GLOBAL RESEARCH COUNCIL

GRC Annual Meeting 2025 Side Event

Title: AI-Powered Collaborative Databases for Enhanced Research Utilization
Date: 18th May 2025
Time: 14:45 – 16:15 pm.
Venue: The Garage, Riyadh, Saudi Arabia
Host: National Research Council of Thailand (NRCT)

Background and Rationale

As the world faces increasingly complex and interconnected global challenges, such as climate change, public health issues, sustainable development and social inequality, the effective utilization of research outcomes is increasingly critical for addressing global challenges. However, even though there is a lot of valuable research, there is still a gap between research production and its practical application.

The rise of Artificial Intelligence (AI) brings new opportunities to bridge this gap. AI can help organize vast and diverse research outputs, analyze hidden connections across disciplines, suggest innovative solutions, and deliver information in ways that are faster, smarter, and more user-friendly. AI-powered collaborative databases can transform how researchers, policymakers, and practitioners access and use research, making it easier to find relevant knowledge and apply it effectively.

This side event will highlight two aspects:

(1) the construction of user-friendly, interoperable research databases that enable seamless access, sharing, and integration of knowledge across disciplines and sectors; and

(2) the deployment of AI tools to enhance data analysis, generate meaningful visualizations, and uncover cross-disciplinary insights that would otherwise remain hidden.

Importantly, this topic also emphasizes the strategic role of research funding agencies. The funding agencies are not only responsible for supporting research creation, but they also play a vital role in connecting research outcomes with societal needs. By developing smart database systems and leveraging AI-powered analytics, funding agencies can actively shape how research is accessed, shared, and translated into real-world impact. In doing so, we can build research ecosystems that are more open, collaborative, and impactful. This will not only support researchers in their work but also enable governments, institutions, and communities to better utilize research to inform decisions and solve problems.

This topic also touches on important considerations such as ethical use of data, open access, user-centered system design, and the importance of cross-disciplinary collaboration. It represents a forward-thinking approach to research management that aligns with global trends towards more open, collaborative, and impactful scientific endeavors.

Objectives

The event aims to achieve the following objectives:

1. To explore how AI can enhance research utilization and cross-disciplinary collaboration.
2. To identify challenges and opportunities in designing and managing collaborative research databases.
3. To highlight case studies and best practices in AI-powered research applications.

Agenda: 14:45 PM - 16:30 PM

14:30	Registration
14:45 – 14:50	Opening Session - Welcome Remarks by Ms. Saowanee Mungsujaritkran Deputy Executive Director of the National Research Council of Thailand (NRCT)
14:50 – 14:55	Introduction of the event topic and objectives
14:55 - 15:35	Panel Discussion <u>Scope of Discussion</u> - How can AI-powered research databases help close the gap between research production and its real-world application? - What are the key challenges, opportunities, and ethical considerations in designing and implementing AI-driven collaborative research databases that support impactful research utilization? - Case studies <u>Panelist</u> 1. Mr. Pralong Dumrongthai - Committee on the Development and Monitoring of the Strategic Flagship Program, National Research Council of Thailand (NRCT); Former Director General of Pollution Control Department of Thailand 2. Prof. Dr. Nenad Filipović - Acting Director of the Science Fund of the Republic of Serbia 3. Dr. Claire Giry – President of the French National Research Agency (ANR) Moderator: Prof.Dr. Peerasak Srinives - Academic Advisory Committee on Research and Innovation in Economic and Agricultural Development, NRCT
15:35 – 16:00	Q&A Session and Open Floor Discussion
16:00 – 16:05	Wrap up
16:05	Closing Remarks

<u>Meeting Report</u>

The session opened with welcome remarks by Ms. Saowanee Mungsujaritkarn, Deputy Executive Director of the National Research Council of Thailand (NRCT). She emphasized that collaborative research data can help move research beyond purely academic work toward real applications that benefit researchers, funders, policymakers, and society at large. Her message was about using research not only for knowledge exchange but also for building stronger connections and creating broader value.

After the opening, the speakers for the session were introduced. They included Mr. Pralong Dumrongthai, Committee on the Development and Monitoring of the Strategic Flagship Program, NRCT; Prof. Dr. Nenad Filipović, Acting Director of the Science Fund of Serbia; and Dr. Claire Giry, President of the French National Research Agency (ANR). The session was moderated by Prof. Dr. Peerasak Srinives, Academic Advisory Committee member on Research and Innovation in Economy and Agriculture, NRCT.

With these introductions, the floor was handed over to the moderator to begin the panel discussions.

Key Points of Discussion

1. AI-powered Databases for Environmental Management Research – Thai Experience

by Mr. Pralong Dumrongthai, Committee on the Development and Monitoring of the Strategic Flagship Program, National Research Council of Thailand (NRCT)

Mr. Pralong Dumrongthai highlighted Thailand's experiences in using AI for environmental management research, particularly in forest fires and air pollution (PM2.5). Thailand's geography makes this problem serious. About 32% of the country is covered by forest, and 60% is used for agriculture. This means fire in farmland often spreads into forests. Data show that natural wildfires are extremely rare, less than 0.01%. Most fires are caused by human activity, such as burning fields for planting, collecting forest products, or hunting animals.

He explained that the National Research Council of Thailand (NRCT) and Chiang Mai University have worked together to integrate big data with AI to predict fire-prone areas, detect real-time forest fires through satellite imagery and drones, and support decision-making for local authorities. The NRCT has supported many projects that use AI and Big Data for wildfire and PM2.5 management. Applications such as FireD and TamFire (Tam in Thai means "follow") are examples of tools developed to map fire hotspots and support the work of fire management centers. These tools not only help conserve forests but also reduce the level of PM2.5 pollution that harms people and the environment.

AI tools, combined with big data, allow policymakers to better understand root causes, prioritize interventions, and design more effective funding strategies. However, he also highlighted challenges, such as limited funding, incomplete data, and lack of coordination between government agencies. Nonetheless, he emphasized that developing centralized platforms and investing in AI infrastructure remain critical priorities.

2. Research Funding and AI Integration – Serbia Experience

By Prof. Dr. Nenad Filipović - Acting Director of the Science Fund of the Republic of Serbia

Prof. Dr. Nenad Filipović presented the perspective of the Science Fund of Serbia, describing how his organization supports projects across disciplines, such as biomedical sciences, energy, agriculture, and digital technologies. One of the major challenges, he emphasized, is not only funding research but ensuring that the projects generate long-term impact and real benefits for society.

AI, he noted, can play a crucial role in this process by linking project data with external sources such as patents, scientific publications, and public health statistics. This integration helps provide a clearer picture of the outcomes and relevance of funded research.

He provided examples, including research on functional food additives now being applied in the food industry and rare disease studies that have led to the establishment of new preclinical laboratories. These success stories demonstrate how AI-powered analysis can cluster projects, detect patterns, and guide future funding strategies.

Prof. Dr. Filipović concluded by stressing that transparency, accountability, and ethical oversight are essential in applying AI to research funding. Protecting privacy, ensuring human oversight, and preventing algorithmic bias are central principles that must guide every stage of this work.

3. Perspectives from France

by Dr. Claire Giry – President of the French National Research Agency (ANR)

Dr. Claire Giry shared the French perspective on leveraging AI to connect research outcomes with society by making information easier to find and understand. She gave examples such as automatic translation, intelligent indexing, and cross-disciplinary analysis.

She stressed that AI must be designed from the beginning to be inclusive and fair. High-quality datasets are essential, and they must be collected and managed with respect for privacy and non-discrimination. She also pointed out the importance of cooperation across cultures and disciplines, since this increases the value of research and innovation.

Another important issue she raised was openness and sovereignty of data. Access to data is not automatic, and funding agencies must ensure equal opportunities for all communities. She called for infrastructures that are open by design, interoperable, and sustainable. Agencies like ANR play a key role in setting frameworks and supporting data sharing while ensuring privacy and security.

She concluded that without standards for transparency and credibility, AI will not succeed. Therefore, building shared infrastructures and promoting inclusivity in data collection are central tasks for the future.

Reflections from the Panel and Open Discussion

Following the panel, participants engaged in an interactive discussion that highlighted both practical challenges and opportunities in applying AI to research funding and policy. Several participants raised questions about the types of databases that should be developed, and how such systems could support decision-making in real-world contexts.

Participants discussed how AI could be trained to distinguish between natural and human-made causes of fire, and how this information could guide national policies and funding priorities. It was noted that the ability of AI to integrate diverse sources of data, such as satellite images, drone footage, and local environmental reports, provides a more complete view of the problem and supports more effective interventions.

Speakers also underlined that building high-quality, consistent, and interoperable datasets remains a major challenge. Cooperation across government agencies, international partners, and local communities is critical to ensuring that data systems truly serve their purpose. Some participants emphasized that AI should not be seen as a replacement for human judgment, but as a tool that strengthens decision-making by providing timely and evidence-based insights.

The discussion further touched on ethical and social considerations. Questions were raised about protecting data privacy, ensuring equal access to AI tools, and avoiding biases that might reinforce inequality. Panelists agreed that transparency, accountability, and human oversight are essential in the design and use of AI-driven collaborative databases.

The session concluded with a consensus that AI-powered collaborative databases hold strong potential to bridge the gap between research production and real-world application. However, success depends on inclusive design, reliable data, ethical safeguards, and sustained international cooperation.