PROJECTS FUNDED BY THE ITALIAN MINISTRY OF FOREIGN AFFAIRS AND INTERNATIONAL COOPERATION (MAECI), THE MINISTRY OF UNIVERSITY AND RESEARCH (MUR), AND THE MINISTRY OF HEALTH UNDER THE FRAMEWORK OF THE U.S.–ITALY SCIENCE AND TECHNOLOGY COOPERATION PROGRAMME: CALL FOR JOINT PROJECT PROPOSALS FOR 2027–2028

SECTOR	PROJECT TITLE	ITALIAN PARTNER	U.S. PARTNER
Advanced and Sustainable Nuclear Technologies: AI, Systems, and Components for Fission and Fusion	AI-assisted high-fidelity digital twins for real-time design and operation of advanced modular reactors	Roberto Bonifetto Politecnico di Torino	Valerio Mascolino Colorado School of Mines
Advanced and Sustainable Nuclear Technologies: AI, Systems, and Components for Fission and Fusion	Advanced Joining of SiC/SiC and Novel UHTC Composites for Advanced Fission and Fusion Reactors	Monica Ferraris Politecnico di Torino	Lance L. Snead Stony Brook University
Advanced Multi-Scale Materials for Extreme Environments, Neuroglia In Vitro Models, and Biocomputing	EXTREME – AI-enabled Manufacturing and In situ Characterization of Ultra-High Temperature Ceramics for Extreme Environments	Diletta Sciti CNR	James B. Spicer Johns Hopkins University
Advanced Multi-Scale Materials for Extreme Environments, Neuroglia In Vitro Models, and Biocomputing	Melanin biomimetic materials for photoprotection – BioProt	Marco Montalti Università di Bologna	Nathan Claude Gianneschi Northwestern University
Advanced Multi-Scale Materials for Extreme Environments, Neuroglia In Vitro Models, and Biocomputing	Multiscale advanced materials interfaces with neuroglial systems toward biocomputing – MAT-Neuroglia	Luigi Ambrosio CNR	Larry Nagahara Johns Hopkins University

Advanced Biotechnologies for Human Health: Biofabrication, Scalable Biomanufacturing, Bio-Digital/Immune Engineering, Innovative Therapies, and Industrial Translation	Gene editing approaches to model and cure autoinflammatory diseases	Stefano Volpi Università di Genova	Pietro Genovese Harvard Medical School
Advanced Biotechnologies for Human Health: Biofabrication, Scalable Biomanufacturing, Bio-Digital/Immune Engineering, Innovative Therapies, and Industrial Translation	From Ion Channel to Disease Mechanism: Exploring TMEM16A in Moyamoya Disease	Loretta Ferrera IRCCS Istituto Giannina Gaslini	Alessio Accardi Weill Cornell Medicine
Advanced Biotechnologies for Human Health: Biofabrication, Scalable Biomanufacturing, Bio-Digital/Immune Engineering, Innovative Therapies, and Industrial Translation	Development of a Tissue Factor–Targeted IL-15 Immunocytokine for Precision Immunotherapy of Lung Cancer	Alessandra Metelli IRCCS Istituto Nazionale Tumori Regina Elena	John Wrangle Medical University of South Carolina
Quantum Technologies: Quantum Sensing, Quantum Information, Hybrid AI–Quantum Algorithms, and HPC Integration.	ITENQUS: Hardware-Integrated Tensor-Network Workflow for Programmable Neutral-Atom Quantum Processors	Simone Montangero Università di Padova	Mikhail D. Lukin Harvard University
Quantum Technologies: Quantum Sensing, Quantum Information,	Q-RACE: Enhancing Quantum Computing Radiation Reliability of	Paolo Rech Università di Trento	Joseph Formaggio Massachusetts Institute of Technology

Hybrid AI–Quantum Algorithms, and HPC Integration	Through Cross-Layer Hardware-Software Techniques		
Quantum Technologies: Quantum Sensing, Quantum Information, Hybrid AI–Quantum Algorithms, and HPC Integration	Qudits for Quantum Technologies	Andrea Giachero Università degli Studi di Milano Bicocca	Andrei Vrajitoarea New York University
Advanced Multi-Scale Materials for Extreme Environments, Neuroglia In Vitro Models, and Biocomputing	Development of high radio-purity electro-formed Copper components for cRyogenic applications (FLAGSHIP)	Aldo Ianni INFN	Cabot-Ann Christofferson South Dakota School of Mines & Technology
Advanced Biotechnologies for Human Health: Biofabrication, Scalable Biomanufacturing, Bio-Digital/Immune Engineering, Innovative Therapies, and Industrial Translation	SOLE: Development of Off-the-Shelf Cell Therapies through Advanced Genomic Manipulation and nanocorpi: A U.S.–Italy Cooperation for the Immunotherapy of the Future (FLAGSHIP)	Cristina Maccalli Azienda Ospedaliera Metropolitana IRCCS Policlinico San Martino	Xinhui Wang Massachusetts General Brigham, Harvard Medical School
Advanced Biotechnologies for Human Health: Biofabrication, Scalable Biomanufacturing, Bio-Digital/Immune Engineering, Innovative Therapies, and Industrial Translation	Biofabrication, scaling-up, and pre-clinical assessment to facilitate industrial translation of a bio-inspired vascular graft (FLAGSHIP)	Antonio D'Amore Fondazione Ri.MED	William R. Wagner University of Pittsburgh
Quantum Technologies: Quantum Sensing, Quantum Information, Hybrid AI–Quantum	Italy and U.S. National Metrology Institutes for Quantum Standards (FLAGSHIP)	Davide Calonico INRiM	Andrew Ludlow National Institute of Standards and Technology

Algorithms, and HPC Integration			
Quantum Technologies: Quantum Sensing, Quantum Information, Hybrid AI–Quantum Algorithms, and HPC Integration	ATLANTIS: An Advanced Transatlantic Layer for INTegrated Research InfrastructureS (FLAGSHIP)	Daniele Bonacorsi Università di Bologna	Peter Elmer Princeton University