Japan Science and Technology Agency

JST's priorities and initiatives in robotics research

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2022.4.21 @ NSF NRI/FRR Panel

JST is…

A mission-oriented funding agency, implementing Japan's national Science, Technology and Innovation (STI) policies*.

***Science, Technology, and Innovation Basic Plan** etc.

Prime minister (PM)

Cabinet Office
Council for S&T Innovation

Ministry of Education, Culture, Sports, S&T (MEXT)

Universities

Research Institute

Funding Agencies

Japan Science and Technology Agency

1204

$ 1.16bn

Dr. Kazuhito Hashimoto
President of JST
(since April 1, 2022)

JST's Priorities

Science, Technology and Innovation Basic Plan

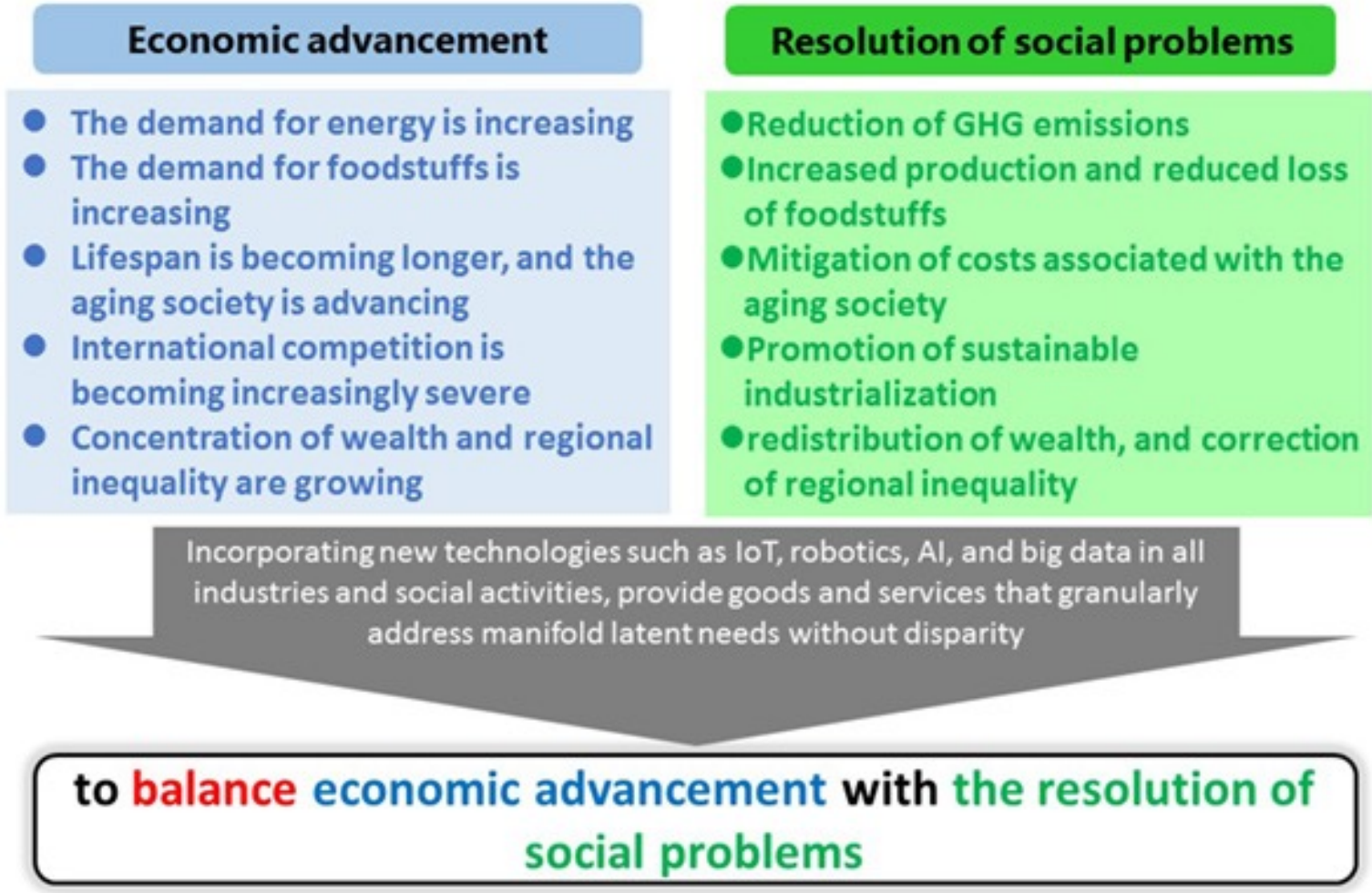
- Implementation of Society 5.0
- 'Convergence of knowledge' for innovation and human well-being
- R&D investment for 5 years

MEXT's Strategic Objectives (AI & Robotics fields)

[2022] Creation of fundamental technologies to analyze human and society for Society 5.0
[2021] System software technology to support safety, security, and trust in the era of Society 5.0
[2020] Trusted AI
[2019] Creating information utilization platform by integrating mathematical and information sciences, and development to society
[2019] Fundamental technologies for next-generation IoT (Internet of Things) to create a future smart society
[2018] Creating Technology for Computing Revolution for Society 5.0
[2017] Advanced Interaction Technologies within Networked Intelligent Information Environment

Society 5.0

A human-centered society that balances **economic advancement** with the **resolution of social problems** by a system that **highly integrates cyberspace and physical space**.



https://www8.cao.go.jp/cstp/english/society5_0/index.html

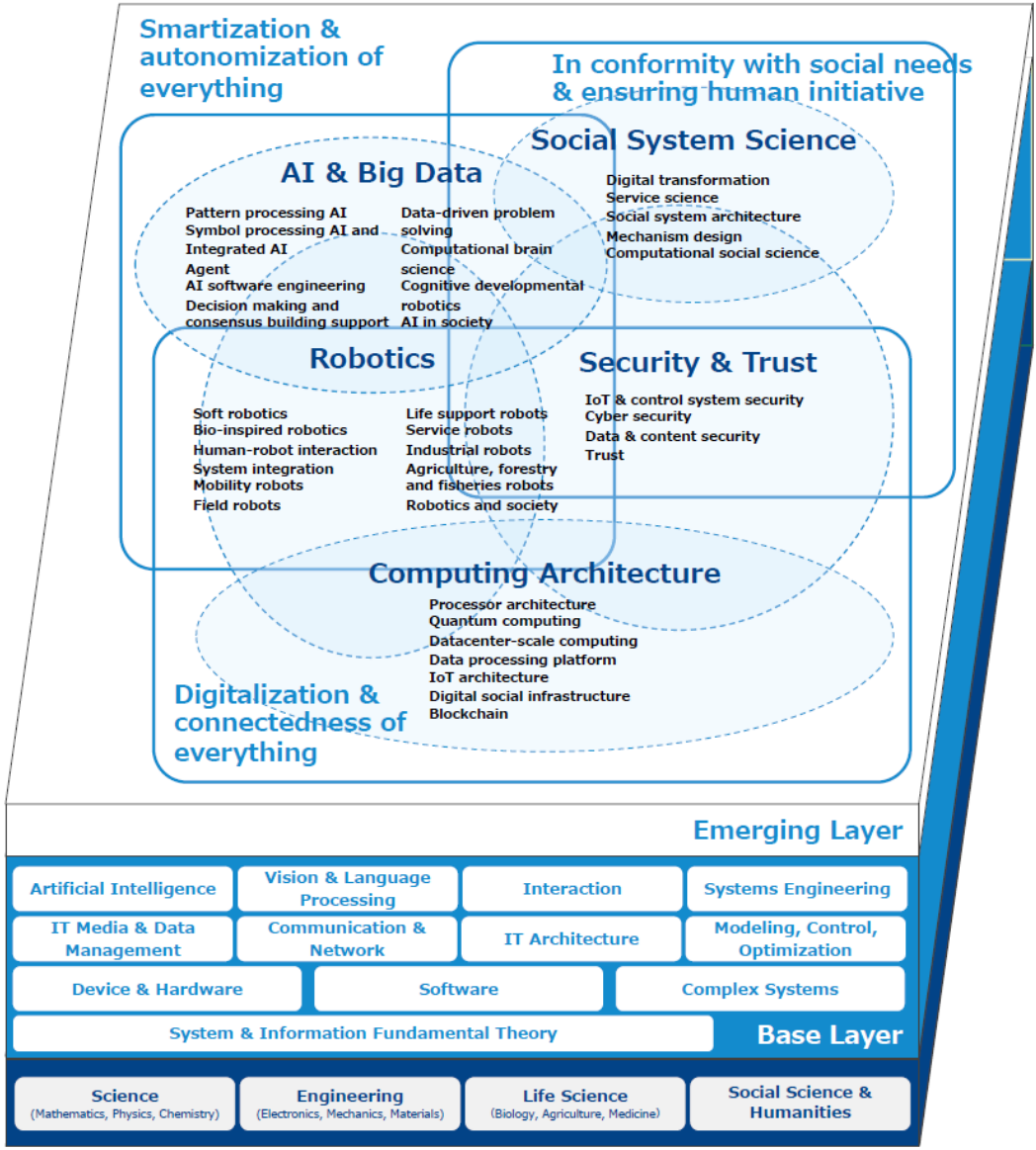
Robotics is one of strategic segments

Vision:

- Advanced integration of the cyber and physical worlds
- Data-driven and knowledge-intensive value creation
- Solving social issues and realizing a human-centric society

Technological trends:

- Digitization & connectedness of everything
- Smartization & automation of everything
- In conformity with social needs & ensuring human initiative



https://www.jst.go.jp/crds/report/CRDS-FY2020-FR-02.html

JST's Projects (AI & Robotics)

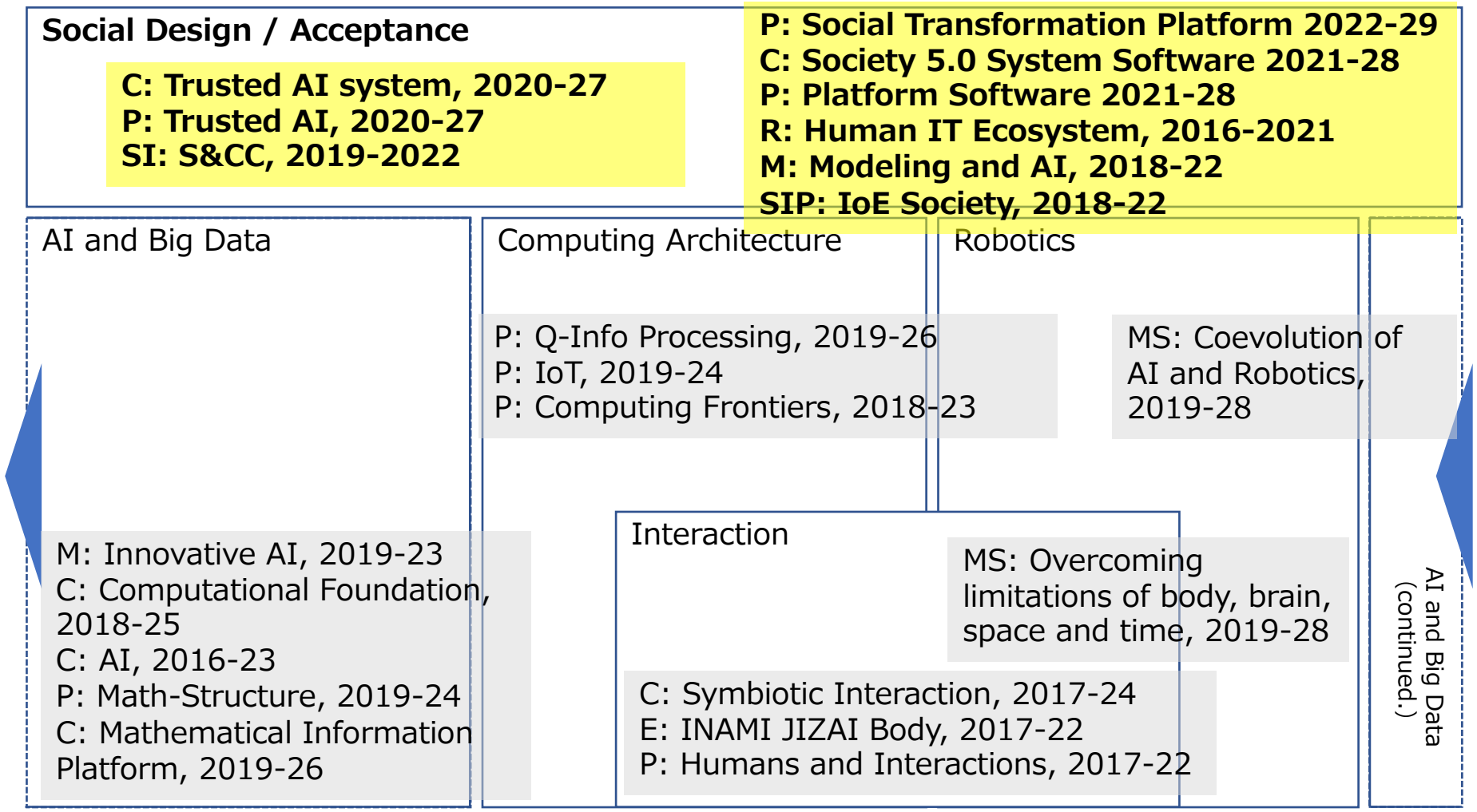
research on social systems rather than robot itself

TIMELINE

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
R: Human IT Ecosystem	■	■	■	■	■	■								
C: Articicial Intelligence (AI)	■	■	■	■	■	■	■	■						
C: Symbiotic Interaction		■	■	■	■	■	■	■	■					
E: INAMI JIZAI Body		■	■	■	■	■	■							
P: Humans and Interactions		■	■	■	■	■	■							
M: Modeling and AI			■	■	■	■	■							
SIP: IoE Society			■	■	■	■	■							
P: Computing Frontiers			■	■	■	■	■	■						
C: Computational Foundation			■	■	■	■	■	■	■	■				
SI: Smart and Connected Community				■	■	■	■							
P: Q-Info Processing				■	■	■	■	■	■	■	■			
P: Internet of Things (IoT)				■	■	■	■	■	■					
MS: Coevolution of AI and Robotics				■	■	■	■	■	■	■	■	■	■	
M: Innovative AI				■	■	■	■	■						
P: Math-Structure				■	■	■	■	■	■					
C: Mathematical Information Platform				■	■	■	■	■	■	■	■			
MS: Overcoming limitations of body, brain, space and time				■	■	■	■	■	■	■	■	■	■	
C: Trusted AI system					■	■	■	■	■	■	■	■		
P: Trusted AI					■	■	■	■	■	■	■	■		
C: Society 5.0 System Software						■	■	■	■	■	■	■	■	
P: Platform Software						■	■	■	■	■	■	■	■	
P: Social Transformation Platform							■	■	■	■	■	■	■	■

Overview Map (AI & Robotics)

research on social systems rather than robot itself

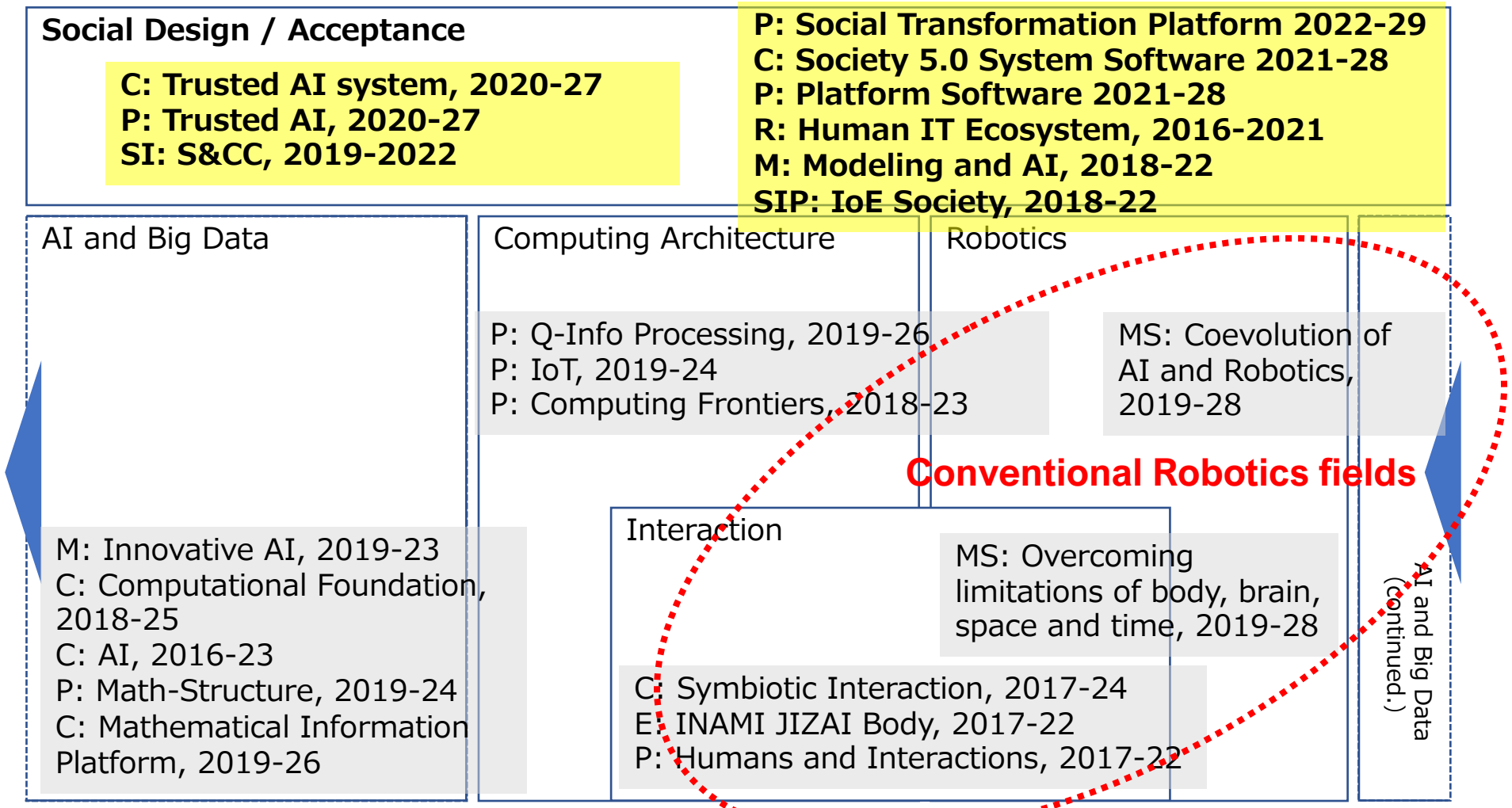


[Abbreviation] C: CREST Basic Research Program (5.5B USD/y*)/ **P:** PRESTO Basic Research Program (2B USD/y*)/ **M:** JST-Mirai Program/ **MS:** Moonshot Program (15B USD/y*)/ **SIP:** Strategic Innovation Program (20B USD/y*)/ **SI:** SICORP Program (1.5B USD/y*)/ **R:** Research institute of Science and Technology for Society

**Yearly budgets are rough estimation*

Overview Map (AI & Robotics)

research on social systems rather than robot itself



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Engagement Initiative with NSF

Initiated by **Dr. Panchanathan**, the director of NSF, and **Dr. Hamaguchi**, the (former) president of JST (Since 2021).

Four thematic pillars of collaboration

1. **AI and Robotics**
2. Quantum science
3. Resilience
4. Millennial generation exchange

Objective

- Strengthen JST- and NSF- funded research and maximize outcomes.

Workshop(s)

- Exploring new research agendas connecting Artificial Intelligence, Robotics, Humanities and Social science (February 1&7, 2022)

Thank you for your attention!

You can find JST-funded researchers for your collaboration at the following website:
https://www.jst.go.jp/kisoken/aip/colab/en/

AIP Network Co-Lab.

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