ICTP
International Conference on ICT and Photonics
2026

IEEE International Conference on ICT & Photonics (ICTP 2026)

Advancing ICT and Photonics for a Smarter, Sustainable World

February 11–14, 2026

Hyatt Centric, Kathmandu, Nepal

Organisers:

RICON — Research & Innovation Center for Nepal — Estd 2024

Nepal Engineering College — nec — 1994

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For More Information : riconictp.org info@riconictp.org @riconictp

SCHEDULE AT GLANCE

WEDNESDAY, 11 FEBRUARY

14:00 - 17:00 — REGISTRATION

THURSDAY, 12 FEBRUARY

REGISTRATION

09:30 - 10:45 — OPENING CEREMONY — BALLROOM 1

10:45 - 11:45 — KEYNOTE TALKS — BALLROOM 1

Keynote 1 : Prof. Zhang Xuping, Nanjing University

Keynote 2 : Dr. Chul Ho Lee, KAIST

12:00 - 13:00 — LUNCH BREAK

13:00 - 15:00 — TECHNICAL TRACKS

STUDIO 4	STUDIO 5
TRACK 1 : RF AND PHOTONICS **Chair** : Prof. Dr. Ram Krishna Maharjan	**TRACK 2: AI AND MACHINE LEARNING** **Chair** : Dr. Suresh Manandhar **Co-chair :** Er. Birodh Rijal

Keynote 3 : Prof. Pan Shilong
NUAA

13: 00 - 17:00 — WORKSHOP — BALLROOM 1

KAIST GLOBAL DIGITAL INNOVATION AND IMPACT

15:00 - 15:30 — TEA BREAK

15:30 - 17:00 — TECHNICAL TRACKS

STUDIO 4	STUDIO 5
TRACK 5: RECENT TRENDS IN COMPUTING **Chair** : Prof. Dr. Arun Timalsina **Co-chair :** Dr. Ram Govinda Aryal	**TRACK 4: ICT POLICY AND DIGITAL GOVERNANCE** **Chair** : Prof. Dr. Gajendra Sharma **Co-Chair :** Er. Nischal Regmi

17:30 - 20:00 — GALA DINNER — BALLROOM 1

SCHEDULE AT GLANCE

FRIDAY, 13 FEBRUARY

REGISTRATION

KEYNOTES — BALLROOM 1

9:30 - 10:15 — **Keynote 4 : Prof. Chang Hee Lee,** Korea

10:30 - 11:00 — **TEA BREAK**

TECHNICAL TRACKS

11:00 - 13:00

BALLROOM 1

TRACK 1: RF AND PHOTONICS
Chair : Prof. T.D. Subash
Co-chair : Dr. Ashim Dhakal

TRACK 3: RENEWABLE ENERGY AND GREEN COMPUTING
Chair : Dr. Triratna Bajracharya
Co-Chair : Er. Ajay Kumar Lal

STUDIO 4

TRACK 2: AI AND MACHINE LEARNING
Chair : Dr. Manoj Shakya
Co-chair : Er. Nabin Lamichhane

STUDIO 5

13:00 - 14:00 — **LUNCH BREAK**

TECHNICAL TRACKS

14:00 - 16:00

BALLROOM 1

TRACK 2: AI AND MACHINE LEARNING
Chair : Dr. Pankaj Kumar Dawadi
Co-chair : TBD

STUDIO 5

TRACK 6: ROBOTICS AND AUTOMATION
Chair : Prof. Dr. Roshan Chitrakar
Co-chair : TBD

STUDIO 4

TRACK 5: RECENT TRENDS IN COMPUTING
Chair : Prof. Subarna Shakya
Co-chair : Dr. Yagya Raj Pandey

TRACK 7
Chair : Dr. Deepanjal Shrestha
Co-chair : Er. Kumar Pudashine

16:00 - 17:00

POSTER SESSION — BALLROOM 1

PANEL DISCUSSION: STRENGTHENING THE LINKAGE BETWEEN EMERGING TECHNOLOGIES AND SCHOOL-LEVEL EDUCATION SYSTEMS: — STUDIO 4

TEA BREAK

SCHEDULE AT GLANCE

SATURDAY, 14 FEBRUARY

CLOSING CEREMONY

SATURDAY, 14 FEBRUARY

09:30 - 10:30	REMARKS ON THE CONFERENCE
10:30 - 11:00	BEST PAPER AWARDS, APPRECIATION & CLOSING
11:00 - 12:30	BREAK
12:30 onwards	HALF DAY TOUR

TECHNICAL SESSION

DAY 1 : THURSDAY FEBRUARY 12, 2026

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13:00 – 15:00	**Track 1: RF and Photonics (STUDIO 4)** Chair : Prof. Ram Krishna Maharjan, Pulchowk Campus, TU, Nepal Co-Chair:	**Track 2 : AI and Machine Learning (STUDIO 5)** Chair. : Dr. Suresh Manandhar, Honorary Professor, MBUST Co-Chair: Mr. Birodh Rijal, CEO, Integrated ICT Pvt. Ltd.	**KAIST GDI Workshop** BALLROOM 1
13:00 - 13:30	**Keynote 3 : Microwave Photonics Radars** Prof. Pan Shilong, Assistant to President, Fellow IEEE, OPTICA, SPIE, Nanjing University of Aeronautics and Astronautics, China	**Plenary Talk 3**: Does AI Understand? AI, Understanding, and Agency **Dr. Dovan Rai,** Executive Director, Body and Data, Nepal	
13:30 - 13:45	**Plenary Talk 1** : Optics and Photonics for Drinking Water Safety **Dr. Ashim Dhakal,** Co-Founder, Founding President Phutung Research Institute, Nepal	**Paper ID 114 :** LightClassNet: A Lightweight Convolutional Model for Efficient Image Classification on Edge Devices *Sreejith R., T.Raghavendra Gupta, Nagendar Yamsani, Anshy Singh, Anandakumar Haldorai, Tarak Hussain*	
13:45 - 14:00		**Paper ID 152 :** An AI-Driven CNN–LSTM Framework for Multi-Stage Driver Drowsiness Detection with Real-Time Mobile Alerts *Rajiv Kumar Yadav, Prabhat Kumar Chaudhary, Gargi Jha, Rupesh Dahi Shrestha, Ramesh Kumar Pudasaini*	
14:00 -14:15	**Paper ID 8 :** Artificial Intelligence and Machine Learning-Enabled Framework for Predictive Optimization and Performance Enhancement of Fiber-Optic Photonic Sensors *T.D.Subha, T.D.Subash, T.Suresh, M.Shakunthala*	**Paper ID 56 :** Time-Frequency Attention Network for Interference Mitigation in FMCW Radar *Zhijie Sun, Niraj Tamraka, Yuxuan Gong, Subash T D, Shilong Pan, Bikash Nakarmi*	
14:30 -14:45	**Plenary Talk 2**: Photonics Integrated Sensing and communications **Prof. Yan Lianshan,** Dean School of Information Science and Technology Southwest Jiaotong University, China	**Paper ID 101 :** DKT based AR framework for predictive color learning assessment in children with autism in Nepal *Sachin Shrestha, Amit Shah, Anup Rai, Kiran Shrestha, Binod Shrestha, Anup Thapa*	
14:45 -15:00		**Paper ID 24 :** Interactive Object Removal via Probabilistic Image Inpainting: Integrating Classical and Deep Learning Approaches for Semantic Content Elimination *Newton Shahi Thakuri, Bhuma Devi Acharya, Hari Bhakta Shah*	

15:30 – 17:00	**Track 5: Recent Trends in Computing (STUDIO4)** Chair : Prof. Arun Timalsina, Institute of Engineering, Nepal Co-Chair: Dr. Ram Govinda Aryal, Cosmos College of Engineering and Management, Nepal	**Track 4 : ICT Policy and Digital Governance (STUDIO 5)** Chair. : Prof. Gajendra Sharma, Kathmandu University, Nepal Co-Chair: Mr. Nischal Regmi, South Asian Institute of History and Philosophy, Nepal	**KAIST GDI Workshop** BALLROOM 1
15:30 - 16:00	**Plenary Talk 4**: Key Trends in Modern Computing: Learning for Nepal **Dr. Basanta Joshi,** IOE Pulchowk Campus,TU, Nepal	**Plenary Talk 5**: The Role and Challenges of Daedeok Innopolis as a Forward Base for Korea's Regional Science and Technology Innovation Policy **Prof. Seo Jun Seok,** Associate Professor, Department of Liberal and Interdisciplinary Studies & Director, Regional Corporation Center, Hanbat National University, Korea	
16:00 - 16:15	**Paper ID 32:** Real-Time Monkey Detection Using YOLO with Slack Alerts for Crop Protection *Progress Jung Thapa, Ritu Raj Lamsal, Rajib Subba, Suresh Manandhar, Bishnu P. Gautam*	**Plenary Talk 6** : The Diversity Deficit: Reimagining Digital Inequality in a Stratified Society **Dr. Shailesh Pandey,** Faculty Associate at Southasia Institute for History and Philosophy (SiHP), Nepal	
16:15 – 16:30	**Paper ID 29:** Detecting Malicious Clients in Federated Learning *Saikat Sinha Ray, Dr. Karthikeyan Periyasami*		
16:30 – 16:45	**Paper ID 31:** Cauliflower Disease Detection Using YOLO Models *Indra Prasad Sapkota, Sneha Chhetri, Ashish Sigdel, Sijan Paudel, Nabin Lamichhane, Pranaya Nakarmi*	**Paper ID 62:** AI-Driven Threat Intelligence for Proactive Cyber Defense Using Federated Learning *Rupesh Khadka, Prajwal Rai, Bibek Gautam*	
16:45 – 17:00	**Paper ID 23:** TellO: Adaptive Storytelling in Child-Robot Interaction *Prashidika Tiwari*	**Paper ID 92:** Responsible AI Framework for Ethical and Inclusive Adoption of Artificial Intelligence in Indian Education Systems *Sivakumar Dhakshinamoorthy, Karthikeyan P, V Balaji*	

TECHNICAL SESSION

DAY 2 : FRIDAY FEBRUARY 13, 2026

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11:00 – 13:00	**Track 1 : RF and Photonics (BALLROOM 1)** Chair: Prof. T.D. Subash, Zhejiang Ocean University, China Co-Chair: Dr. Ashim Dhakal, Co-Founder, Founding President Phutung Research Institute, Nepal	**Track 3 : Renewable Energy and Green Computing** Chair: Prof. Triratna , Bajracharya, Academician, NAST, Nepal Co-Chair: Er. Arjun Kumar Lal, NEC , Nepal **(STUDIO 5)**	**Track 2 : AI and Machine Learning (STUDIO 4)** Chair: Dr. Manoj Shakya, KU, Nepal Co-Chair: Er. Nabin Lamichhane, TU, Nepal
11:00 - 11:30	**Plenary Talk 7**: Scalable and Privacy-Preserving Blockchain Architecture for C-V2X with Dynamic Sharding and Zero-Knowledge Proofs **Dr. C.F. Kwong,** HoD of Electrical and Electronic Engineering University of Nottingham Ningbo, China	**Plenary Talk 9** : Decarbonizing the Economy through a Clean and Just Energy Transition Dr. Shree Raj Shakya, Associate Professor, Director, Center of Energy Studies, Institute of Engineering, TU, Nepal	**Plenary Talk 10** : Artificial Intelligence under Data Scarcity: Active Learning **Dr. Ashim Khadka,** Nepal college of Information Technology, Nepal
11:30 - 11:45	**Plenary Talk 8** : Integrated optical sensing and communication and its application in urban areas **Dr. Yaxi Yan,** Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University, Hong Kong SAR, China	**Paper ID 83: Multilevel** Analysis for Predictors of Household Solid Biofuel Use in Nepal *Yash Raj Lamsal, Prabal Sapkota, Madhav Prasad Pandey, Shailendra Kumar Jha, Durga Prasad Dhakal*	**Paper ID 107:** LightClassNet: Multi-Label Telecom Complaint Categorization Using BERT *Sarmila Upreti, Aman Shakya, Basanta Joshi, Anku Jaiswal, Nischal Acharya*
11:45 - 12:00		**Paper ID 141:** DTBA for Smart Grid Optimization: A Case Study on Loss Reduction and Voltage Improvement in Distribution Networks *Yam Krishna Poudel, Nava Raj Karki*	**Paper ID 36:** Analyzing Conversational LLMs for Nepali Municipal Services: A Comparative Study of Retrieval-Augmented and Fine-Tuned Approaches *Aastha Paudel, Bibek Timilsina, N> Lamichhane,Sitaram Pokhrel, Tek Singh Ayer, Y. P. Subedi*
12:00 -12:15	**Paper ID 6 :** StaticSense: Static Object Detection using Wi-Fi Channel State Information *Sulav Gaire, Bibek Chand, Aayush Shrestha,Nabin Lamichhane*	**Paper ID 142:** A Comparative Study of GARCH and Transformer Models for Volatility Forecasting: A Case Study on the iShares Global Clean Energy ETF *Yash RajLamsal, Madhav Prasad Pandey, Prabal Sapkota, Shailendra Kumar Jha*	**Paper ID 59:** NepGradeQA: A Pilot Dataset and Benchmarking System for Nepali Automated Short-Answer Grading *Sudhin Karki, Ankit Regmi, Anish Subedi, N. Lamichhane*
12:15 -12:30	**Paper ID 11:**Design and Development of CAN Log Analyzer with Parameter Tuning and ECU Flashing Validation *Preethi R, Dr.A.R. Aravind, G.Harivignesh, Nagamanikkam N, T Suresh, Dr.T D Subha*	**Paper ID 148:**Multi-Objective Techno-Economic DG Optimization in Radial Distribution Systems Using Hybrid GA-PSO Algorithm *Basanta Pancha, Arjun Mandal, Shyam Sundar Yadav*	**Paper ID 157:** Hybrid Meta-Ensemble Framework for Oral Cancer Detection Using Multispectral Imaging and Advanced Machine Learning *Blessy Y M, Dr. K. Helen Prabha*
12:30 -12:45	**Paper ID 106:** Interference Mitigation and Visualization by PSO Optimized Multi-chirp Waveform and Selective Spectral Filtering in a Photonic Radar System *S M Rezwanul Islam, Sun Zhejie, Mohd Rashidi Che Beson, Pankaj Raj Dawadi, Shilong Pan, B. Nakarmi*		**Paper ID 73:** Word Detection Using Average Height and Inter-Character Gaps *Aayush Rana Magar, Praju Khanal*
12:45 -13:00	**Paper ID 81:** Simulation Study of Optimal Eggbeater Antenna Design for LEO Satellite Ground Station *Susan Hyongoju, Sarbagya Buddhacharya*		**Paper ID 34:** Evaluating CNN Architectures in Multi-Agent PPO for Cooperative Snake Gameplay *Janak Kumar Lal, Pravesh Chapagain, Arun Kumar Timalsina, Pranaya Nakarmi, Rajesh MaharjanPesal Rai*

14:00 – 16:00	**Track 2 : AI and Machine Learning (BALLROOM 1)** Chair. : Dr. Pankaj Dawadi, KU, Nepal Co-Chair:	**Track 5 : Recent Trends in Computing (STUDIO 4)** Chair. : Prof. Subarna Shakya, IOE, TU, Nepal Co-Chair: Dr. Yagya Raj Pandey, KU, Nepal	**Track 6 : IoT, Robotics and Automation (STUDIO 5)** Chair. : Prof. Dr. Roshan Chitrakar, NCIT, Nepal Co-Chair:
14:00 - 14:30	**Plenary Talk 11** :AI and NLP as Catalysts for Inclusive Digital Transformation **Prof. Bal Krishna Bal,** Associate Dean, School of Engineering, KU, Nepal	**Plenary Talk 12** : Emerging Technologies in the Digital Tourism Ecosystem: Redefining Intelligent Competitiveness and Mobility **Dr. Deepanjal Shrestha,** Pokhara University, Nepal	**Plenary Talk 13**: **Dr. Ramesh Marikhu,** CEO, Almonds AI , Nepal
14:30 - 14:45	**Paper ID 88: Dee**p Learning Based Vegetable Price Forecasting for Nepalese Markets: An STL Attention LSTM Approach *Pranaya Nakarmi, Nabin Lamichhane, Nabaraj Subedi, Janak Kumar Lal, Pravin Poudel, B. Poudel*	**Paper ID 69:** Detecting Inappropriate AI-Generated Children's Content: A Multi-Feature Framework for Parental Control *Arbin Shrestha, Asmita Gurau, Bitarag Karki, Shailesh Bahadur Pandey*	**Paper ID 70:** Data Crush FPGA based Real-Time Data Compression using Run-Length Encoding (RLE) *K.A. Mohamed Junaid, T.D. Subha, Pulagam Kundana Sree, V.S. Prabhu. Ch. Vasantha, Poojitha*
14:45 – 15:00	**Paper ID 149:** Enhancing Pharmaceutical Sales Forecasting using CNN-LSTM Model with Seasonal Smoothing *Alisha Shrestha, Ashim Khadka*	**Paper ID 150:** An Efficient Deep Learning Based Mobile Application for Pigeon Pea Disease Classification *Prabhat Kumar Chaudhary, Santosh Kumar Chaudhary, Ujjwal Kumar Karn, Deepika Neupane, Rajiv Kumar Yada, Deepesh Prakash Guragain, B. Shrestha*	**Paper ID 85:** An Efficient Infravision Thermal-Infrared Human Detection System for Low-Visibility Surveillance *Kailash Pantha, Biman Rimal, Kalyan Kumar Shrestha, David Chieng, Jeevan Koiri, Ashma Yonghang, Aniket Kumar Gupt, Anamol Khadka*
15:00 – 15:15	**Paper ID 134:** Secure Aggregation-Enabled Federated Vision Transformer Framework for Tissue Image Analysis *P Jayaraju, Narendra B Mustare, K Kiran, R Agarwal, Keerthika J, A M Viswa Bharathy, S. Siva Shankar*	**Paper ID 93:** The Limits of Macroscopic Analysis in Global Protest Dynamics: Evaluating Static Clustering vs. Microscopic Complexity *Krishnanand Badu, Sumitra Gyawali, Shailesh Pandey, Nischal Regmi*	**Paper ID 49:** Embedded vision system using raspberry pi for ripe strawberry detection and localization using YOLOv5s-Cghostnet *Niraj Tamrakar, Myeongyong Kang, Hyeon Tae Kim, Sang-min Kim, Jeong-in Choi*
15:15 – 15:30	**Paper ID 94:** Multi-Class Fault Type Classification Using Sequence Components and Wavelet Features with Comparative Study of Machine Learning Models and Neural Networks *Santosh Kumar Chaudhary, Subash Khanal, Prabhat Kumar Chaudhary, Basanta Pancha, J.K. Yadav*	**Paper ID 130:** Retina Net-Health: Transformer – Based Retinal Image Classification for Diabetic Retinopathy Detection *D .Vamsi, Sachin Chandravadan Karad, Bura Vijay Kumar, Neeraj Varshney, Minu Balakrishnan, Pothuraju Rajarajeswari, Sunder R*	**Paper ID 119:** AI-Powered Health Monitoring Using IoT Devices and Wearable Technologies for Continuous Patient Assessment *Sanjay Kurkute, Jai Singh W., R Sujitha, Ajitesh Kumar, Keerthika J, Ravi Kumar*
15:30 – 15:45	**Paper ID 145:** Impact of AI-Assisted Online Compilers in Programming Education *Amrit Poudel, Pratikshya Shrestha*	**Paper ID 139:** Design and Implementation of a Blockchain-based Donation DApp for Transparent Charity Transactions *Kushal Acharya, Reyone Chaudhary, Rujan Rajlawat, Govinda Gautam, Pranaya Nakarmi, N. Lamichhane*	**Paper ID 64:** Autonomous Navigation in GPS-Denied Environments Using Visual SLAM *Lucky Babu Jayswal, Samim Khadka, Anil Kumar Shah, Bibek Yonzan, Biman Rimal, Nawraj Bhattarai, David Chieng, Bikash Nakarmi*
15:45 – 16:00	**Paper ID 10:** Design and Implementation of the Mobile Based financial Management System with Machine Learning enabled Spending expenses *R Preethi, Dhaneshwara M , Prem Kumar P , Dr.T D Subha*	**Paper ID 143:** A Parallel Hardware Architecture for the Twiddless Fast Fourier Transform (TFFT) *Rajesh Kumar Mahato, Madhav Prasad Pandey, Sushant Adhikari*	**Paper ID 108:** Frequency-Dependent Energy Comparison Between Sleep Mode and MOSFET Power Gating for Low-Duty GSM SIM Modules in IoT Data Loggers Joseph Thapa Magar, Srijan Rajbamshi, B. Nakarmi

DAY 2: FRIDAY FEBRUARY 13, 2026