Cybersecurity4D 2025 Programme

Theme: Proactive Resilience: Securing AI and IoT Ecosystems through Integrated Cybersecurity Strategies

Venue: Gqeberha, South Africa

Dates: 18–22 August 2025

🔷 Pre-Conference Activities

Venue: 1st Floor, Kwantu Towers, Vuyisile Mini Square, No.3 Govani Mbeki Avenue, Gqeberha, South Africa

Dates: 18–19 August 2025

Day 1 – Monday, 18 August 2025 Cybersecurity Challenge (Research Focus)

Programme Director: Dr. Andre Henney (UWC)

- **09:00 – 13:00** | Cybersecurity Challenge – Round 1 (Research Challenge)
  - Scenario-based challenge
- **13:00 – 14:00** | Lunch
- **14:00 – 18:00** | Cybersecurity Challenge – Round 2 (Reporting & Presentations)

Day 2 – Tuesday, 19 August 2025 Cybersecurity Challenge (CTF Focus)

Programme Director: Dr. Andre Henney (UWC)

- **09:00 – 13:00** | Cybersecurity Challenge – Round 1 (CTF Challenge)
  - Live simulations and team-based competition
- **13:00 – 14:00** | Lunch
- **14:00 – 17:00** | Cybersecurity Challenge – Final Round (CTF Challenge)

PAICTA. Cybersecurity 4D 2025

🔷 Main Conference Programme

Dates: 20 -22 August 2025

Venue: The Athenaeum, 7 Athol Fugard Terrace, Gqeberha Central

Zoom Link:
https://us02web.zoom.us/j/81808597540?pwd=Tz2L9FmbsbhYHwUo8ar6EPv4oifuEx.1

Meeting ID: 818 0859 7540

Passcode: CS4D@25

Day 1 – Wednesday, 20 August 2025 Official Opening and Industry Focus

Programme Director: Dr. Josiah Chavula (UCT)

- **Official Opening: 08:30 – 10:30**
- **08:30 – 09:00 |** Registration
- **09:00 – 09:15** | Opening Remarks
  - **Chairperson:** Prof. Attlee M. Gamundani
  - **Technical Chairperson:** Prof. Omowunmi Isafiade
  - **PAICTA Welcome:** Mr. Sonwabo Mdwaba
- **09:15 – 09:35** | Mandela Bay Development Agency
- **09:35 – 10:00** | Official Opening of the Conference by MMC Economic Development Tourism and Agriculture – Cllr Bassie Kamana
- **10:00 – 10:30** | Guest Speaker from ICASA
  - **Speaker:** Mr Silas Phoshoko, Cybersecurity Analyst
- **10:30 - 10:35:** Closing Remarks and Breakdown for the day

----------Technical Programme----------

- **11:00 – 12:00** | Industry Panel 1:
  - **Topic:** ***Forging Ahead: Industry Leadership in AI and IoT Cybersecurity***
  - **Moderator:** Dr Jabu Mtsweni
  - **Panellists:** Ms. Sithembile Songo, Gary Peel, Nicole Kotton
- **12:00 – 13:00** | Technical Session
  - ***Presentation 1***: Mr Rudi van Rooyen (Security Engineer) | CheckPoint Software Technologies
  - ***Presentation 2***: Mr. Owen J | *Head of Cyber Architecture – Imperial Brands PLC*
  - ***Presentation 3:*** Mr Ravi Sankar Susarla | Software Engineer – *The Future of Artificial Intelligence and Software Engineering*
- **13:00 – 14:00** | Lunch

- **14:00 – 15:30** | Academic Papers: Theme 1 – Proactive AI and IoT Security
  - **Chaired by:** Prof. Mercy Chitauro
    - *Paper ID: 2293 -* ***Federated Learning for Android Malware Detection*** **|** *Rehanatou Bouriméré Coulibaly, Tegawende François Bissyande, Rodrique Kafando, Aminata Sabane and Abdoul Kader Kabore*
    - *Paper ID: 3556* ***– Deep Learning for Ransomware Detection in Encrypted Traffic*** | *Christopher Lamprecht and Josiah Chavula*
    - *Paper ID: 9870 –* ***AI-Powered Network Intruder Alert System using Machine Learning*** | *Amalia Augustus, Chris Junior Shane Thomas and Attlee M. Gamundani*
    - *Paper ID:5650 -* ***Security Assessment of Mobile Banking Apps in West African Economic and Monetary Union*** | *Alioune Diallo, Aicha War, Moustapha Awwalou Diouf, Jordan Samhi, Steven Arzt, Tegawendé F. Bissyande and Jacques Klein*
    - *Paper ID: 4139 -* ***Autonomous Penetration Testing with Cyberguardian: A Large Language Model-based Approach*** | *Jeslin Hashly, Alby Shinoj and Jestin K Sunil*
- **15:30 – 16:00** | Reflections for the Day

PAICTA. Cybersecurity 4D 2025

Day 2 – Thursday, 21 August 2025 Collaboration, Capacity Building and Governance

Programme Director: Prof. Omowunmi Isafiade

- **09:00 – 09:45** | Keynote Address
  - AI Regulation and Ethics in African Cybersecurity
  - **Speaker:** Omotayo F. Salako, Senior IT Risk Governance Management Bank of America
- **09:45 – 11:15** | Academic Papers: Theme 2 – Capacity Building and Cybersecurity Education
  - **Chaired by:** Prof. Wallace Chigona
    - *Paper ID:5164 -* ***A Preliminary User Authorisation Model for Modern Public Cloud Storage Services*** | *Stanford Musarurwa, Attlee Gamundani and Fungai Bhunu Shava*
    - *Paper ID:7045 -* ***AI4DVault: A Registry Architecture for Securing the AI4D Supply Chain*** | *Aminata Sabané and Tegawendé F. Bissyandé*
    - *Paper ID: 7871 -* ***Enhancing Cybersecurity Resilience: Addressing Emerging Technology Challenges in Developing Countries Using Activity Theory*** | *Dina Moloja*
- **11:15 – 12:30** | Technical Talk
  - Future Digital Workforce
  - *Presenter: Noluvayo Gqadu*
- **12:30 – 14:00** | Lunch & Networking
- **14:00 – 15:30** | Academic Papers: Theme 3 – Policy, Regulation and Data Privacy
  - **Chaired by:** Prof. Fungai Bhunu Shava
    - *Paper ID: 8071 -* ***ContractTrace: Retracing Smart Contract Versions for Security Analyses*** | *Fatou Ndiaye Mbodji, Vinny Adjibi, Moustapha Awwalou Diouf, Gervais Mendy, Kui Liu, Jacques Klein and Tegawende Bissyande*
    - *Paper ID: 8264 -* ***Analysing Internet of Things and Cybersecurity Impact in the Namibia Mining Industry*** | *Hiatsita Shipupeni Shinana, Suama Hamunyela and Ambrose Azeta*
    - *Paper ID: 8690 -* ***Assessing the capacity and capability of Law Enforcement in dealing with Cybercrime: The case of Nelspruit*** | *Zenzo Polite Ncube, Nkosana Koos Makhaya and Thembinkosi Mathebula*
- **14:00 – 15:30** | Cybersecurity Awareness Spotlight Presentations by Team Captains – Taking Cybersecurity Awareness to the Grassroots - ***Fireside Chat***
  - *Speakers: NUST Team Captain; UWC Team Captain; CUT Team Captain & BU Team Captain. Moderator:* Noluvayo Gqadu
- **15:30 – 16:00** | Reflections for the Day

Day 3 – Friday, 22 August 2025 Youth, Innovation and Closing Programme

Programme Director: Dr. Andre Henney

- **09:00 – 11:30** | Academic Papers: Theme 4 – Behavioural Aspects and Human-Centred Security
    - **Chaired by:** Mr. Phumzile Nomnga
        - *Paper ID: 8780* - ***Detection of poisonous data in the training set of machine learning models*** | *Adolfo Jara Gavilanes, Andres Marcelo Ortiz Jimenez and Badriya El Kouch*
        - *Paper ID: 9174* -***Perceptions of South African Farmers towards Cybersecurity in Smart Farming Technologies: A Quantitative Analysis*** | *Alfred Kgopa*
        - *Paper ID:9181* - ***Combined approaches for cyber security awareness in South Africa*** | *Namosha Veerasamy, Zubeida Khan, Danielle Badenhorst, Oyena Mahlasela, Mamello Matshali and Ntomfuthi Ntshangase*
        - *Paper ID:3703* - ***A Comparative Study of YOLOv3 and YOLOv10 for hCAPTCHA Challenge Solving*** | *Vinod Dilakchand Bisen and Omowunmi E Isafiade*
        - *Paper ID:8738* - ***Web Application Development and Cybersecurity: Integrating APIs, Logging, and Defense Mechanisms***| *Jyoti Singh*
- **11:30 – 11:40 |** Cybersecurity Challenge Awards
- **11:40 – 11:50 |** Closing Remarks & Vote of Thanks
    - **Cybersecurity4D Organising Committee:** Chairs
    - **PAICTA President:** Mr. Sonwabo Mdwaba
- **12:00 – 14:00** | **Lunch and Networking**