Empowering Global Innovator: From Knowledge Creation to Advanced Air Mobility

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Ph.D in Business Technology Management
Specialization in Neuroscience, Data Analytics
R&D at Innovatank
MBA in Strategy & Competition

Tell me and I forget,
Teach me and I remember,
***Involve me** and I learn.*

- Benjamin Franklin

Overall View

Theoretical Framework

Integrated Knowledge Acquisition Model (IKAM)

1. Student
2. Task
3. Artefact

Practical Results

Evolution through Continued Research

1. Student – **PATRIC Model**
2. Task – **Competitions**
3. Artefact – Technology

Distributed AAM Innovation Lab

3rd year collaboration x IAGA

398 Students

30 Experts

Multiple Disciplines
Bachelors to Ph.D Level

Theoretical Framework

Integrated Knowledge Acquisition Model

- The combination of 3 elements allows for **immersive learning environments** to be created which triggers **knowledge creation**.

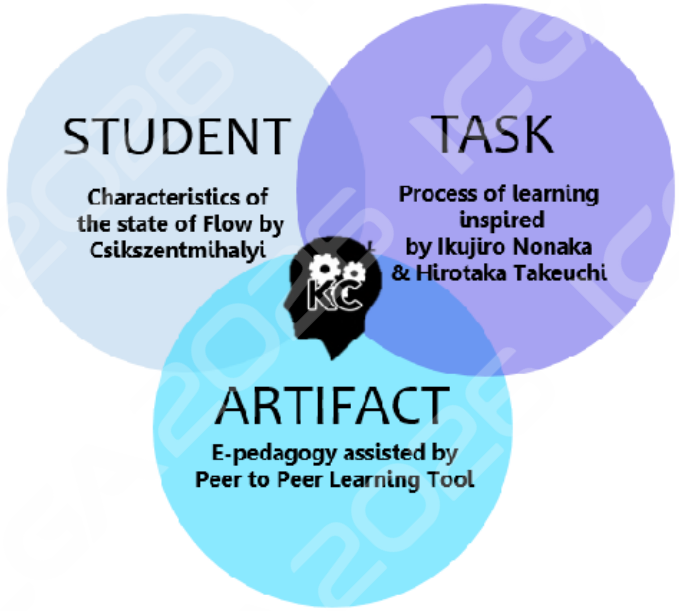

Figure 3. 2 Modified to Student-Task-Artifact with embedded theories

S

T

A

Student (Flow Theory, Csikszentmihalyi, 1990)

Adaptive Learning for Students

Flow Zone, a proper balance between the difficulty of the task and the knowledge creation within an individual

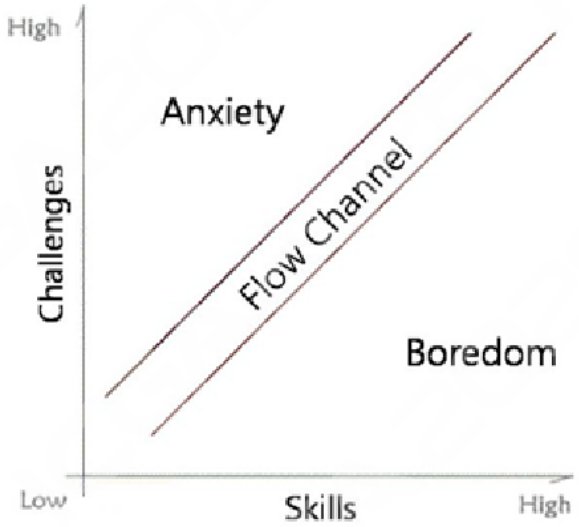

Figure 3. 3 Csikszentmihalyi (1990)'s Flow diagram

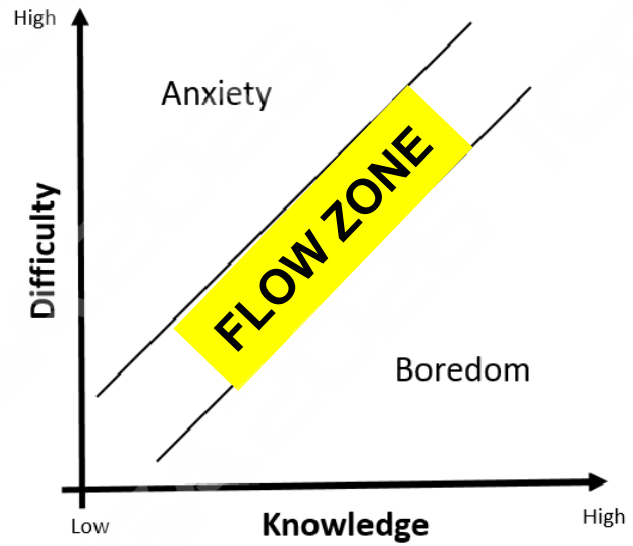

Figure 3. 4 Modified Flow graph with Difficulty and Knowledge

Task (SECI Model, Nonaka and Takuchi, 2000)

- The Task is designed to engage minds bringing **Tacit Knowledge** to **Explicit Knowledge**

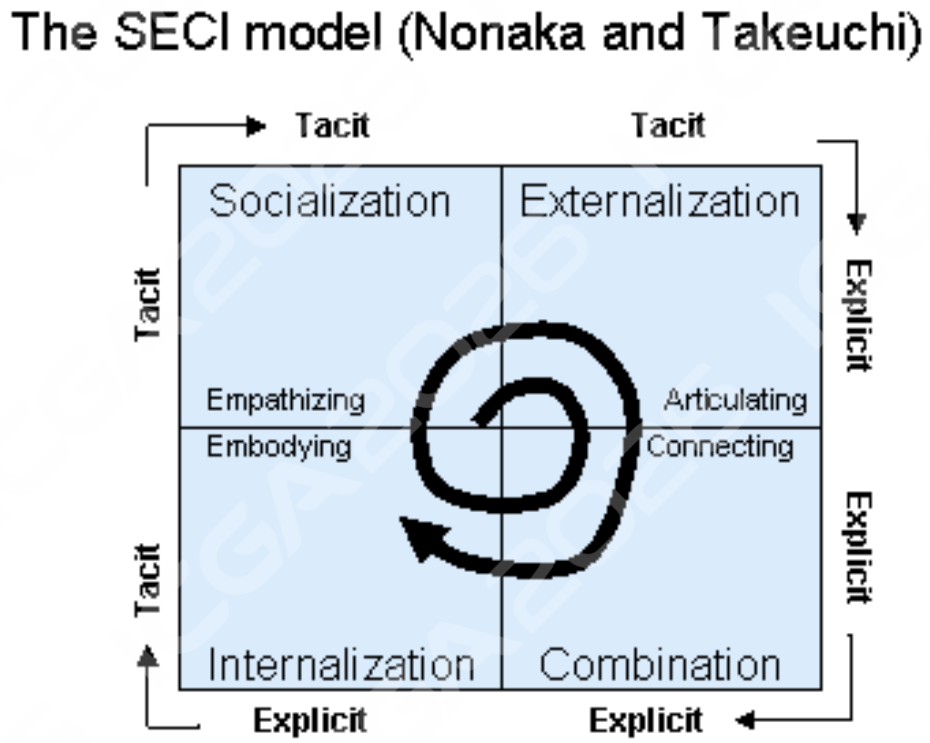

Figure 3. 5 SECI Model proposed by Nonaka et al. (2000)

Artefact (Technology enabling collaboration)

Table 3. 1 Intersection between student and task- artifact intersection.

	Flow	**SECI Model**	**Collaboration**
Student (Learning)	experiences flow	gains knowledge	immerses in collaboration
Task (Pedagogy/Process)	measures the effectiveness of the pedagogy	transforms the knowledge framework for pedagogy	follows the process
Artefact(Tool)	engages the environment for flow	processes the knowledge	engages groups to allow collaboration

Practical Results

Digitizing the process of Knowledge Creation

A



1. Presentation of rich-media, problem based challenges

T



2. Candidates ideate, build, and present their findings.

S



3. Candidates receive feedback and iterate.

T S



4. Organizations get access to detailed reports on candidate performance throughout the process

T S


hp

FEEDBACK

Educator

Very engaging flow but missing some of the fleshing out of the process summarized

Peer

Solid job here and liked the personalization - needed more on the connections to the "core" competencies

Expert

The first level of the issues were touched upon, but secondary issues (i.e. closing down a production line completely and restarting has not been addressed

Expert

Too general - need to build out the details more - want more in terms of the specifics of the steps you mentioned and created the to any risk mitigations

Peer

Great ideas, I would have liked to see more energy in the presentation.

Educator

With more practice you will do much better in the future. Do not give up and keep practicing Really good analysis but wonder if you also need to make

Emi Artemis



Presentation	40%
Analytical	30%
Teamwork	61%
Reseach	49%
Innovatank	73%
Conviction	23%

Challenge 1



Presentation	40%
Analytical	30%
Teamwork	71%
Reseach	60%
Innovatank	90%
Conviction	40%

Challenge 2



Presentation	60%
Analytical	60%
Teamwork	90%
Reseach	80%
Innovatank	100%
Conviction	80%

Challenge 10


Djessica Ndjiongue Djapoum
2 TIMES INTERNATIONAL MEDALIST
Presentation 90%
Analytical 85%
Teamwork 96%
Research 84%
Innovation 84%
Conviction 85%
100
95
90
85
I am a second-year computer engineering student who thrives on challenges and embraces new experiences. I am passional about collaboration and enjoy engaging with diverse teams to develop innovations.
10200 XP
4

Annual Top Athletes




OTHER
92
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Distributed AAM Innovation Lab

Investigating **different pieces of the AAM system**:
aircraft technology, power systems, certification, infrastructure, routes, operations, commercialization, public acceptance, emergency response, tourism, environmental impact, training, international expansion and systems integration.

Key Contribution in Aviation

What happens when hundreds of young minds are given a real aviation problem?

- Reshaping Aircraft Development
- Next Generation Training Solutions
- Collaboration + Knowledge Exchange
- Transformation, and creating Impact

Collaboration

Industry brings
Expertise
Challenges
Judges
Networks
Sponsors
Awards



Students & universities bring
Research
Ideas
New perspectives
Cross-disciplinary thinking
Global viewpoints
Future talent

Challenge → Research → Expert Feedback → New Knowledge → Talent

An opportunity that creates memories

AEROFUGIA 沃飞长空

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WXP ASIA

AEROFUGIA 沃飞长空

Aerofugia is an Advanced Air Mobility technology company focused on electric aviation, vertical takeoff and landing systems, intelligent mobility, and low-altitude transportation.

Its AE200 is a piloted, all-electric eVTOL designed for applications including urban and regional transportation, airport connections, tourism, emergency response, and time-sensitive mobility.

Aerofugia's vision is to make the benefits of Advanced Air Mobility available to more people through transportation that is safe, reliable, comfortable, sustainable, and economically viable.

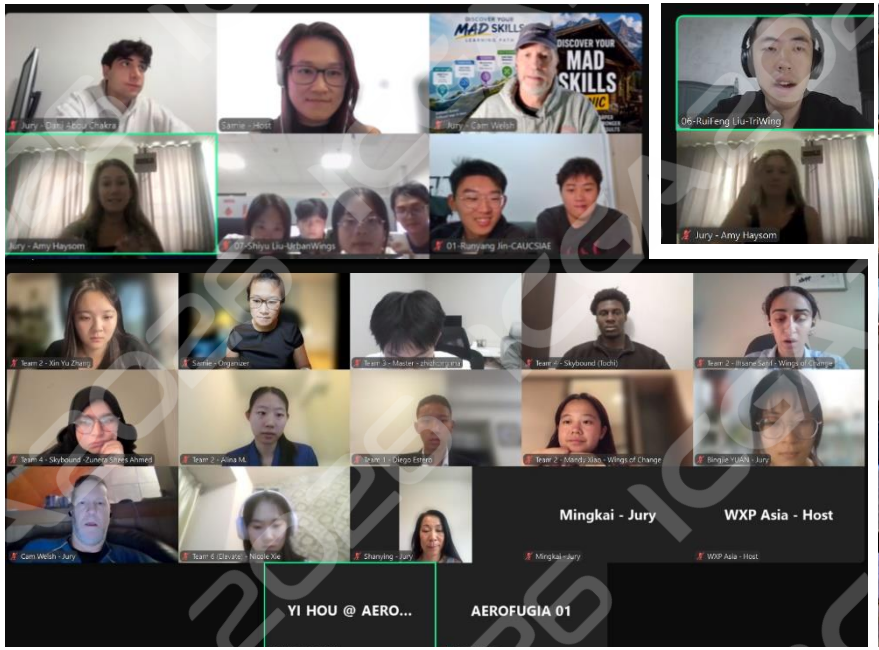
Why Participate?

- Present to Industry Leaders
- Work on a Real Industry Challenge
- Build an International Profile
- Turn Ideas into Influence



Suggest a three-to-five-year strategy for moving the AE200 from aircraft certification toward scalable, economically credible, and publicly accepted operations

Register Now!





Challenge → Research → Expert Feedback → New Knowledge → Talent

AAM Research Direction

AAM research direction	Student work generated
Operations	Sichuan–Chongqing hybrid-electric eVTOL operational feasibility
Aircraft / Powertrain	Pure-electric vs hydrogen-electric vs fuel-electric configurations
Certification	AE200 certification-to-commercialization pathways
Systems Integration	Aircraft + hub + energy + airspace + ground transportation
Infrastructure	Vertiport design and reuse of existing infrastructure
Risk & Airspace	Risk-driven UAS path planning using population and ground-risk data
Emergency Response	eVTOL/UAV swarm concepts for forest-fire intervention

398 Students Globally

AAM research direction	Student work generated
Public Acceptance	Comparative attitudes toward AAM in China, Brazil, Canada, US and Europe
Commercialization	Airport transfer, business mobility and tourism models
International Strategy	UAE → Saudi Arabia → ASEAN expansion
Public Service	Medical, emergency and community-service missions
Tourism	eVTOL tourism and destination mobility
Sustainability	Carbon impact, energy systems and battery sustainability
Urban Integration	AAM + Urban Transportation Hub concepts
Training	VR/non-traditional pilot training and future aviation workforce concepts

The Ecosystem Map

AIRCRAFT

SYSTEM

AAM

OPERATIONS

INFRASTRUCTURE

PEOPLE

BUSINESS

The Ecosystem Map

AAM

AIRCRAFT

Propulsion
Battery
Hydrogen
Structures
Performance
Certification

SYSTEM

Regulation
AI
Digital twins
Risk modelling
Sustainability
Training

OPERATIONS

Routes
Weather
Dispatch
Maintenance
Safety
Airspace

INFRASTRUCTURE

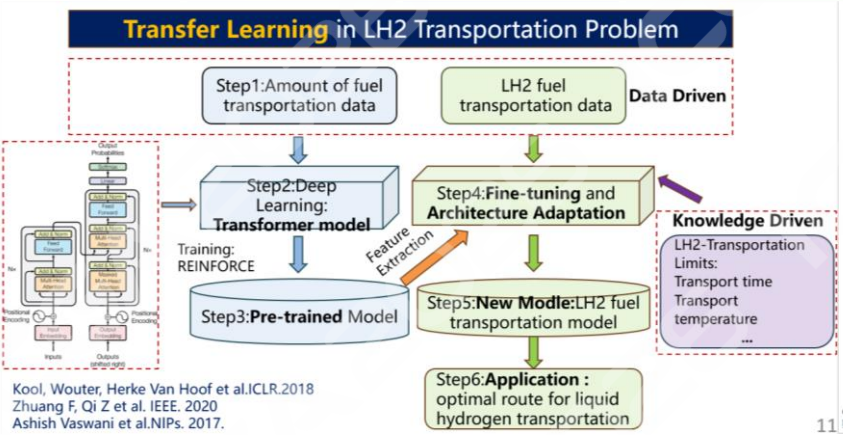
Vertiports
Charging
Grid
Urban hubs
Ground integration

PEOPLE

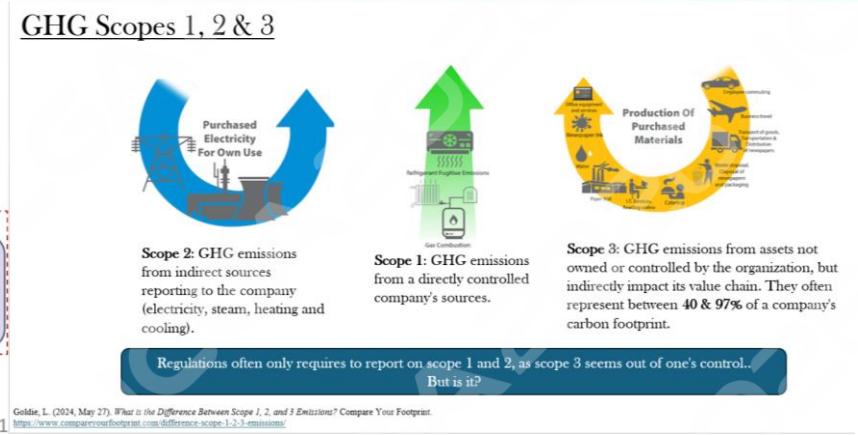
Public acceptance
Noise
Privacy
Accessibility
Trust
Culture

BUSINESS

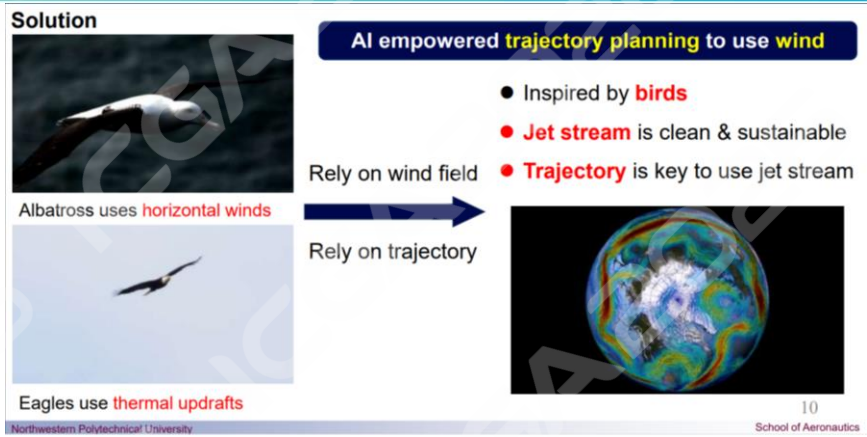
Commercialization
Markets
Pricing
Tourism
Public services
International expansion



Team Future Innovators



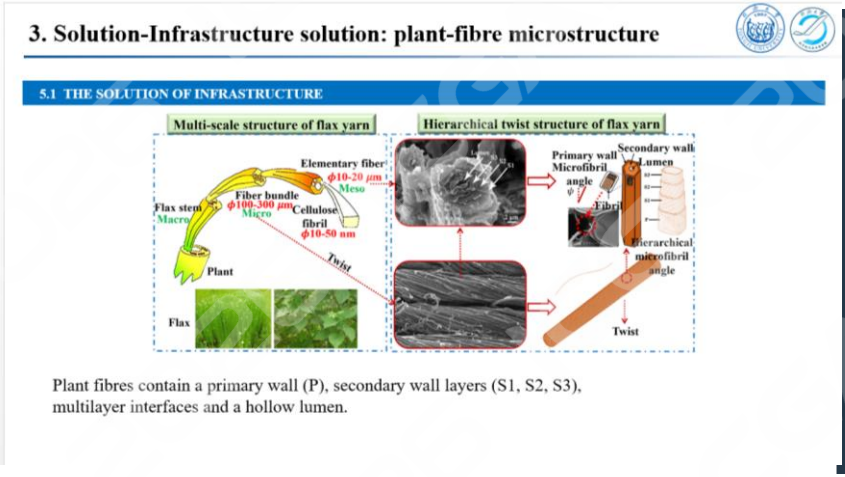
Team Airpath



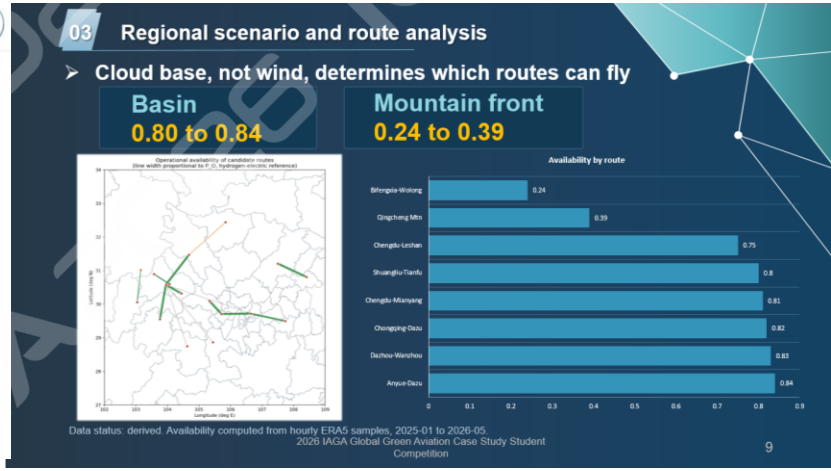
Team Albatross



Team France 2



Team PFCR



Team eVTOL Operations SiChong

Jury Panel



Dr. Raafat Saade ,
Chair Professor at Beijing Institute of Technology
Founder of Indire.net
Founding Member of IAGA



Dr. Shanying Zeng ,
President, Upcycling Foundation; Former Fellow of Boeing Environment and Sustainability



Mr. Henry Hooi ,
Founder of Volar Air Mobility
Founding Member of IAGA



Mr. Nabil Naouimi ,
Former President of ICAO Air Navigation Commission
Founding Member of IAGA



Mr. Yongxin Liu ,
Vice Dean, College of ATM, Civil Aviation University of China (CAUC)



Dr. Yang Yu ,
Deputy Chief Engineer at Aircraft Strength Research Institute



Dr. Xianchang Wang ,
Professor at Jilin University



Prof. Weijun Pan ,
Professor at the Civil Aviation University of China



Dr. Jeff Ding,
Future Aircraft Architect at Airbus



Ms. Li Huixi ,
Senior Engineer at CAE



Mr. Cameron Welsh ,
Emeritus Professor at University of Calgary
Expert in Case Solving



Mr. Celso Sawaia ,
Head EA & IT Project Management Operations at ICAO



Dr. Parvathy Rajendran ,
Associate Professor at the School of Aerospace Engineering of Universiti Sains Malaysia



Mr. Chenglong Duan ,
Senior Engineer at CSAA



Prof. Lu Zhenbo ,
Professor at Sun Yat-sen University



Mr. Shi Feng,
Chief Information Officer at Hua Li Technology



Mr. Xie, Lu,
Senior Engineer at AVIC - the First Aircraft Institute



Dr. Feihu Huang
Professor at Nanjing University of Aeronautics and Astronautics



Prof. Lin Ye ,
Professor at Northwestern Polytechnical University



Ms. Xue Zhang ,
Director of The Chinese Society of Aeronautics and Astronautics
Founding Member of IAGA



Dr. Low Kin Huat,
Chief Scientist at RI-AISO



Dr. Shi Wei
Founder and CEO of INSKY Lab



Ms. Bingjie
Doctorate Candidate ,
Organizer of ICGA and IAGA



Ms. Amy Haysom ,
Law, Politics, Entrepreneurship



Mr. Grégoire Trinh Ngo
Business Analyst at Material Business Intelligence Specialization



Ms. Djessica Djapoum Ndjiongue
Computer Engineering Arts & Design



Ms. Qiang TU
Chief Product Officer at Aerofugia



Mr. Yi HOU
Senior Product Manager

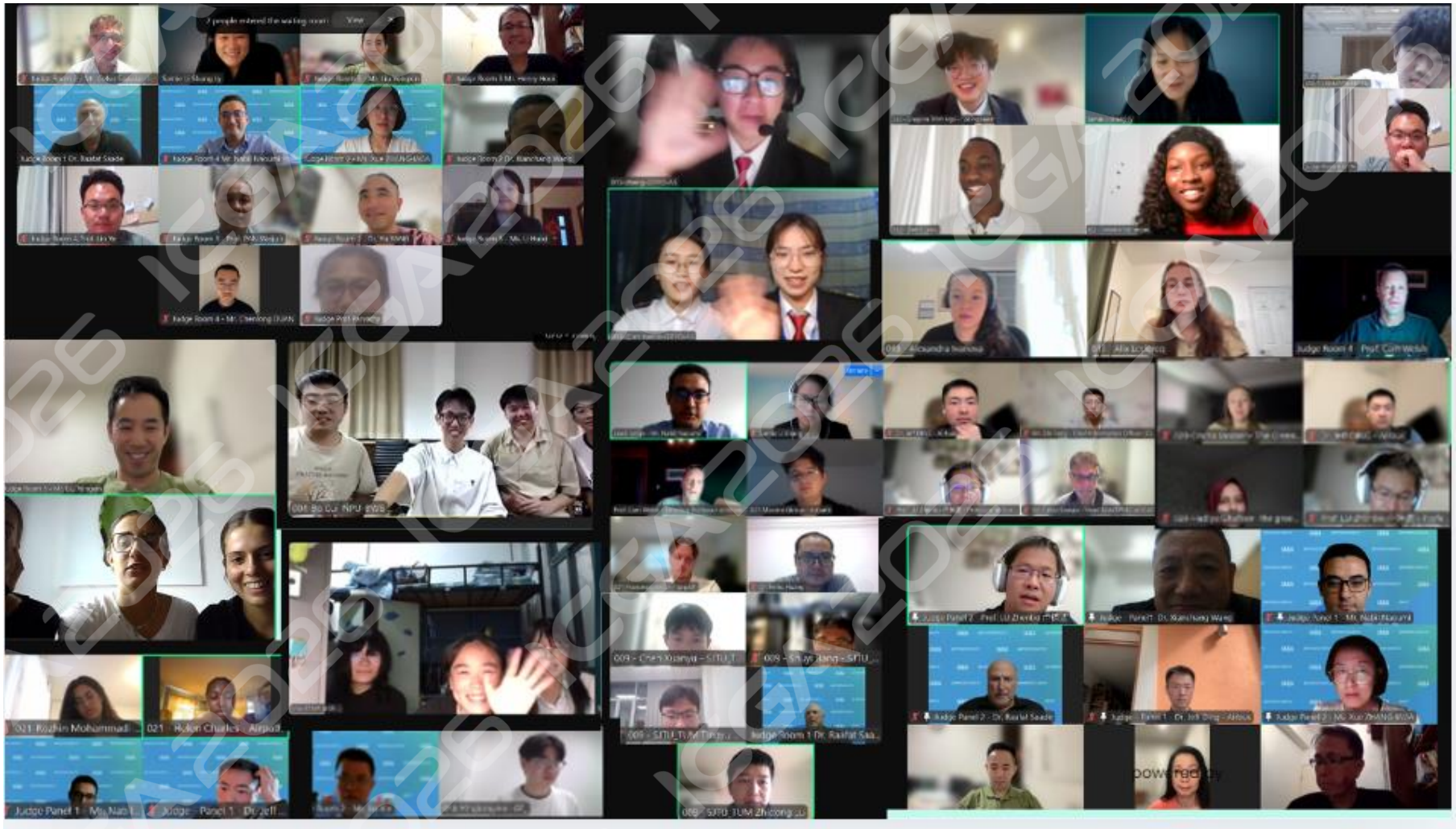


Dr. Ming Kai Wang ,
Professor at the Hangzhou International Innovation Institute of Beihang University (BUAA)



Mr. Dani Abou Chakra ,
Legal Candidate,
Mechanical Engineering

Every bright mind is given an opportunity thanks to you!



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