

CBMS 2025 – Special Track:

Security and Privacy in Health Systems—Addressing Technology, Society, and Law

About the Special Track

The rapid digital transformation of healthcare—driven by eHealth, AI, IoT, and other emerging technologies—offers significant advancements in patient care, diagnostics, and operational efficiency. However, this evolution also introduces critical challenges in safeguarding the security and privacy of sensitive medical data. This special track examines the intersection of technological innovation, societal expectations, and legal compliance to create robust, secure, and privacy-preserving healthcare systems.

This track aims to advance cutting-edge research and practical solutions for embedding technical security and privacy measures into the design of digital health systems. At the same time, it addresses legal complexities, such as compliance with regulations like GDPR and HIPAA, and it fosters transparency, and building trust among stakeholders while ensuring solutions meet both technical and ethical standards. A key focus is on developing solutions that align with privacy principles while meeting technical requirements for robustness, scalability, and usability.

Key areas of interest include the development of privacy-enhancing technologies (PETs) to empower stakeholders with data control, explainable AI for trustworthy decision-making, and legally compliant tools that support data subject rights. The track also explores the usability challenges of technologies such as medical IoT and large language models (LLMs) in healthcare, alongside ethical dilemmas in managing and utilizing healthcare data.

We invite experts from diverse disciplines—technology, healthcare, policy, and social science to name a few— to submit original contributions on the following themes:

Key Themes

- **Security and Privacy by Design** in healthcare systems, emphasizing proactive integration of security and privacy measures.
- **Robust and scalable security and privacy mechanisms**, ensuring the protection of healthcare systems against evolving threats.
- **Explainable and trustworthy mechanisms** to improve transparency and user trust in healthcare technologies.
- **Privacy-enhancing technologies (PETs)** enabling stakeholders to manage their health data effectively.
- **Usable tools supporting data subject rights**, including consent management, access, rectification, and erasure.
- **Privacy and security challenges of IoT, large language models (LLMs), and AI applications** in healthcare, alongside potential solutions.

- **Interdisciplinary approaches** integrating legal, technological, and societal perspectives for secure and privacy-respecting healthcare systems.
- **Legal, ethical, and compliance frameworks** addressing privacy regulations and fostering trust in healthcare systems.
- **Frameworks and tools for secure access to health data** for both private and public stakeholders.
- **Privacy and security considerations for public and private health data sources** in a rapidly evolving digital landscape.

Submission Information

We welcome submissions that present original, unpublished research addressing the themes of our special track. Submissions should contribute to advancing technical, societal, or legal aspects of privacy and security in healthcare systems and meet the following criteria:

- **Submission Type:** This special track accepts regular papers only.
- **Regular Paper Format:** Submissions must adhere to the IEEE two-column format, available at [IEEE Templates](#). Authors may choose either LaTeX or Microsoft Word templates.
- **Paper Length:** Submissions should be a maximum of **6 pages** (including references). However, following the regulations for Regular Papers in CBMS, it is possible to extend the paper length up to 8 pages by paying for each extra page. Check [fees](#) for more information.
- **Submission Process:** Papers must be submitted electronically via the **EasyChair conference management system**, which will be available from **January 15, 2025**.

Review and Publication

- All submissions will be peer-reviewed by at least **two Program Committee members**.
- Accepted papers will be included in the conference proceedings and published in **IEEE Xplore**, contingent on registration, physical attendance, and presentation by at least one author.
- **No-Show Policy:** Papers not presented at the conference will not be included in the proceedings.

Important Dates

- **Paper Submission Deadline:** March 7, 2025
 - **Notification of Acceptance:** April 20, 2025
 - **Camera-Ready Deadline:** April 30, 2025
-

Why Submit to Our Special Track?

This special track offers a unique platform to:

- Share innovative research addressing critical challenges in healthcare security and privacy.
- Collaborate with interdisciplinary experts in technology, law, and healthcare.
- Gain visibility and recognition through publication in **IEEE Xplore**.

Join us in shaping the future of secure and privacy-preserving healthcare systems!

Organizing Committee

- Leonardo Horn Iwaya, Karlstad University: [Leonardo.Iwaya@kau.se]
 - Farzaneh Karegar, Karlstad University: [Farzaneh.karegar@kau.se]
 - Sana Rouis Skandrani, Karlstad University: [sana.skandrani@kau.se]
-