

### AME Programmatic 2020 tranche

S/ N.	Title of Project	Principal Investigator	Host Institution	Partner Institutions
1	Quantum Technology for Engineering (QTE)	Dr Krivitsky Leonid	IMRE	NTU, NUS, IHPC, IME, DSI
2	Neuromorphic Computing	Dr. Yau Wei Yun	I2R	IHPC, NTU, NUS, IME
3	Hardware-Software Co-optimisation for Deep Learning	Asst. Prof Mohamed M. Sabry	NTU	IHPC, NUS, IME, I2R
4	Accelerated Materials Development for Manufacturing (AMDM)	Dr Kedar Hippalgaonkar	IMRE	IHPC, I2R, NUS, NTU
5	Cyber-Physiochemical Interfaces (CPI)	Prof. Chen Xiaodong	NTU	NUS, SUTD, IHPC, IMRE, IME
6	Human-Robot Collaborative AI for AME ("Collab AI")	Dr. Kenneth Kwok	IHPC	I2R, ARTC, NUS, NTU, SUTD, SCEI
7	Additive Manufacturing for Biological Materials (AMBM)	Prof David Becker	NTU	SIMTech, IMB, IMRE, SRIS, IMCB, NUS, MEL, BTI, IBN, ASRL
8	Automating Macromolecular Manipulation for Manufacturing (AMMM)	Dr. Chew Wei Leong	GIS	SIFBI, NUS, IBB, ICES
9	Spin-Orbit Technologies for Intelligence at the Edge	Asst. Prof Anjan Soumyanarayanan	IMRE	NUS, IME, NTU, IHPC, SUTD
10	Nanosystems at the Edge	Dr Joshua Lee	IME	NTU, NUS
11	Nanoantenna Spatial Light Modulators for next-generation AR/VR and holographic display technologies (NSLM)	Dr. Arseniy Kuznetsov	IMRE	NUS, SUTD, I2R, NTU, IME
12	Structural Metal Alloys Programme (SMAP)	Prof Upadrasta Ramamurty	NTU	IHPC, IMRE, SIMTech, NUS, ARTC
13	BRain-Efficient Nanomechanical Artificial Intelligence Computing (BRENAIC)	Dr Wang Nan	IME	NUS, NTU, SUTD
14	Accelerating Homomorphic Encryption (AHE)	Dr. Khin Mi Mi Aung	I2R	NTU, SUTD, NUS
15	Knowledge Extraction, Modelling, and Explainable Reasoning for General Expertise (K-EMERGE)	Dr. Boon Kiat Quek	IHPC	NTU, SUTD, SMU
16	Ultrasonic Wavefront Computing	Dr Kevin Chai Tshun Chuan	IME	IHPC, NTU, NUS
17	Next-Generation Brain-Computer-Brain Platform – A Holistic Solution for the Restoration & Enhancement of Brain Functions (NOURISH)	Prof. Guan Cuntai	NTU	TTSH, NUH, I2R, NUS, SUTD

18	Ferroelectric Aluminum Scandium Nitride (Al <sub>1-x</sub> Sc <sub>x</sub> N) Thin Films and Devices for mm-Wave and Edge Computing	Dr. Zhu Yao	IME	IMRE, NUS, IHPC, NTU, SUTD
19	Learning with Less Data (LLD)	Dr. Foo Chuan Sheng	I2R	SUTD, NUS, NTU, SMU
20	Explainable Physics-based AI (ePAI)	Dr. Dao My Ha	IHPC	NUS, SUTD,
21	Multimodal AI Platform for Ophthalmology (MARIO)	Dr Liu Yong	IHPC	SERI, NTU, NUS
22	Structural Power For Portable and Electrified Transportation	Dr Derrick Fam	IMRE	NTU, IHPC, NUS

### MTC Programmatic 2025 Tranche

S/ N.	Title of Project	Principal Investigator	Host Institution	Partner Institutions
1	Nanoantenna Light Emitting Devices (NLED)	Dr. Arseniy I. Kuznetsov	IMRE	NTU, NUS, SUTD
2	LEES+ Monolithic CMOS + GaN HEMT Integrated Circuits for 5G and Beyond	Prof Eugene A. Fitzgerald	SMART	NTU
3	Developing a Toolbox For Next-Gen Circular Plastic Materials	Assoc Prof Li Zibiao	ISCE <sup>2</sup>	IMRE, IHPC, NUS, NTU
4	Terahertz Reconfigurable Intelligent Metasurfaces (TRIM) for 6G communications	Dr. Pitchappa Prakash	IME	NTU, NUS, IMRE
5	Advanced Models for Additive Manufacturing (AM <sup>2</sup> )	Dr. Guglielmo Vastola	IHPC	NUS, NTU, SUTD, IMRE, SIMTech, NMC
6	Scent Digitalization and Computation	Prof. Chen Xiaodong	NTU	IMRE, NUS
7	Towards Realistic Deep Learning for 3D Vision	Dr. Yang Xulei	I2R	NUS, NTU, SUTD, IME
8	Physics and Knowledge Transfer-based Cognitive Digital Twin for Advanced Battery Analytics	Prof. Alex Yan Qingyu	NTU	SIT, IMRE, IHPC, I2R, NMC
9	Van der Waals Engineering for All-optical Neuromorphic Chip	Prof. Liu Zheng	NTU	I2R, IME, IMRE
10	Co-design of Heterogeneous Integrated Packages through Learning Engines & Tool Speed-up (CHIPLETS)	Rahul Dutta	IME	I2R, IHPC, SUTD
11	High Linearity Silicon Germanium Photonic Modulator for 6G Analog Radio over Fiber	Dr. Luo Xianshu	IME	NTU, NUS, IHPC
12	BLISS: Beyond Liquids with In-Situ Solid-state Surficial Sensoric	Dr. Yang Le	IMRE	ISCE <sup>2</sup> , NTU, NUS, NUH
13	4D Additive Manufacturing (4DAM) of Smart Structures	Prof. David Rosen	SIMTech	ARTC, IMRE, SUTD, IHPC, NTU, NUS

14	Mat-GDT (Materials – Generative Design Testing) Framework	Assoc. Prof. Kedar Hippalgaonkar	IMRE	NUS, IHPC, ARTC, NTU
15	Electrification of Spent Battery Materials Recycling for Circular Economy	Prof. Wang Qing	NUS	NTU, IMRE, SIMTech, TP
16	Room-Temperature Solid-State Sodium-Sulfur Batteries	Prof. Yang Hui Ying	SUTD	IMRE, NTU