

NATIONAL INFORMATICS CENTRE

Kerala State Centre

DIO Workshop 2023 "Sharing Insights, Driving Change"

30th November to 02nd December 2023 at Thiruvananthapuram

A three days DIO workshop was conducted by NIC Kerala from 30th November to 02nd December 2023 at Thiruvananthapuram. All District Informatics Officers and Additional District Informatics Officers in the state attended the programme. Shri. Mir Mohamed Ali IAS, Additional Secretary and Officer on Special Duty (Finance), Government of Kerala inaugurated the DIO Workshop 2023 on 30th November 2023 and addressed the DIOs in presence of Dr. Suchitra Pyarelal, DDG & SIO Kerala, Smt. Sharmistha Dasgupta, DDG NIC HQ, Smt. Asha Varma K C, DDG & ASIO State, Shri. Basheer Ahmed P K, DDG & ASIO District, Smt. Bindu Sunil Kumar, Senior Director(IT) & ASIO District and HoGs of NIC Kerala State Centre.



Photo: Shri. Mir Mohamed Ali IAS, Additional Secretary and Officer on Special Duty (Finance), Government of Kerala inaugurating the DIO Workshop 2023 at Thiruvananthapuram on 30/11/2023.

The inaugural session started with a prayer jointly by Smt. Leena K, DIO Kasargod and Smt. Rijisha K V, ADIO Kannur. Smt. Asha Varma KC, DDG & ASIO State welcomed the Chief Guest, Dignitaries and DIOs/ADIOs to the workshop. DDG & State Informatics Officer, Dr. Suchitra Pyarelal gave the introductory address. SIO highlighted the digital growth story of NIC Kerala for the last 36 years starting from 1987 spanning all the major sectors of the government, which resulted in providing an inclusive and accessible digital experience during her introductory address. SIO underscored that NIC district officers have always

been the flag bearers of the ICT services at the grassroots leading to an efficient lastmile delivery of government services. SIO also added that the district centres of NIC Kerala have emerged as a reputable institution driving the transformative progress in the district with the unwavering dedication and steadfast commitment of officers. The workshop was to enable them to make innovations at the grassroots level.



Photo: Introductory Address by Dr. Suchitra Pyarelal, DDG & SIO Kerala during the inaugural session of DIO Workshop 2023.

During his inaugural Address, Shri. Mir Mohammed Ali IAS shared his experience with NIC District Centre, Kannur and the State NIC Team. He appreciated the technical support provided by NIC officials at the State and Districts. While appreciating the IT Services from NIC, he stressed the need for the software intervention addressing the specific needs of the public and their expectations with excellent UI/UX and navigation. Shri. Mir Mohammed Ali IAS expressed his wish to attend the sessions on AI and Blockchain.



Photo: Felicitation by Smt. Sharmistha Dasgupta, DDG NIC HQ during the inaugural session of DIO Workshop 2023.

The DIO Workshop included various technical sessions handled by experts from the industry. The theme of the workshop was “**Sharing Insights, Driving Change**”.

The following Technical sessions were organized:

- | | |
|-----------------------------------|---|
| 1. Blockchain Technologies | 10. Mobile Application development trends |
| 2. Artificial Intelligence (AI) | 11. Information Security |
| 3. Project Management | 12. Virtualization & hosting software application |
| 4. Introduction to GIS | 13. Recipes for Software Development & Implementation |
| 5. Data Analytics with case study | 14. OWASP Top Ten |
| 6. Generative AI | 15. DevOps |
| 7. Open Internet of Things | |
| 8. Cyber security | |
| 9. UI / UX Design | |



Photo: Shri. Mir Mohamed Ali IAS, Additional Secretary and Officer on Special Duty (Finance), Government of Kerala, Dr. Suchitra Pyarelal, DDG & SIO Kerala, Smt. Sharmistha Dasgupta, DDG NIC HQ, Smt. Asha Varma K C, DDG & ASIO State, Shri. Basheer Ahmed P K, DDG & ASIO District during the inaugural session of DIO Workshop 2023 at Thiruvananthapuram on 30/11/2023.



Photo: Welcome Address by Smt. Asha Varma K C, DDG & ASIO State during the inaugural session of DIO Workshop 2023 at Thiruvananthapuram on 30/11/2023.



Photo: Vote of Thanks by Shri. Basheer Ahmed P K, DDG & ASIO District during the inaugural session of DIO Workshop 2023 at Thiruvananthapuram on 30/11/2023.



Photo: Shri. Basheer Ahmed P K, DDG & ASIO District handing over a plant to Shri. Mir Mohamed Ali IAS, Additional Secretary and Officer on Special Duty (Finance), Government of Kerala as a token of gratitude during the inaugural session of DIO Workshop 2023 at Thiruvananthapuram on 30/11/2023.

Sessions:

1. Blockchain Technologies: Shri. Adarsh S, Senior Scientist, Kerala Block Chain Academy



The Blockchain Technologies session was handled by Shri. Adarsh S, Senior Scientist of Kerala Blockchain Academy. Shri. Adarsh spoke on: How a block is created in the Bitcoin Blockchain, Making a Chain, Definitions and Features of Blockchain, the Evolution of the Chain, Why the Industry Loves Blockchain, Where the Chain fits, Blockchain variants, Indian Context of Blockchain Adoption, case studies of Land records, etc.



Welcome by Shri. Agi Jacob Kurian, DIO Alappuzha



Felicitation by Shri. Sebastian K L, DIO Idukki

2. Artificial Intelligence (AI): Smt. Sharmistha Dasgupta, DDG NIC HQ



The Artificial Intelligence session was handled by Smt. Sharmistha Dasgupta, DDG & HoG Artificial Intelligence Resources, NIC HQ. Smt. Sharmistha Dasgupta spoke on - What is Artificial Intelligence, Core AI Technologies, Deep Learning, Speech Recognition and Synthesis, Problem identification, Challenges and Way Forward, Challenges and Best Practices, Data Reading for AI, AI and data Quality, Access & AI, Infrastructure required to sustain AI Projects, AI & Ethics, AI Application Lifecycle Management, Leveraging AI, Reducing end to end turnaround time in eGovernance Projects, Bringing Efficiency in Work Culture, Trend Forecasting Time Series Analysis, Easing citizen interface with government conversational AI, Vani the Multilingual Chatbot Services, AI Shruti the Text Transcription Services, AI Saransh the Text Summarization Services, Cognitive Search the Text Analytics Custom Built Application, Areas in governance where AI can be adopted, Customer Experience, etc.



Welcome by Smt. Bindu Sunil Kumar, ASIO District



Felicitating by Shri. Paul Varghese Mathai N, DIO Thiruvananthapuram

3. Project Management: Shri. Brajesh Kaimal, Co-founder & Director Experion Technologies Pvt Ltd



The Project Management session was handled by Shri. Brajesh Kaimal Co-Founder and Director of Experion Technologies Pvt. Ltd. Shri. Brajesh spoke on - Customer Experience, Data Analytics, Business Models, Digital Operations, Digital Transformation, Benefits of Digital Transformation, Volatility Uncertainty Complexity Ambiguity (VUCA), Business Agility, Project Manager Skills, Technical (Hard) Skills, Soft Skills, Power Skills, Communication, etc to enhance the probability of Project Success.



Welcome by Shri. Gigi George, DIO Kollam



Felicitation by Shri. George Eapen, ADIO Ernakulam

4. Introduction to GIS: Shri. Sunish Kumar M V, Scientist-E, NIC Kerala



The session on 'Introduction to GIS' was handled by Shri. Sunish Kumar M V, Scientist-E, NIC Kerala. Shri. Sunish spoke on – GIS, Spatial Data, Web Mapping Applications, Web GIS Application architecture, PostGIS, Serving Geospatial Data, Map Visualisation, case studies on various versions of BhuNaksha, BhuNaksha Features, architecture and Challenges, Technical stack, Scalability, Digitizer/Viewer Plugin, Style Editor, Map Management Services, EnteBhoomi Integration, etc. He was shown the Ente Bhoomi application developed for the Land Survey Department of Kerala which is a case study of Bhunaksha Application.



Welcome by Shri. Pavan P, DIO Malappuram



Felicitating by Shri. Rajan K, DIO Kannur

5. Data Analytics with Case Study: Dr. Vimala Mathew, Scientist-E, NIELIT Kozhikode



The session on Data Analytics with Case Study was handled by Dr. Vimala Mathew, Scientist-E, NIELIT Kozhikode. Dr. Vimala spoke on Features/Types of Data, Data Analytics, Types and Levels of Data Analytics, and Characteristics of Big Data, with a case study on the Iris species dataset



Welcome by Smt. Leena K, DIO Kasargod



Felicitation by Shri. Sureshkumar P, ADIO Palakkad



6. Generative AI: Shri. Anil Saraswathy, CTO, InApp



The session on 'Generative AI' was handled by Shri. Anil Saraswathy, CTO, InApp. Shri. Anil spoke on - What is Generative AI, Generative AI Application Landscape, Training vs Predication, GPT-3, Evolution of LLM, Dataset Matters, Code Generation AI, LangChain & Llamaindex, etc.



Welcome by Shri. Mohanan K K, ADIO Alappuzha



Felicitating by Smt. Beena C P, DIO Kottayam



7. Open Internet of Things (IOT): Shri. R Srinivasan, Program Head, FOSS Technologies, ICFOSS



The session on the Open Internet of Things (IOT) was handled by Shri. R Srinivasan, Program Head, FOSS Technologies, ICFOSS. Shri. Srinivasan spoke on - the Internet of Things, the Top 10 IoT use cases, the IoT Market, Architecture, Wireless and LPWAN, LoRa WAN, and Open IoT@ICFOSS.



Welcome by Shri. Rolly T D, DIO Thrissur



Felicitating by Shri. Ramesh V, ADIO Thiruvananthapuram

8. Cyber security: Shri. Senthil Kumar K B, Scientist-F, CDAC Thiruvananthapuram



The session on Cyber Security was handled by Shri. Senthil Kumar K B, Scientist-F, CDAC, Thiruvananthapuram. Shri. Senthil spoke on - New Techniques, Targets and vectors, Key principles and benefits of ZTA, etc. The talk explored the change in the techniques & tactics adapted by the attackers over a period of time and how the preventive & defensive cyber security technology have evolved to meet the latest threats.



Welcome by Shri. Jaseem Hafiz Melepat, DIO Wayanad



Felicitating by Shri. Niju Abraham, DIO Pathanamthitta

9. Mobile Application Development Trends: Shri. Andrews Varghese, Scientist-F, NIC Kerala



The session on 'Mobile Application Development Trends' was handled by Shri. Andrews Varghese, Scientist-F, NICKerala. Shri. Andrews spoke on the relevance and Need of Mobile Apps, Emerging Technologies, Flutter, Native App Development, Flutter and native app comparison and when and the parameters to choose the platform, etc.



Welcome by Shri. Pradeesh K P, DIO Kozhikode



Felicitations by Smt. Rijisha K V, ADIO Kannur

10.UI/UX Design: Shri. Vivek Soni, Senior Designer, Microsoft



The session on UX Design was handled by Shri. Vivek Soni, Senior Designer at Microsoft. Shri. Vivek spoke on Five stages in the design thinking process, the focal point of UX, Design Strategy, Knowing Users and their Goals, Navigation Design, Information Architecture, Presentation Design, Interaction Design, Page Types, Content Design, etc. He highlighted the need for UI/UX and the growth of UX in both public and private sectors. He also talked about: why should the government care about UX and how can UX help the government.



**Welcome by Shri. Agi Jacob Kurian, DIO
Alappuzha**



Felicitations by Shri. Pavanan P, DIO Malappuram

**11.Information Security: Shri. YashRaizada, Scientific Assistant, ERTL / STQC
Thiruvananthapuram**



The session on Information Security handled by Shri. Yash Raizada, Scientific Assistant, ERTL/ STQC, Thiruvananthapuram. Shri. Yash spoke on - Information Security Testing, Principals of Security, Types of Security Testing, Vulnerability Scanning, Penetration Testing, Application Security Testing, Attacks listed by OWASP, HTTP vs HTTPS, DNS, etc.



Welcome by Shri. Rajan K, DIO Kannur



Felicitating by Shri. Roy Joseph, ADIO Kottayam

12.Virtualization & Hosting Software Application: Shri. Remesh Babu T, Scientist-E, NIC Kerala



The session on Virtualization & Hosting Software applications was handled by Shri. Remesh Babu T, Scientist-E, NIC Kerala. Shri. Remesh spoke on - Virtualisation and web hosting, Types of Hypervisor, VM properties, types of Virtualization, Virtualization vs Cloud computing, Containers, OpenStack, etc.



Welcome by Shri. Suresh Kumar P, ADIO Palakkad



Felicitating by Shri. Mohanan K K, ADIO Alappuzha

13.Recipes for Software Development & Implementation: Shri. Vipin Bose, Scientist-C, NIC Kerala



The session on Recipes for Software Development & Implementation was handled by Shri. Vipin Bose, Scientist-C, NIC, Kerala. Shri. Vipin spoke on - VS Code, SSH Tunneling, Browser Development Tools, Fake Filler, Retire.JS, Flameshot, CURL, Chromium/Chrome screenshots, makedocs, Data Import Strategies, etc.



Welcome by Shri. Ramesh Babu T, Scientist-E, NIC Kerala



Felicitation by Shri. Jaseem Hafiz Melepat, DIO Wayanad

14.OWASP Top Ten: Shri. Saravanan V, Scientist-D, NIC Kerala



The session on OWASP Top 10 was handled by Shri. Saravanan V, Scientist-D, NIC, Kerala. Shri. Saravanan spoke on Broken Access Control Prevention, Cryptographic Failure, XSS Injection, SQL Injection, Injection prevention, Insecure design, Insecure design prevention, Security misconfiguration, Vulnerable and outdated components, Prevention of Software and Data Integrity failures, etc.



**Welcome by Shri. Niju Abraham, DIO
Pathanamthitta**



**Felicitating by Shri. George Eapen, ADIO
Ernakulam**

15.DevOps: Shri. Manoj P A, Scientist-F & HOD(CEM Kochi), NIC Kerala



The session on DevOps was handled by Shri. Manoj P A, Scientist-F & HoD(CEM Kochi), NIC, Kerala. Shri. Manoj spoke on DevOps, the Waterfall model, the Agile Model, Dev vs Ops, docker, VM vs Docker containers, Jenkins in DevOps, etc. Also he explained the activities of CEM Kochi and the training conducted by the unit.



Welcome by Shri. Paul Varghese Mathai N, DIO Thiruvananthapuram



Felicitation by Shri. Agi Jacob Kurian, DIO Alappuzha

**16. Interaction with DIOs/ADIOS: Dr. Suchitra Pyarelal, SIO Kerala
Shri. Basheer Ahmed P K, ASIO District, NIC Kerala
Smt. Bindu Sunil Kumar, ASIO District, NIC Kerala**



Dr. Suchitra Pyarelal, SIO Kerala interacting with DIO/ADIO during the Workshop

On the third day of the workshop, ASIO Districts, NIC Kerala (Shri. Basheer Ahmed P K and Smt. Bindu Sunil Kumar) were presented the profile and activities of their districts in presence of SIO Kerala. Dr. Suchitra Pyarelal, SIO Kerala informed district officials to carry regular interaction with the District Collector, organize capacity-building sessions for district/department officials, submit monthly activities reports to the District Collector, build an expert group of district officials to innovate, collaborate and develop ICT applications for the state. Sensitize district officials on security, and physical infrastructure development, ensure fire safety of the district offices and explore open-source ERP solutions also added during the interaction with District Officials. Also encouraged the officials to attend Vidyakosh courses and webinars regularly.



Shri. Basheer Ahmed P K, ASIO District interacting with DIO/ADIO during the Workshop



Smt. Bindu Sunil Kumar, ASIO District interacting with DIO/ADIO during the Workshop

17. Interaction with HoGs, NIC Kerala



A one hour session was arranged for the HoGs, NIC Kerala to present their projects and group activities in the State. Head of Group of all Application Software Groups, System Engineering Group and RCoEAS Thiruvananthapuram were handled this session. HoGs were introduced themselves, mentioned the team members of their group and the projects/activities headed by them.



Smt. Asha Varma K C, Scientist-G & HoG



Shri. Basheer Ahmed P K, Scientist-G & HoG



Shri. Ranjit N, Scientist-F & HoG(RCoEAS)



Smt. Bindu Sunil Kumar, Scientist-F & HoG



Smt. Srivalli Devi P, Scientist-F & HoG



Shri. Nisarudeen A, Scientist-F & HoG



Shri. Shinto Thomas, Scientist-F & HoG



Shri. Manoj P A, Scientist-F & HoG



Smt. Sreekala V S, Scientist-F & HoG



Photo: District Officials during session on HOGs interaction

18.Cultural Events



Cultural events by district officers of NIC Kerala were organized on the dusk of the second day as part of DIO Workshop 2023. The event included Songs, Poem recitations, Games, and the Sharing of life experiences by district officials. A delightful group song by Smt. Sharmistha Dasgupta, DDG & HoG NIC HQ and Dr. Suchitra Pyarelal, SIO Kerala on the impermanence of life was indeed a mood booster. Prizes were distributed to the winners of the games conducted during the culture event by Smt. Sharmistha Dasgupta, DDG, NIC HQ and Dr. Suchitra Pyarelal, DDG & SIO Kerala. The cultural programme was organized by Shri. Pradeesh K P, DIO Kozhikode and Smt. Leena K, DIO Kasargod.



Song jointly by Dr. Suchitra Pyarelal, SIO Kerala and Smt. Sharmistha Dasgupta, DDG, NIC HQ



Song by Smt. Bindu Sunil Kumar, Scientist-F & ASIO District, NIC Kerala



Song by Smt. Beena Ciril Podippara, DIO Kottayam, NIC Kerala



Song by Shri. Roy Joseph, ADIO Kottayam, NIC Kerala



Poem by Shri. Ramesh V, ADIO Thiruvananthapuram, NIC Kerala



Song by Shri. Niju Abraham, DIO Pathanamthitta, NIC Kerala



Game arranged during the Cultural Event

Ice breaking by New Joiners / Newly Posted Technical Officials



Shri. Sujeesh A V, Scientist-D, NIC Kerala



Smt. Abirame, Scientist-B, NIC Kerala



Smt. Aparna R, Scientist-B, NIC Kerala



Smt. Amiya Manayath, Scientist-B, NIC Kerala



Shri. Cebil T A, Scientist-B, NIC Kerala



Shri. Esa T Rasool, SO/E-SB, NIC Kerala



Photo: Smt Sharmistha Dasgupta, DDG, NIC HQ receiving memento as a token of gratitude from Dr. Suchitra Pyarelal, SIO Kerala.

Felicitations:



Smt. Asha Varma K C, Scientist-G, NIC Kerala was felicitated by Smt. Rijisha K V, ADIO Kannur on behalf of NIC District Officials as an honour in view of her superannuation on 31/12/2023 during the DIO Workshop 2023.



Shri. Ranjit N, Scientist-F, RCoEAS, NIC Kerala was felicitated by Shri. Niju Abraham, DIO Pathanamthitta on behalf of NIC District Officials as an honour in view of his superannuation on 31/01/2024 during the DIO Workshop 2023.

Valedictory Function



Photo: Dr. Suchitra Pyarelal, SIO Kerala receiving a plant as a token of gratitude from Shri. Rolly T D, DIO Thrissur



Photo: Smt. Asha Varma K C, ASIO State receiving a plant as a token of gratitude from Shri. Suresh Kumar P, ADIO Palakkad



Photo: Shri. Basheer Ahmed P K, ASIO District receiving a plant as a token of gratitude from Shri. Pradeesh K P, DIO Kozhikode



Photo: Smt. Bindu Sunil Kumar, ASIO District receiving a plant as a token of gratitude from Shri. George Eapen, ADIO Ernakulam



Photo: Vote of Thanks by Smt. Bindu Sunil Kumar, ASIO District on 02/12/2023



Compering by Shri. Niju Abraham, DIO Pathanamthitta during the Workshop



Compering by Smt. Rijisha K V, ADIO Kannur during the Workshop



Dr. Suchitra Pyarelal, DDG & SIO Kerala and HoGs along with participants of DIO Workshop 2023



Thanks giving by Smt. Beena Ciril Podipara, DIO Kottayam on behalf of District Officials, NIC Kerala



Participants during the DIO Workshop 2023

DIO Workshop 2023 – Executive Management Committee



Smt. Asha Varma K C
Scientist-G & Chairperson



Shri. Basheer Ahmed P K
Scientist-G & ASIO District



Smt. Bindu Sunil Kumar
Scientist-F & ASIO District



Smt. Srivalli Devi P
Scientist-F



Smt. Beena G
Scientist-E



Shri. Jayaprakash G
Scientist-E



Shri. Ahamed Shaheer J
Scientist-D

DIO Workshop 2023 – Workshop Content & Structure Sub Committee



**Shri. Edward Sam T
Scientist-F & Chairman**



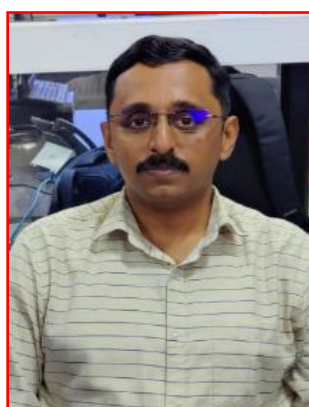
**Shri. Anil V S
Scientist-E**



**Smt. Anuja K
Scientist-D**



**Shri. Sujeesh A V
Scientist-D**



**Shri. Arun K Varghese
Scientist-D**



**Smt. Asha Varma K C, ASIO State & Chairperson (Executive Committee)
during the DIO Workshop.**



Technical Support by Shri. Akhil Kumar, VC Support and Shri. Mahesh Kumar M S, FMS from NIC Kerala



Smt. Asha Varma K C, DDG & ASIO State, Smt. Beena G, Scientist-E, Shri. Jayaprakash G, Scientist-E and Shri. Ahamed Shaheer J, Scientist-D from NIC Kerala State Centre coordinated and managed the DIO Workshop 2023 under the guidance of Dr. Suchitra Pyarelal, DDG & SIO Kerala.

NIC Kerala
