



INSTRUCTIONS

- **Organize by projects into small discussion groups.**
- **Choose a space to meet together.**
- **Appoint a scribe/note-taker.**
- **Use the tabs (on the left) in this document to make notes for your group's discussion.**
- **For existing CENTRA Projects listed on [CENTRA's website](#), feel free to use one of the tabs to update your project**
- **Make a plan to meet again online or in-person to continue work/discussion.**

Resources:

- Presenters, titles, and presentations: [SCHED Program](#)
- Link to this document: [w CENTRA 9 Group Discussion Notes.docx](#)



Agentic AI Research Platform

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GROUP 1:

Please check one of the following:

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Project Name/Title *(and Acronym, if any)*

Coming soon...

Key Topics *(up to 5)*

Start Date: month day year *(please spell out the month, ex: May 1, 2024)*

End Date: month day year *(please spell out the month, ex: May 1, 2024)*

Update Date: month day year *(please spell out the month, ex: May 1, 2024)*

(If updating previously submitted projects. Current list: <https://www.globalcentra.org/projects/>)

CENTRA Primary Investigator(s):

(Name, Email, Position title, Institution, Country)

Michael Elliott, mielliott@ufl.edu, PhD Student, University of Florida, United States

Jose Fortes, fortes@ufl.edu, Professor, University of Florida, United States

**Team Members and Affiliations:**

(Please group institution members together and format as Institution (Country): Name, Email, Position title)

- PO-HAO HSU, 2403052@nlar.org.tw, Project Research Assistant, National Center for High-performance Computing
- Chayada Thumvavichai, chayadathamvichai@gmail.com, bachelor degree student, Thammasat University

Contact Person and email:

Michael Elliott, mielliott@ufl.edu

Short summary (approximately: 200-600 words). Suggested content may include:

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- *Explain the approach/methodology, highlighting any inherent risks of the research work*
- *Briefly describe the expected key outcomes (across the knowledge-to-value chain, i.e., papers, models, dissertations, prototypes, early demonstrators)*
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- *markets and/or even new research areas and the uniqueness of this transnational collaboration*

Coming soon

If available, please list any references, publications, and URL of the project:

Application: <https://ichatbio.org>

iChatBio SDK: <https://github.com/acislab/ichatbio-sdk>

Living Data 2025 extended abstract: <https://doi.org/10.3897/biss.9.181968>



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Things that came up in our 1/12/2026 meeting:

- Anyone interested in contributing an expert agent can use the iChatBio SDK (see link above)
- User authorization to use agents that interact with sensitive data
- Integration with an MCP server registry, we could have an expert agent that can make use of selected MCP servers
- What's the best way to evaluate these kinds of systems?
- Everyone has data that an expert agent could be designed to use 😊
- An expert agent for NDP: <https://nationaldataplatfrom.org/>
- iChatBio could potentially be repurposed for a tutoring application (I don't remember the specific context that was suggested...)
- Next meeting (1/13/2026), we should also talk about the work presented by Ming Zhao ("Agentic AI-based Personalized Coaching for Social Health of Older Adults with Early Cognitive Decline")
- Baron is working on RAG for customer service agents



Low-powered IoT Infrastructure in Resource-Constrained Areas

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Project Name/Title *(and Acronym, if any)*

Composable Serverless Workflows for Cross-Platform FaaS Deployments: Middleware and Applications

Key Topics *(up to 5)*

- IoT and Sensors
- Function-as-a-Service
- Cloud-Edge Continuum Computing

Start Date: month day year *(please spell out the month, ex: May 1, 2024)*

Feb. 24th, 2024

End Date: month day year *(please spell out the month, ex: May 1, 2024)*

-

Update Date: month day year *(please spell out the month, ex: May 1, 2024)*

(If updating previously submitted projects. Current list: <https://www.globalcentra.org/projects/>)

Jan. 13th, 2026

**CENTRA Primary Investigator(s):**

(Name, Email, Position title, Institution, Country)

- Renato Figueiredo, Professor, Oregon State University, United States
- Shinji Shimojo, Professor, Aomori University, United States

Team Members and Affiliations:

(Please group institution members together and format as Institution (Country): Name, Email, Position title)

- Wassapon Watanakesuntorn, wassapon.w@osaka-u.ac.jp, Specially Appointed Assistant Professor, The University of Osaka, Japan
- Susumu Date, date@cmc.osaka-u.ac.jp, Professor, The University of Osaka, Japan
- Akito Okuyama, Student, Aomori University, Japan
- Wanida Putthividhya, pwanida@tu.ac.th, Thammasat University, Thailand
- Krittika Lertsawat, krittikanonoise@gmail.com, Soundgood Project, Thailand
- Sri Chusri Haryanti, Universitas YARSI, Indonesia

Contact Person and email:

- Wassapon Watanakesuntorn, wassapon.w@osaka-u.ac.jp

Short summary (approximately: 200-600 words). Suggested content may include:

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- Explain the approach/methodology, highlighting any inherent risks of the research work
- Briefly describe the expected key outcomes (across the knowledge-to-value chain, i.e., papers, models, dissertations, prototypes, early demonstrators)
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Rural and mountainous areas are prone to encounters with wildlife due to their proximity to forests, which can pose dangers to property and local residents. To improve the safety of people living in these areas, an automated warning system is required. Such a system should be developed and deployed using devices, sensors, and a software platform to issue alerts when dangerous wildlife is detected. However, rural and mountainous areas often face limitations in power supply and internet connectivity. Therefore, deployed devices must operate under strict constraints, relying on alternative power sources such as batteries and solar power, as well as wireless connectivity, to monitor conditions and issue alerts. For these reasons, the devices should be designed to operate with minimal power consumption.



Our approach utilizes IoT devices equipped with multiple sensors to detect wildlife as it approaches monitored areas. The primary target animal for triggering alerts is bears. To achieve this, we design and deploy appropriate sensors capable of detecting bears, such as microphones, cameras, weight sensors, vibration sensors, and other relevant sensing devices. Currently, we are investigating these sensors and devices to identify the most suitable options for our use cases. LoRa, a long-range and low-power wireless communication technology, is used to transmit sensor data and alert messages to the nearest edge station.

At the edge station, power constraints are less severe. However, internet connectivity is still unavailable. This station is responsible for processing sensor data received from remote locations and issuing alerts. The data-processing applications are deployed using FaaSr, a container-based workflow management platform. To enable external connectivity, Starlink is used to provide satellite internet access.

We believe this research represents an important step toward a practical implementation that can help improve the safety of citizens, who are living in rural or mountainous areas that are vulnerable to natural disasters and wildlife threats.

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Thammasat University has custom IoT devices for sound measurement.

- The device was developed by Prof. Chaiporn Jaikao from Kasetsart University.
- The device is capable of recording sound data to local storage (SD card) with ESP32.
- The device is equipped with a sound sensor, a real-time clock (RTC), and GPS.
- It is powered by a 2,900 mAh battery, providing approximately six hours of continuous operation.

Development Ideas and Comments



- A vibration detection sensor could be an alternative to a weight sensor for bear detection.
- Environmental protection and durability must be considered when deploying vibration sensors in snowy and rainy conditions.
- Methods to camouflage the devices should be explored to conceal the operational LED light.



Agentic AI for Social Health of Older Adults

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GROUP 3:

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Project Name/Title *(and Acronym, if any)*

Agentic AI for Social Health of Older Adults

Key Topics *(up to 5)*

Agentic AI, social health, eldercare

Start Date: month day year *(please spell out the month, ex: May 1, 2024)*

1/12/2026

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CENTRA Primary Investigator(s):

(Name, Email, Position title, Institution, Country)



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Heru Suhartanto – University of Indonesia
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Prapaporn Rattanatamrong – Thammasat University
rattanat@gmail.com

Team Members and Affiliations:

(Please group institution members together and format as Institution (Country): Name, Email, Position title)

Contact Person and email:

Ming Zhao <mingzhao@asu.edu>

Short summary (approximately: 200-600 words). Suggested content may include:

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- Explain the approach/methodology, highlighting any inherent risks of the research work



- *Briefly describe the expected key outcomes (across the knowledge-to-value chain, i.e., papers, models, dissertations, prototypes, early demonstrators)*
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4-Add Name of Group

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GROUP 4:

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Project Name/Title *(and Acronym, if any)*

Key Topics *(up to 5)*

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Team Members and Affiliations:



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Contact Person and email:

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GROUP 5:

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Project Name/Title *(and Acronym, if any)*

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Team Members and Affiliations:



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Team Members and Affiliations:



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