UNIVERSITY OF ILLINOIS SYSTEM

University Academic Alliance in Taiwan

2024 University Academic Alliance in Taiwan (UAAT)-University of Illinois System (U of I) Joint Research Project
Call for Proposal

UAAT and U of I have launched the Joint Research Project for institutional research scientists. This program aims to facilitate both research and development collaboration and the delivery of talent, innovations, and resources from universities/institutions to impactful contributions, building foundations for the future Grand Challenge Project collaborations. The goal is to promote economic and societal development through the research and development of innovative technologies, while facilitating collaboration between the two entities.

UAAT and U of I together expect to fund a number of selected proposals and offer **up to USD $150,000 (approximately NTD $4,800,000) per selected proposal combined**. In other words, each entity will offer **up to USD $75,000 (approximately NTD $2,400,000) per selected proposal.** Applications should be jointly submitted by both UAAT and U of I faculty. The UAAT Secretariat and the U of I Office of the Vice President for Economic Development and Innovation (OVPEDI) will administer the program.

1. Solicitation Areas

1.1 Priority focus areas for the program include **Next-generation Semiconductor (+Quantum), AI & Data for Human Well-Being, and Sustainability**. (See **Attachment 1** for key topics in each area)

2. Eligibility

2.1 Both UAAT and U of I applicants must be full-time, tenure-track faculty members for the duration of the funding period.

2.2 Each project must have at least one UAAT principal investigator (PI) and one U of I PI.

2.3 Each project must include participation of at least two UAAT member universities and one U of I member university/institution (including the universities to which the PIs belong). The list of member universities in UAAT and member institutes in U of I can be found in **Attachment 2**.

3. Funding Information

3.1 Total funding available for this joint call is USD $1,200,000, approximately NTD $38,400,000, shared equally by UAAT and U of I.

3.2 Funding amount per selected proposal is up to USD $150,000, approximately NTD $4,800,000. In other words, each party will offer up to USD $75,000, approximately NTD $2,400,000, per selected proposal.

3.3 Each selected proposal will receive an even distribution of funding from UAAT and U of I to their respective PI.

3.4 The actual amount of funding available and the number of projects funded in will be reviewed and determined by mutual agreement between UAAT and U of I.

3.5 Funding period is one year, starting from December 1 in 2024 and ending on November 30 in 2025. Unless jointly approved by the coordinators, there will be no extensions beyond this timeframe.

3.6 Funding not spent by the end of the funding period must be returned so that unspent balances can be re-allocated.

3.7 Funding covers international travel by university/institution faculty members and students, hosting scholars from the other university (daily stipends in principle), international events, meetings, personnel expenses for postdocs and student (no faculty salaries), supplies, research equipment, and additional expenses that are necessary to facilitate the advancement of research.

3.8 Funding does not cover indirect cost recoveries (ICR).

3.9 Funding should only be utilized for the selected proposal and approved budget plan.

3.10 All expenses must comply with the guidelines of the respective parties to which reimbursement is to be sought.

4. Application Information

4.1 All proposals must be jointly submitted by both UAAT faculty member(s) and U of I faculty member(s).

4.2 All proposals must address the importance and significance of the project, technical details, overall planning, the clarification of intellectual property rights that are likely to be generated (position and strategy), and plans for future developments of the collaboration project at the end of this project that are envisioned.

4.3 To promote international academia-industry collaboration, collaboration and partnership with industries (e.g., in forms of providing matching fund, internship, R&D collaboration, joint workforce/talent development etc.) in the project are encouraged. Higher priority will be given to proposals that include corporate/industry partners and university-industry collaboration.

4.4 All proposals should clearly explain the motivation for holding the activity, including how the relevant UAAT and U of I institutes or departments are involved and can benefit in the long term from this cooperation and what synergies can arise.

4.5 Proposed activities should have a clearly defined focus with scientific and technical merit, demonstrate innovation and economic/societal impact, and serve as a catalyst for moving research forward to a path of Grand Challenge project.

4.6 Proposed activities can take place either at UAAT or U of I.

4.7 Proposed activities' inclusion of third parties is permitted; however, the additional costs must be covered by these parties themselves.

4.8 Please refer to the **Attachment 3** for the Proposal Template.

4.9 To apply, joint project proposals should be submitted to the online application system by September 20th, 2024.

4.10 Late application will not be considered.

5. Selection and Result Notification

5.1 Proposal selection will be made by a joint selection committee consisting of UAAT and U of I representatives.

5.2 Selection of representatives will be coordinated by the UAAT Secretariat and the U of I System OVPEDI.

5.3 The joint selection committee reserves the authority over the proposal selection, taking into account strategic priorities and the availability of funding.

5.4 Higher priority will be given to proposals that include corporate/industry partners. Letters of intent (support) from industry partners should be included as clear indication.

5.5 Funding will be provided on a competitive basis, following the selection criteria below:

Criterion	%
1) Scientific merit, technical merit, excellence of innovation potential, potential impact	40%
2) Clear plan and goals for the activity during the one-year program	20%
3) Description of the UAAT and U of I PI's research profiles (excellence of project leaders, scope of the fields/labs represented in the proposed activity) and synergy between them	20%
4) Information on how the cooperation can be sustained beyond the initial funding phase, plans for securing funding for the project at the end of this grant, and other forms of future development (e.g., commercialization, economic impacts etc.) that are envisioned. Suitable outline of how the future development or the generation of the listed benefits will be achieved, if applicable. Plans to assess and validate the quality and effectiveness of the project's outcomes. Higher priority will be given to proposals that include corporate/industry partners and university-industry collaboration.	20%

5.6 Successful applicants will receive a letter of award outlining the process to accept the funding.

5.7 Feedback on individual applications will not be provided.

6. Intellectual Property

6.1 For purposes of this program, intellectual property will remain with the university that generated such intellectual property (what's mine is mine, and what's yours is yours).

6.2 In the event that new intellectual property will be generated jointly by the universities/institutions from the program, both sides will agree to reach a mutually beneficial agreement with respect to intellectual property ownership, management, protection and further development and exploitation.

7. Recipient Obligation

7.1 Recipients must mention the funding in all appropriate media, including any events arising from activities supported by this funding should include an acknowledgment of "UAAT-U of I Joint Research Project" and any publications/presentations arising from activities supported by this funding should include acknowledgment of "This publication/presentation is supported in part by the Joint Research Project between University Academic Alliance in Taiwan and the University of Illinois System."

7.2 Recipients must submit a summary report/presentation two months upon the end of the funding period.

7.3 Recipients must comply with all relevant laws and university regulations, including those relating to intellectual property, codes of conduct, etc.

8. Important Dates

Milestones	Dates
Call for Proposals published	July 1, 2024
RSVP for Information and Partnering Webinar RSVP at https://forms.illinois.edu/sec/694334654	July 15, 2024
Submit slides for optional two-minute talk during Webinar	July 20, 2024
Information and Partnering Webinar (Optional participation)	July 23, 2024 at 8 – 9 pm (Central Daylight Time) July 24, 2024 at 9 - 10 am (Taiwan Standard Time)
Project proposal submission deadline	September 20, 2024
Announcement of awards	November 2024
Proposed activities commence	December 1, 2024

9. Coordinator

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10. Attachments

1 - Key topics in each solicitation area

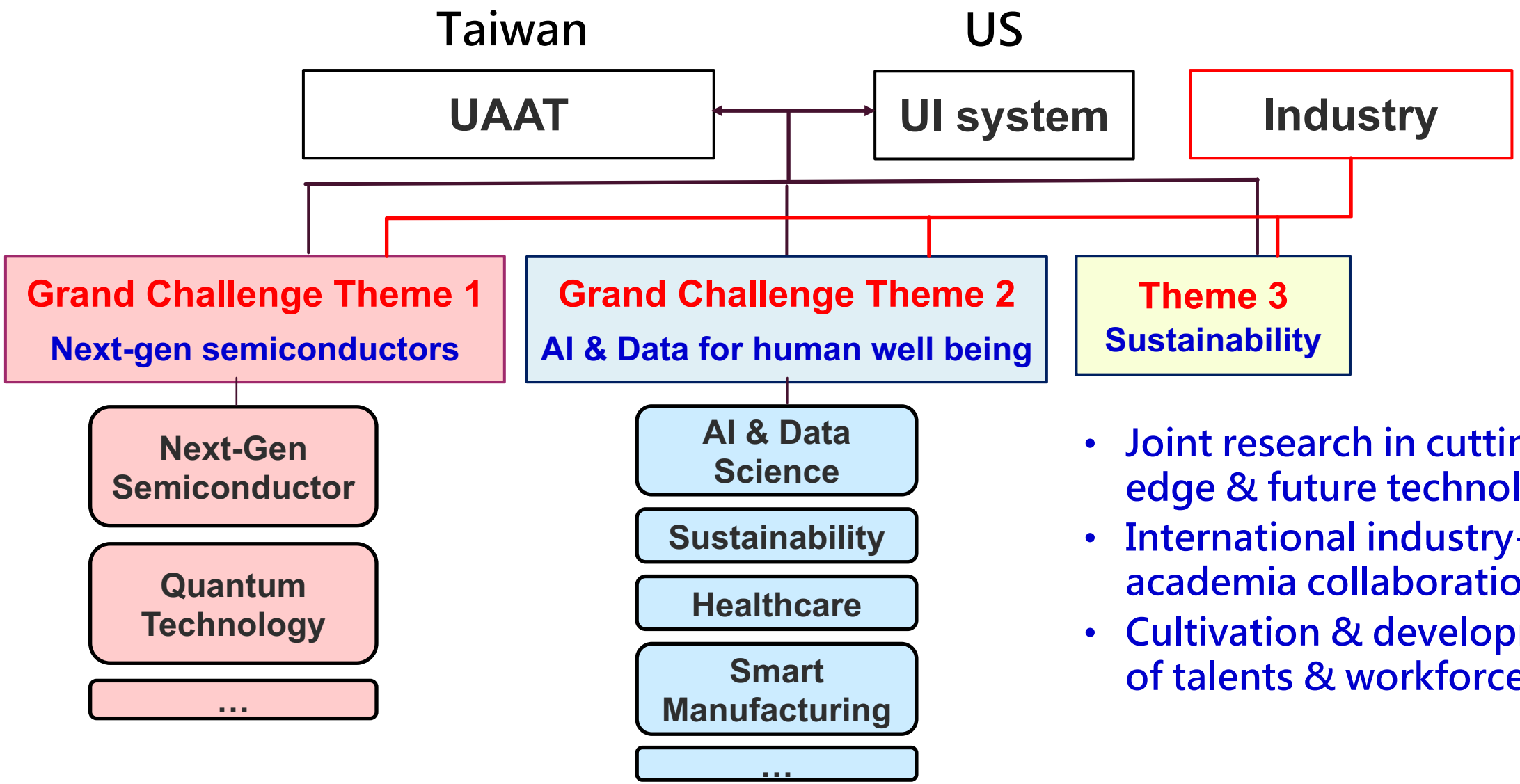
2 - List of member universities in UAAT and member institutes in U of I System

3 - Proposal Template

UI-UAAT Collaboration Planning

Grand Project Themes & Sub-topics

Collaboration Framework between UAAT & UI



- Joint research in cutting-edge & future technologies
- International industry-academia collaboration
- Cultivation & development of talents & workforce

Next-generation Semiconductor (+Quantum)

1. **Advanced VLSI**: technologies beyond 1 nm, IC design innovation, advanced packaging (heterogeneous integration/interconnect, 3D/2.5D IC, chiplet stacking), advanced memories, advanced materials, smart manufacturing & metrology etc.
2. **Next-gen compound semiconductors:** power & high speed devices and integrated circuits
3. **Quantum computing/communication/information:** materials, devices, architectures, software, simulation application, integration of quantum processor with high performance computing etc.
4. **Quantum & nano photonics** for quantum technology

AI & Data for Human Well Being

1. **Advanced AI & Data technologies**: efficient and trustworthy deep learning, multimodal machine learning, generative AI, efficient mining on data streaming, geospatial information technology for urban environment and health, etc.
2. **AI hardware**: intelligent edge computing, LLM (large language model) accelerator, in-memory computing, low precision/analog computing, digital twins for urban environment/climate change/health, etc.
3. **AI applications**: smart healthcare, smart manufacturing, cybersecurity, robotics, autonomous/smart vehicles, computer vision, remote sensing, engineering, materials, agriculture, education, business, etc.

Sustainability

1. **Carbon** reduction, capture, storage and utilization for net zero
2. **Nature based solutions**: data, assessment, analysis and strategies
3. **Circular economy**
4. **Green energy:** renewable energy, energy storage, integration & operation
5. **Environment:** climate change, disaster prevention/recovery, water management, pollutant monitor/control, urban development, governance, resilience
6. Policy, economic, and technical analyses

Collaboration Schemes and Activities

1. Joint research（developing large Grand Challenge Project/joint lab、joint research center/consortium）
2. International industry-academia collaboration
3. Overseas/visiting research
4. Student & faculty exchange/internship program
5. Short-term courses/intensive courses/workshop
6. Academic conferences/professional activities
7. Joint/dual degree

List of Member Universities

University of Illinois System：

1. University of Illinois Urbana-Champaign
2. University of Illinois Chicago
3. University of Illinois Springfield
4. University of Illinois System units

University Academic Alliance in Taiwan：

1. National Taiwan University
2. National Cheng Kung University
3. National Tsing Hua University
4. National Yang Ming Chiao Tung University
5. National Sun Yat-sen University
6. National Taipei University of Technology
7. National Chengchi University
8. National Chung Hsing University
9. National Central University
10. National Taiwan Normal University
11. Taipei Medical University
12. National Taiwan University of Science and Technology

Proposal of Joint Research Project
for
University of Illinois System
&
University Academic Alliance in Taiwan

□ Next-generation Semiconductor (+Quantum)

□ AI & Data for Human Well-Being

□ Sustainability

Project Title: _____

Project Period: From December 1, 2024 to November 30, 2025

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I. General Information on Joint Research Project for the U of I System and the UAAT

Collaboration Field		□ Next-generation Semiconductor (+Quantum) □ AI & Data for Human Well-Being □ Sustainability		
Title of Project	English			
	中文			
Project Period (12/1/2024 – 11/30/2024)				
UAAT				
Principal Investigator	Name		Position/Title	
	姓名		職稱	
	University		Department /Institution	
	學校		系所/單位	
Co-PI	Name		Position/Title	
	姓名		職稱	
	University		Department /Institution	
	學校		系所/單位	
Contact Person	Name		Position/Title	
	姓名		職稱	
	Phone/ Mobile		E-mail	
U of I System				
Principal Investigator	Name		Position/Title	
	University		Department /Institution	
Co-PI	Name		Position/Title	
	University		Department /Institution	
Contact Person	Name		Position/Title	
	Phone/ Mobile		Email	

II. Contents of the Proposal

1. Executive Summary

中文 (以500字為限)：

English (max. 250 words)：

2. Project Description (max. 10 pages)

may include the following:

2.1 Background Introduction and Importance of the Joint Research Project

2.2 Project Objectives, Plans, and Activities

2.3 Project Teams, Organization, and Synergies (including roles and participation of young scientists)

2.4 Milestones and Timelines

2.5 Expected Outcomes and Impacts (including the promotion of talent circulation/exchange)

2.6 Intellectual Property Management

2.7 Roles and commitment from Industry Partner (Optional)

2.8 Possible Future Collaboration Plans and Development (e.g., developing into Grand Challenge project, industry-academia collaboration, talent cultivation, international projects, joint research center/consortium, etc.)

3. Expected Outcomes

Collaboration Activity	Item	Total Number
A. Joint Research Activity (For example: Publication; Form joint laboratory/Consortium/Center)	Journal Publication	
	Conference Publication	
	Joint Laboratory/Consortium/Center	
	Joint Application or Acquisition of Large-scale or International Projects/Grants	
B. Students and Faculty Exchange *Degree/Dual-degree programs: For UAAT, this could be implemented based on participating university's existing degree/dual-degree programs.	(To Taiwan) International Visiting Scholars	
	(To Taiwan) International Exchange Students	
	(To Taiwan) * Degree/Dual-degree students	
	(To U of I) Faculty and Scholar International Visits	
	(To U of I) Students' International Exchange	
	(To U of I) * Degree/Dual-degree students	
C. Internship Programs	(To Taiwan) Industry Internship	
	(To Taiwan) University Internship	
	(To U of I) Industry Internship	
	(To U of I) University Internship	
D. Short-Term Courses/Intensive Courses/Workshops & Academic Conferences/Professional Activities	(Activity Name)/ Number of Participants	
	(Activity Name)/ Number of Participants	
	(Activity Name)/ Number of Participants	
E. International Industry-Academia Collaboration (For example: Projects, Internships, Intellectual Properties, Technical Transfers, etc.)	(Collaboration Item)/ Number of Cases	
	(Collaboration Item)/ Number of Cases	
	(Collaboration Item)/ Number of Cases	

4. Information on the UAAT Research Team for the Project

List "Project Role" in the following order: PI, collaborating PI (co-PI).

Project Role	Name	University /Department	Position	Role and Duties in the Project	Signature Date
PI					
Co-PI					

5. Information on the U of I Research Team for the Project

List "Project Role" in the following order: PI, collaborating PI (co-PI).

Project Role	Name	University /Department	Position	Role and Duties in the Project	Signature Date
PI					
Co-PI					

6. Budget

6.1 Allocation of Budget among Categories

Project Year / **Budget Category**	**MM/DD/YYYY to MM/DD/YYYY**			
Sponsorships	U of I (USD)	UAAT (NTD)	Other U of I Sources (optional)	Other UAAT Sources (optional)
1. Personnel				
2. General Expenses				
Local Collaboration Research Expenses				
Local Collaboration Activity Expenses				
3. International Travel Expenses				
4. Equipment				
Overhead		(optional)		
Total				

Note: The allocation of UAAT's overhead is optional, with a cap set at 15% of the general expenses.

6.2 Please provide a concise justification and explanation of the proposed allocation and utilization of the budget. (max. 1 page)

III. Biographical Sketch (max. 2 pages for each PI, Co-PIs of the Joint Research Project)

Curriculum Vitae and **Publication List** in last 5 years, including: Education, Professional Experiences, Research Interests, Awards and Honors, Selected Speech Invitations, and Selected Publications, etc. Please list the items in the order of importance.

IV. Appendices

Written endorsement statement of respective UAAT /U of I heads of department/institute

Letter of intent/support from industry partners or other third-party partners (Optional)