and Staff of the college for organizing this International Conference. I am sure the delegates will have a pleasant time discussing and deliberating on the contemporary evolution issues. The proceedings coming out of the discussions and deliberations of this conference will be a source of reference for the teaching community.

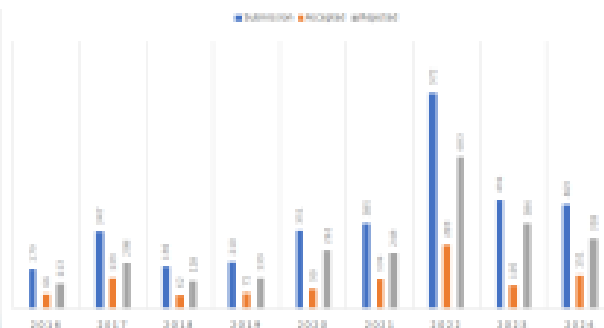


Hon'ble Prof. V. K. Jain
Vice Chancellor, TMU

International Conference on System Modeling and Advanced Research Trends (SMART) Summary (2012-24)

Conference	Date	IEEE Conference Record No.	IEEE Catalog Number	ISBN No.	Indexing	DOI
13 th	06-07 DEC 2024	63812	CFP24SME-P00	978-8-3583-8088-9	Scopus	https://scopus.elsevier.com/record/proceedings/10812161/proceeding
12 th	22-23 DEC 2023	58781	CFP23SME-P00	978-8-3583-8088-2	Scopus	https://doi.org/10.1108/SMART58781.2023
11 th	16-17 DEC 2022	55829	CFP22SME-P00	978-1-8854-8735-1	Scopus	https://doi.org/10.1108/SMART55829.2022
10 th	16-11 DEC 2021	52583	CFP21SME-P00	978-1-8854-3971-8	Scopus	https://doi.org/10.1108/SMART52583.2021
09 th	04-05 DEC 2020	50582	CFP20SME-P00	978-1-7281-8988-3	Scopus	https://doi.org/10.1108/SMART50582.2020
08 th	22-23 NOV 2019	48868	CFP19SME-P00	978-1-7281-3248-4	Scopus	https://doi.org/10.1108/SMART48868.2019
07 th	23-24 NOV 2018	44878	CFP18SME-P00	978-1-5386-8378-7	Scopus	https://doi.org/10.1108/SMART44878.2018
06 th	29-30 DEC 2017	42281	CFP17SME-P00	978-1-5386-1984-9	Scopus	---
05 th	25-27 NOV 2016	39889	CFP16SME-P00	978-1-5090-3544-1	Scopus	---
04 th	20-21 NOV 2015				Google Scholar	---
03 rd	15-16 NOV 2014				Google Scholar	---
02 nd	15-16 NOV 2013				Google Scholar	---
01 st	20-21 OCT 2012				Google Scholar	---

RESEARCH PAPERS SUBMISSION STATUS



**SMART International
Conference (2016-2024)
Research Papers :
Submission and
Acceptance**

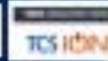
SMART International Conference AWARD CATEGORIES



**ACADEMIC
EXCELLENCE
REDEFINED
PROF. S. N. SINGH
AT
SMART INTERNATIONAL
CONFERENCE**



13
INTERNATIONAL
CONFERENCE
ON
SMART



System Modeling & Advancement in Research Trends (SMART - 2024)

06-07 December, 2024

CHIEF GUESTS



DR. SAHARSHI GUPTA
Advisor/Joint Secretary
National Intelligence Grid
& Chief of Technology



PROF. VINAY K. PURI
Vice Chancellor
CSME,
Kapur



PROF. NARENDRA L. CHAUDHARY
Vice-Chancellor
ASTU, Assam



PROF. DAVID WENZHONG GAO
Professor, ECE
University of Denver, Denver



DR. ANIKET K. SINGH
Managing Director
SIS India Research Lab



MR. TAPAS PRATAP SINGH
Software Engineer
Google Search, Mountain View,
California, USA

GUEST OF HONOUR

The System Modeling & Advancement in Industry and academia, such as 1. Prof. S.N. Singh Director, ARV-BITM, Gwalior. 2. Dr. Sourabh Research Trends (SMART-2024) conference, Gupta, Advisor/Joint Secretary National Intelligence Grid & Chief of Technology. 3. Prof. sponsored by IEEE UP Section, was organized by David Wenzhong Gao Professor, ECE University of Denver, Denver. 4. Dr. N.S. Chaudhary, Vice the College of Computing Sciences and Chancellor, ASTU, Assam. 5. Dr. Donita Parygin, Associate Professor, VSU, Cand. Tech. Sc., Information Technology, Teerthankar Mahaveer Volgograd, Russia. 6. Dr. Ranjwet K. Singh, Managing Director, SIS India Forensic Lab. 7. Dr. University, Moradabad, on December 6-7, Ravi Prakash Varshney, Executive Director Head of Technology, Securities Finance, S&P 2024. The conference focuses on cutting-edge Global, Noida. 8. Prof. Satish Kumar Singh Associate Professor, Dept. of information technologies, fostering collaboration among Technology, IIT Allahabad (U.P.) 9. Prof. Ashwesh Kumar Singh (Prof., EE-MMT Allahabad). 10. researchers, technologists, and management Prof. (Dr) Prabhakar Tiwari Associate Professor, Deptt. of SE, MMVITU-GKP. 11. Prof. J. professionals to bridge research and practical Samikumar, MS Department IT Kanpur. 12. DR. VARUN KR. KAKAR Dept ECE, B.T.K.I.T., Dewarhat applications. It provides a platform for scholars Uttarakhand. 13. Prof. (Dr.) Dilip Sharma, Associate Dean (Academic Collaboration), GLA University, Mathura. 14. Mr. Tapas Pratap Singh, Software Engineer, Google Search, Mountain View, California, United States. 15. MR. SPARSH JAIN Software Development Engineer 2, Amazon. 16. Prof. N.P. Padhy, Director, MNIT Jaipur. In total, there are over 644 individual authors from eight countries, representing both academic and industrial organizations.



<http://smart2024.bvu.ac.in>
Conference Website

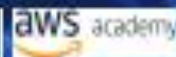
Glimpses of Conference



smart2024@bvu.ac.in
Contact email

<https://cmt.research.microsoft.com/SMART2024/Paper-Submission>

www.bvu.ac.in
University Website



System Modeling & Advancement in Research Trends (SMART - 2023)

22-23 December, 2023

CHIEF GUESTS



DR. SANJAY KUMAR GWYEN
Professor
Civil Engg Dept. IIT Roorkee



DR. PRAKASH CHAUHAN
Director
MRSC-GRD, Hyderabad



PROF. (Dr) V.K. JAIN
Founding Vice Chancellor
SAGE University, Bhopal



PROF. RAGHURAJ SINGH
Dean, Research & Development
HBTU, Kanpur



DR. UNNAT JAIN
Researcher
Fundamental AI Research (FAIR)
at Meta, Pittsburgh

GUEST OF HONOUR

The 12th International Conference on "System Modeling & Advancement in Research Trends" (SMART-2023), sponsored by IEEE UP Section, was organized by the CCSIT, Tawthariker Mahaveer University, Moradabad, on December 22-23, 2023. The conference focused on computational creativity, covering autonomous creative systems, AI-driven creativity, human-machine interaction, and deep learning. Presentation of such research papers is extremely beneficial for research scholars and stimulating factor for us to organize such conferences frequently in future. The proceedings cover topics such as Emerging Technologies, IoT, Digital Image Processing, Information Security, Blockchain, Industry 4.0, Education 4.0, Biomedical Engineering, and Power Electronics. The event featured keynote addresses from leading academicians and industry experts, fostering collaboration between academia and industry.

1. Prof. S.N. Singh, Professor (HAG) Department of EE, IIT Kanpur, UP, India. 2. DR. SANJAY KUMAR GHOSH Professor, Civil Engg Dept. IIT Roorkee 3. PROF. (Dr) V.K. JAIN, Founding Vice Chancellor SAGE University, Bhopal, India 4. DR. PRAKASH CHAUHAN Director, MRSC-GRD, Hyderabad 5. Dr. Donika Parygin, Associate Professor, VSTU, Cand. Tech. Sc., Volgograd, Russia 6. PROF. RAGHURAJ SINGH, Dean, Research & Development HBTU, Kanpur 7. DR. UNNAT JAIN Researcher Fundamental AI Research (FAIR) at Meta, Pittsburgh 8. Prof. Satish Kumar Singh Associate Professor in Dept. of Information Technology, IIT Allahabad (U.P.) 9. Prof. Ashwesh Kumar Singh (Prof. EE-MIT Allahabad). 10. Prof. (Dr.) Prabhakar Tiwari Associate Professor, Dept. of EE, IIT-MTU-GKR. 11. Prof. J. Somakumar, ME Department IIT Kanpur. 12. DR. VARUN KR. KAKAR Dept ECE, IITKGI, Durgam Cheruvu Hyderabad 13. Prof. (Dr.) Dilip Sharma, Associate Dean (Academic Collaboration), GJA University, Mathura. 14. Dr. Karan, Associate Professor, JNU, New Delhi. In total, there are over 504 individual authors from nine countries, representing both academic and industrial organizations.

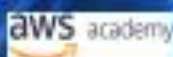
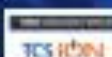
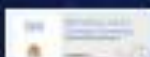


Glimpses of Conference





11
INTERNATIONAL
CONFERENCE
on
SMART



System Modeling & Advancement in Research Trends (SMART - 2022)

16-17 December, 2022

CHIEF GUESTS



MR. NITIN JAIRAM GADKARI

Honble Union Minister of Road Transport
& Highways Government of India



PROF. SRINIVAS SINGH
Associate Professor, IIT Kanpur
EE Department,
IIT Kanpur



PROF. R.K. MITTAL
Vice Chancellor
CBU, Bhiwani



PROF. RAGHURAJ SINGH
Computer Science & Engg.
HBTU, Kanpur

GUEST OF HONOUR

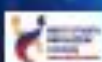
The 11th International Conference on "System Modeling & Advancement in Research Trends" (SMART-2022), technically co-sponsored by IEEE UP Section, was organized by the Faculty of Engineering & Computing Sciences, Teerthanker Mahaveer University, Moradabad, on December 16-17, 2022. The conference aimed to advance computational creativity by discussing topics such as autonomous creative systems, AI-driven creativity, human-machine collaboration, and deep learning applications. It provided a platform for researchers, engineers, and scholars in Computer Science and IT to share their latest findings and explore future research directions. SMART-2022 received 972 submissions, of which 289 were accepted after rigorous peer review and presented at the conference.

1. Mr. Nitin Jairam Gadkari, Honble Union Minister of Road Transport & Highways Government of India 2. Prof. S.N. Singh, Professor, Director IITM, Gwalior 3. Prof. (Dr.) R. K. Mittal, Vice-Chancellor, Chaudhary Banmal University, Bhiwani, and Founder V.C., Teerthanker Mahaveer University, Moradabad, India. 4. Dr. Danila Panygin, Associate Professor, VSTU, Cand. Tech. Sc., Volgograd, Russia. 5. Prof. Ashwesh Kumar Singh (Prof. EMMT Allahabad). 6. Prof. (Dr.) Prabhakar Tiwari Associate Professor, Dept. of EE, MMUTU-GKP. 7. Prof. Satish Kumar Singh Associate Professor, in Dept. of Information Technology, IIT Allahabad (UP). 8. Dr. Navin Rajpal, Professor, USCIF, GGSIPU. 9. Prof. Mohammad Sarosh Umar, Professor, AMU, Aligarh. 10. Prof. (Dr.) Dilip Sharma, Associate Dean (Academic Collaboration), GLA University, Mathura. 11. Prof. J. Ramkumar, ME Department IIT Kanpur. 12. Prof. M. H. Hoda, Professor of Computer Science & Director at Bharati Vidyapeeth's Institute of Computer Applications & Management (BVICAM), New Delhi. 13. Dr. V. K. Jain, Retd., IIT Kanpur. 14. Dr. Yogesh Awasthi, IIT Kanpur. 15. Dr. Karan, Associate Professor, JNU, New Delhi. In total, there are over 783 individual authors from eight countries, representing both academic and industrial organizations. The event featured 783 authors from eight countries, fostering academic collaboration between industry and academia.



Glimpses of Conference





System Modeling & Advancement in Research Trends (SMART - 2021)

10-11 December, 2021

10
INTERNATIONAL
CONFERENCE
on
SMART

CHIEF GUESTS



CHIEF GUEST
DR. G. K. GOSWAMI - IPS
Inspector General of Police
Uttar Pradesh Police



CHIEF GUEST
DR. PRAKASH CHAUDHARY
Director, IIS
Dehradun



PROF. S.N. SINGH
(IMMEDIATE PAST CHAIRMAN)
(IEEE INDIA COUNCIL)
IT Department
IIIT Kanpur



PROF. R. K. MITTAL
Vice-Chancellor
CUU, Bhiwani



SHRI BABLOO KUMAR
IPS-88, 2009
SSP, Moradabad

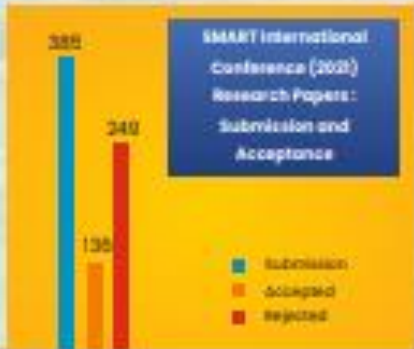


DR. DIMPLE NAYYAR
Associate Professor
Vagstad State Technical
University, Russia

GUEST OF HONOUR

The 10th International Conference on "System Modeling & Advancement in Research Trends" (SMART-2021), technically co-sponsored by IEEE UP Section, was organized by the Faculty of Engineering & Computing Sciences, Teerthankar Mahaveer University, Moradabad, on December 10-11, 2021. SMART-2021 aimed to advance research in computational creativity, covering topics such as autonomous creative systems, human machine interaction, AI, cognitive science, and deep learning. The conference served as a platform for researchers, engineers, and scholars to share findings and explore future directions in computer science and IT. Topics covered included emerging technologies, IoT, wireless communication, Digital India, and governance, risk, and compliance. SMART-2021 also featured keynote addresses by leading academicians from industry and academia.

1. Prof. S.N. Singh, Professor (HAG) Department of EE, IT Kanpur, UP, India. 2. Prof. (Dr.) R. K. Mittal, Vice-Chancellor, Chaudhary Gansilal University, Bhiwani, and Founder V.C., Teerthankar Mahaveer University, Moradabad, India. 3. Dr. Dimple Nayyar, Associate Professor, VSTU, Cand. Tech. Sc., Volgograd, Russia. 4. Prof. Ashwesh Kumar Singh (Prof., EE-MMIT Allahabad). 5. Prof. (Dr.) Prabhakar Tiwari Associate Professor, Dept. OF EE, MMUTU-GKP. 6. Prof. Gobish Kumar Singh Associate Professor, in Dept. of Information Technology, IIT Allahabad (IIT). 7. Dr. Prakash Choudhan, Director Indian Institute of Remote Sensing Dehradun. 8. Prof. Mohammad Sarosh Umar, Professor, AMU, Aligarh. 9. Prof. (Dr.) Dilip Sharma, Associate Dean (Academic Collaboration), GLA University, Mathura. 10. Prof. J Ramkumar, ME Department IIIT Kanpur. 11. Prof. M. N. Hoda, Professor of Computer Science & Director at Bharati Vidyapeeth's Institute of Computer Applications & Management (BIVCAM), New Delhi. 12. Dr. Koran, Associate Professor, JNU, New Delhi. In total, there were over 450 individual authors from eight countries, representing both academic and industrial organizations.



Glimpses of Conference



System Modeling & Advancement in Research Trends (SMART - 2020)

04-05 December, 2020

EMINENT ACADEMICIANS GRACING THE OCCASION



PROF. K.K. AGGARWAL
Chairman
National Board of Accreditation



PROF. SRI NIVASS SINGH
Professor (PAG)
Department of EE
IIT Kanpur, UP, India



PROF. R.K. MITTAL
Vice-Chancellor
Chaudhary Bansi Lal University
Bikaner



PROF. S. K. KATI
General Council Member NSA New Delhi &
Ex VC UPTU Lucknow
& Ex VC CCS University Meerut UP



DR. DANILA PARYGIN
Associate Professor,
Department of IAS
Volgograd State Technical University, Russia

Ninth International Conference on "System Modeling & Advancement in Research Trends" (SMART-2020), in technical co-sponsorship with IEEE UP Section, was organized by Faculty of Engineering & Computing Sciences, Teerthankar Mahaveer University, Moradabad on 04-05, December, 2020. This conference brought together leading researchers, engineers and scientists in the domain of interest from around the world by providing a platform to present new advances and research results in the fields of Computational Sciences, System modeling, Ant Colony Optimization, Industry 4.0, Block chain, Data science, Engineering Applications of Nature-Inspired Algorithms and Computer Science. The main objective of SMART-2020 is to provide platform for the researchers, engineers and scholars in the field of Computer Science and Information Technology to disseminate their latest research results and exchange views on the future research directions in these areas. In addition to the technical sessions, the conference featured keynote speeches by

leading figures from industry and academia, such as 1. Prof. (Dr.) K.K. Aggarwal, Chairman, National Board of Accreditation 2. Prof. S.N. Singh, Professor (HAG) Department of EE, IIT Kanpur, UP, India. 3. Prof. (Dr.) R.K. Mittal, Vice-Chancellor of Chaudhary Bansi Lal University, Bikaner, and Founder V.C., Teerthankar Mahaveer University, Moradabad, India. 4. Dr. Danila Parygin, Associate Professor, VSTU, Cand Tech. Sc., Volgograd, Russia. 5. Prof. Raghuraj Singh, Professor, IITU, Kanpur, Uttar Pradesh, India. 6. Prof. MN Hoda, Director, Bhatal Vidyapeeth's Institute of Computer Application and Management, New Delhi, India. 7. Prof. (Dr.) Prabhakar Tiwari Associate Professor, Dept. of EE, MMUTU-GKP & Secretary IEEE UP Section. 8. Prof. (Dr.) Satish Kumar Singh Associate Prof. in Deptt. of Information Technology, IIT Allahabad (U.P.) & Vice President IEEE UP Section. 9. Prof. (Dr.) Dilip Sharma, Associate Dean (Academic Collaboration), GLA University, Mathura. 10. Prof. (Dr.) S.K. Kati General Council Member NSA New Delhi & Ex VC UPTU Lucknow & Ex VC CCS University Meerut UP. 11. Dr. Assem Chandel, Convener, Professional Activities Committee, IEEE UP Section & Director Rajkiya Engineering College, Moradabad, India. In total, there were over 279 individual authors from five countries, representing both academic and industrial organizations.



Glimpses of Conference

शिक्षण संस्थानों में शोधार्थियों के लिए
बने बेहतर माहौल : प्रो. एसके काक





System Modeling & Advancement in Research Trends (SMART - 2019)

22-23 November, 2019

08
INTERNATIONAL
CONFERENCE
on
SMART

CHIEF GUESTS



PROF. K. K. AGGARWAL
Chairman
National Board of Accreditation



PROF. S.N. SINGH
International Council on Data Science
IT Department
IIT Kanpur



PRESIDED BY
PROF. R.K. MITTAL
Vice Chancellor
CBU, Bhiwani



DR. PARMANAND ASTHA
Professor & Dean
School of Engineering and Technology
Sharda University, Greater Noida



PROF. BACHUBHAI SINGH
Computer Science & Engg.
IITM, Kanpur

SPECIAL GUESTS

The Eighth International Conference on "System Modeling & Advancement in Research Trends" (SMART-2019) was held on 22-23 November 2019, organized by the College of Computing Sciences & Information Technology, Tirthankar Mahaveer University, Moradabad, in technical co-sponsorship with IEEE UP Section.

SMART-2019 provided a platform for researchers, engineers, and scholars to present advancements in Computational Sciences, System Modeling, AI, Machine Learning, and Emerging Technologies. It aimed to foster discussions on computational creativity, human-machine interaction, and engineering applications of nature-inspired algorithms.

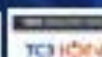
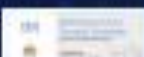
The conference received 210 submissions, out of which 71 high-quality papers were accepted and published in the proceedings. The event also featured keynote speeches from leading academicians and industry experts such as Prof. (Dr.) K.K. Aggarwal, Prof. S.N. Singh, Dr. Danilo Parygin, and Dr. Mohammad Lutfi Othman, among others.

With over 257 authors from four countries, SMART-2019 successfully facilitated international academic exchange, contributing significantly to advancements in computer science and information technology.



Glimpses of Conference





System Modeling & Advancement in Research Trends (SMART - 2018)

23-24 November, 2018

CHIEF GUEST



PROF. SRI NIVAS SINGH
(HONORARY PROFESSOR)
(IEEE MEMBER)
EE Department,
IIT Kharagpur



PROF. RAGHUJA SINGH
Computer Science & Engg,
IITK, Kharagpur



Dr. Noor Izzi Bin Abdul Wahab
Associate Professor
Universiti Putra Malaysia
Selangor, Malaysia



DR. DANILA PORYGIN
Associate Professor
Volograd State Technical
University, Russia

GUEST OF HONOUR

The 7th IEEE International Conference on "System Modeling & Advancement in Research Trends" (SMART-2018) was held at Teerthankar Mahaveer University, Moradabad, from November 23-24, 2018, in technical co-sponsorship with IEEE UP Section. The conference aimed to bring together researchers, engineers, and scientists to discuss advancements in Computational Sciences, System Modeling, Ant Colony Optimization, Engineering Applications of Nature-Inspired Algorithms, and Computer Science. SMART-2018 received 190 paper submissions, of which 62 papers were selected after rigorous review. The papers presented at SMART-2018 were not its only highlight. In addition to the technical

sessions, the conference featured keynote speeches by leading figures from industry and academia. The conference featured keynote speeches by eminent academicians and industry experts from India, Russia, and Malaysia, including Dr. S.N. Singh (IEEE Distinguished Member, Vice-Chancellor, MMUT, Gorakhpur), Prof. (Dr.) R.K. Mittal (Vice-Chancellor, Chaudhary Bansi Lal University, Haryana), Prof. S.K. Gosh (IIT Roorkee), Dr. Danila Porygin (VSTU, Volgograd, Russia), Prof. Noor Izzi Bin Abdul Wahab (University Putra Malaysia, Malaysia).

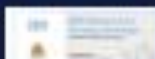
With over 265 authors from five countries, the conference covered a broad spectrum of research topics, including Emerging Technologies, IoT & Wireless Communication, the Digital India Initiative, Signal & Image Processing, and Governance, Risk, and Compliance. The event was made possible through the support of IEEE UP Section, the university administration, reviewers, and the organizing committee.

Several organizations provided financial and logistical assistance in organizing the conference, and I would like to acknowledge their support. Lastly, I want to thank to the programme committee members for their diligent and great work that made this conference possible. In conclusion, it was the team effort of all these people that made this conference a success. I welcome suggestions that may help improve the conference in the future. I look forward to this publication serving as the foundation for future developments in the field of computer science and information technology.



Glimpses of Conference





System Modeling & Advancement in Research Trends (SMART - 2017)

29-30 December, 2017

06
INTERNATIONAL
CONFERENCE
on
SMART

CHIEF GUEST



PROF. SRI NIWAS SINGH
(HONORARY DEPT CHAIRMAN,
IEEE INDIA SECTION)
EE Department,
IIT Kanpur



PROF. RAGHURAJ SINGH
Computer Science & Engg,
NETU, Kanpur



PROF. R.K. MITTAL
Vice Chancellor
CBU, Bhiwani



DR. MADHUSUDAN SINGH
Research Professor
Tamil University, Karaikal



PROF. SAPIRAM SALIT
University Putra Malaysia,
Malaysia

GUEST OF HONOUR

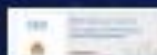
The Sixth International Conference on "System Modeling & Advancement in Research Trends (SMART-2017)" was organized by the College of Computing Sciences & Information Technology, Teerthanker Mahaveer University, Moradabad, on December 29-30, 2017, in technical co-sponsorship with IEEE UP Section. The conference provided a platform for researchers, engineers, and scholars to present advances in computational sciences, system modeling, machine learning, optimization, networking, and artificial intelligence. SMART-2017 received 347 submissions, of which 129 papers were accepted and published. The event featured keynote speeches by distinguished experts from academia and industry, attracting over 500 authors from five countries. The conference was made possible through the support of

Teerthanker Mahaveer University leadership, IEEE UP Section, keynote speakers, reviewers, and program committee members. Their contributions ensured the success of SMART-2017, fostering future research in computer science and information technology. In addition to technical sessions, SMART-2017 featured keynote speeches by distinguished experts from academia and industry, including: such as 1. Dr. S.N. Singh, Vice-Chancellor, MMM University of Technology Gorakhpur and IEEE Elect Chair-2017. 2. Prof. (Dr.) R.K. Mittal, Professor, University School of Management Studies, GGSIU University, New Delhi, and Founder V.C., Teerthanker Mahaveer University, Moradabad, India. 3. Prof. S.K. Goel IITR, Roorkee, India. 4. Dr. Dorila Porygin, Associate Professor, VSTU, Cand. Tech. Sc., Volgograd, Russia. 5. Prof. Raghuraj Singh, Director, Kamla Nehru Institute of Technology, Sultanpur, Uttar Pradesh, India. 6. Prof. Mohammad Sarosh Umar, Professor & Chairman, College of Computer Engineering, Aligarh Muslim University, Aligarh, India. 7. Prof. J. Ramkumar, Associate Professor, Associate Dean for Student Activities (ADSA), Department of Mechanical Engineering and Design Program, IIT-K, Kanpur, India. Chairman-IEEE UP Section 8. Prof. (Dr.) Dilip Sharma, Program Coordinator (CSE) & Professor, Department of Computer Engineering & Applications, GLA University, Mathura, India. The conference hosted over 500 authors from five countries, covering diverse research areas in computer science. Special thanks were extended to Teerthanker Mahaveer University leadership, IEEE UP Section, keynote speakers, and all contributors for their support in making the event a success.





05
INTERNATIONAL
CONFERENCE
ON
SMART



System Modeling & Advancement in Research Trends (SMART - 2016)

25-27 November, 2016

CHIEF GUEST



PROF. R.K. MITTAL
Vice Chancellor
CBU, Bhiwani



PROF. ABU BAKAR ABDUL NAIM
Professor
Putra Business School
Malaysia



DR. DANIELA PARTOGI
Associate Professor
Vologodsk State Technical
University, Russia



PROF. RAGHURAJ SINGH
Computer Science & Engg
HBTU, Kanpur

GUEST OF HONOUR

Fifth International Conference on "System Modeling & Advancement in Research Trends" (SMART-2016), in technical co-sponsorship with IEEE UP Section, is organized by College of Computing Sciences & Information Technology, Teerthanker Mahaveer University, Moradabad from 25th to 27th November, 2016. This conference brought together leading researchers, engineers and scientists in the domain of interest from around the world by providing a platform to present new advances and research results in the fields of Computational Sciences, system modeling and computer science. The main objective of SMART - 2016 is to provide platform for the researchers, engineers and scholars in the field of computer science and information technology to disseminate their latest research results and exchange views on the future research directions in these areas. The purpose of this conference is to make a scientific contribution to the field of computational creativity through discussion and publication on progress in fully autonomous creative systems, modeling human and computational creativity, computational support for human creativity, simulating creativity, and human/machine interaction in creative endeavours. Contributions come from many relevant disciplines, including computer science, artificial intelligence, engineering design, cognitive science. The conference focuses on the study and exchange of academic achievements of international researchers. It serves as academic discussion communication platform which is beneficial for research in the field of computer science aiming to stimulate researchers in their work.

The collection of papers in this conference proceedings are on Algorithms and Computational Mathematics, Machine learning and optimization, Communication, Networking and Broadcast Technologies and Digital India initiative. SMART - 2016 received 179 submissions and each submission was reviewed by external reviewers and evaluated on quality, originality, and relevance.

The technical program committee accepted 66 papers. As a result, 66 submissions were selected for discussion at the meeting of the program chairs and all 66 papers were accepted for the presentation at the conference. Out of 179 accepted submissions, 66 were chosen to be published in the proceeding of SMART - 2016.



SMART International
Conference (2016)
Research Papers:
Submission and
Acceptance

Submission
Accepted
Rejected

Glimpses of Conference



System Modeling & Advancement in Research Trends (SMART) 2015-2012



SMART International Conference held on 20-21 November, 2015 & 15-16 November, 2014



SMART International Conference held on 15- 16 November, 2013



SMART International Conference held on 20- 21 October, 2012



College of Computing Sciences and Information Technology,
Teerthanker Mahaveer University, Moradabad



