



Center for International AI Governance and Innovation

Advancing Safe, Secure, and Trustworthy AI Adoption in Critical Infrastructure

ACADEMIC & RESEARCH PROFILE | 2026

CIAGI is an independent international research and collaboration initiative advancing trustworthy AI governance, assurance, and safe operational adoption for critical infrastructure through research, open frameworks, applied validation, and strategic partnerships.

01 Research Challenges

Artificial intelligence is advancing faster than organizations can establish governance, assurance, and operational controls for its safe deployment. In critical infrastructure, this challenge is amplified because AI-enabled decisions can directly affect physical systems, making trustworthy AI governance and operational validation an urgent interdisciplinary research priority.

Fragmented AI Governance Research

AI governance research remains fragmented across disciplines, limiting the development of unified approaches for critical infrastructure.

Theory–Practice Gap

A persistent gap exists between governance theory and the operational realities of deployed AI systems.

Limited Empirical Validation

Cyber-physical AI governance lacks empirical validation in realistic operational environments.

Interdisciplinary Collaboration

Interdisciplinary collaboration is needed to bridge AI governance research, operational practice, and standards development.

02 Flagship Research Contribution

AAIGF-E

Adaptive AI Governance Framework for the Electric Sector

AAIGF-E is CIAGI's flagship research contribution addressing AI governance for critical infrastructure. Published and publicly available, it is intended as an open research platform encouraging academic collaboration, empirical validation, and continuous improvement.

- Mapped to NERC CIP, NIST AI RMF, MITRE ATLAS, ISA/IEC 62443, and ISO/IEC 42001
- Designed to evolve through research, pilot studies, and international collaboration

111

Governance Controls

11

Governance Domains

7

Concurrent Lifecycle Anchors

5

Mapped Standards

03 Research Themes

AI Governance and Assurance	Operational Validation and Human Oversight	Critical Infrastructure and OT/ICS Security	Standards, Policy and Responsible AI
-----------------------------	--	---	--------------------------------------

04 Research Impact

- AAIGF-E v1.0 — Published flagship research framework
- IEEE conference publications, peer-reviewed research, and open-access publications
- Standards engagement and professional society contributions
- Applied validation through CPAG Lab
- International research collaborations
- Continuous research and framework evolution

05 Research Lifecycle



A continuous research cycle in which frameworks are validated, refined, and shared through evidence and collaboration.

06 CPAG Lab — Cyber-Physical AI Governance Laboratory

OVERVIEW

CPAG Lab is CIAGI's applied research and validation laboratory for AI governance in critical infrastructure.

RESEARCH OBJECTIVE

Transform AI governance from documented controls into operational evidence through practical validation, experimentation, and collaborative research.

HOW CPAG LAB SUPPORTS AAIGF-E

CPAG Lab operationalizes AAIGF-E by validating, demonstrating, and continuously refining governance controls through experimentation, operational evidence, and collaborative research before deployment in critical infrastructure environments.

CORE FUNCTIONS

- Validate AI governance controls
- Test AI assurance and human oversight
- Conduct OT/ICS cybersecurity experimentation
- Support pilot studies and operational validation
- Enable interdisciplinary research and international collaboration
- Develop modular laboratory environments for academic institutions and research partners

CURRENT STATUS

- AAIGF-E v1.0 published and publicly available
- CPAG Lab architecture and pilot capability under phased development
- Pilot research collaborations under development
- International research collaborations active
- AAIGF-E v2.0 in development

07 Leadership

Suhail Ahmad Rana

Founder & Executive Director

More than 18 years of experience in cybersecurity governance, risk, compliance, and AI governance across critical infrastructure environments. Co-author of AAIGF-E v1.0 and Founder of CIAGI. Led cybersecurity governance activities for a national smart city critical infrastructure program in Saudi Arabia.

IEEE Senior Member | ISA Senior Member | CISA | CISM | CRISC | AAIA | AAISM | ISO/IEC 27001 Lead Auditor | ISO/IEC 42001 Lead Implementer

Dr. Dinara Kozhamzharova

Co-Founder & Academic Lead

Academic researcher specializing in artificial intelligence, the Internet of Things, smart infrastructure, and intelligent systems. Leads CIAGI's academic research and international research collaborations.

08 Strategic Advisors

Prof. Eric T. Matson

Purdue University

Artificial Intelligence · Multiagent Systems · Robotics and Autonomous Systems

Prof. Seunghwan Myeong

Inha University

AI Governance · Public Policy · Smart Cities

09 Collaborate with CIAGI

Joint Research

Collaborate on interdisciplinary research addressing AI governance, assurance, operational validation, human oversight, and critical infrastructure.

Academic Partnerships

Develop joint research projects, publications, graduate supervision, workshops, conferences, and long-term institutional collaborations.

Research Network

Join an international community of researchers, practitioners, standards experts, and critical infrastructure professionals advancing trustworthy AI through collaborative research, pilot studies, and open knowledge sharing.

Collaborate with CIAGI to advance trustworthy AI through international research, open collaboration, and applied innovation for the benefit of critical infrastructure, academia, industry, and society.

