

IMT Grand Challenges - Lista de projetos Grandes Desafios do IMT

14/11/2020 Joseph

Project #	NAE Grand Challenge Theme	Theme codes	GCSP-IMT Related Project Theme	Coordinating Entity	Sponsors (IMT, Industries, other College or Universities, government research-funding institutions, etc.)	Readiness status for GCSP-IMT involvement	Mentors
2	Sustainability, Health, Safety, Joy of Living	A, B, C, D	River and Flood alert Monitoring System	CP-IMT, Mechanical Engineering, Electronics Engineering.	São Caetano do Sul Prefecture/USCS / Thales/ IMT	ready	Wânderson Assis; Alessandra Coelho; João de Sá Brasil Lima; Angelo Sebastião Zanini; Tiago Sanches; Design(#); Administração(*)
5	Sustainability	A	Renewable Energy - Wind Energy Conversion Efficiency Improvement - Noise Reduction - Small, Efficient Wind Turbine for distributed generation.	Mechanical Engineering	IMT, EPUSP	ready	Joseph Y. Saab Jr.; Design(#); Administração(*)
10	Sustainability, Health	A, B	Food processing - Saving coconut residues from the coconut water bottling process	Food Engineering	Industry partner	ready	Cynthia J. Kunigk; Design(#); Administração(*)
11	Sustainability	A	Waste treatment	Chemical Engineering	FAPESP ; CNPq; CAPES	ready	José Alberto Domingos Rodrigues; Roberta Albanez Toreta; Design(#); Administração(*)
12	Joy of living	D	Chemical and Biochemical Processes - Microwave applications	Chemical Engineering	IMT, FAPESP	ready	Edmilson Renato de Castro; Design(#); Administração(*)
13	Sustainability	A	Smart cities: Data science applied to flood prediction and people urban mobility	Civil Engineering, Computer Engineering	IMT	ready	Paula Katakura; Angelo Sebastião Zanini; Murilo Zanini de Carvalho; Tiago Sanches; Design(#); Administração(*)
14	Safety, Joy of Living	C, D	Construction of Building Information Modeling (BIM)	Civil Engineering	internal, with external industry and public entities awards received in the last few years	ready	Paula Katakura; Pedro Henrique Cerento de Lyra; Design(#); Administração(*)
15	Safety	C	Information Security / Cyber Security	Computer Engineering	IMT, FAPESP	ready	Everson Denis; Design(#); Administração(*)
16	Sustainability, Health, Safety, Joy of Living	A, B, C, D	Smart Campus - IOT	CP-IMT, Electrical Engineering	IMT	ready	Wânderson Assis; Alessandra Coelho; Angelo Sebastião Zanini; Marco Antonio Furlan de Souza; Design(#); Administração(*)
17	Sustainability, Health, Joy of Living	A, B, D	Smart Vegetable Garden	CP-IMT, Electronics Engineering, Chemical Engineering; Food Engineering; Computer Engineering.	IMT	ready	Wânderson Assis; Alessandra Coelho; Ana Paula Serra; Marco Antonio Furlan de Souza; Tiago Sanches; Design(#); Administração(*)

19	Sustainability, Safety	A, C	Electrical Power Quality Monitoring	CP-IMT, Electrical Engineering, Control and Automation Engineering.	CeleSC/Daimon	ready	Wânderson Assis; Alessandra Coelho; Design(#); Administração(*)
20	Sustainability, Health, Safety, Joy of Living	A, B, C, D	Mobility with FuelCell vehicles	CP-IMT, Electronics Engineering, Electrical Engineering.	Equatorial/AVL/Daimon	ready	Wânderson Assis; Alessandra Coelho; Design(#); Administração(*)
21	Sustainability, Health	A, B	Narrowband Equipment for remote sensing	CP-IMT, Electronics Engineering	Thales/Gemalto	ready	Vanderlei Parro; Design(#); Administração(*)
22	Joy of Living	A, B, C, D	Hardware Platform for Weblab Applications - Education	CP-IMT, Mechanical Engineering, Electronics Engineering, Control and Automation Engineering.	IMT	ready	Wânderson Assis; Alessandra Coelho; Design(#); Administração(*)
24	Safety	C	Electrical Instalations	Electrical Engineering	IMT	ready	Wânderson Assis; Design(#); Administração(*)
25	Sustainability	A	Renewable energy - Solar Energy	Electrical Engineering	IMT	ready	Wânderson Assis; Alessandra Coelho; Design(#); Administração(*)
26	Safety	C	Internet of things (IOT), including Smart Campus, Smart Parking and Smart Cities	Electrical Engineering, Computer Engineering	IMT, CP-IMT	ready	Wânderson Assis; Alessandra Coelho; Tiago Sanches; Angelo Sebastião Zanini; Design(#); Administração(*)
27	Sustainability, Health, Safety, Joy of Living	A, B, C, D	Technological Applications in Precision Agriculture, biomedical engineering and process control.	Electrical Engineering, Computer Engineering	IMT	ready	Wânderson Assis; Alessandra Coelho; Design(#); Administração(*)
28	Joy of Living	D	Development of Scientific Instruments and Software for Earth-based, atmospheric or space-flight systems.	Electronics Engineering, Computer Engineering, Mechanical Engineering	IMT, FAPESP, GMTO, ESA	ready	Vanderlei Parro; Marco Antonio Furlan de Souza; Joseph Saab; Design(#); Administração(*)
29	Safety	C	Chemical and Biochemical Processes - Microwave applications	Electrical Engineering	IMT, FAPESP	ready	Prof. Edmilson Renato de Castro; Prof. Eduardo Pouzada; Wânderson Assis; Alesandra Coelho; Design(#); Administração(*)
30	Sustainability	A	Renewable Energy - Improving Efficiency in the use of Sugarcane-Ethanol in Internal Combustion Engines	Mechanical Engineering	IMT, FAPESP, PSA, CP-IMT, Other Universities	ready	Prof. Fernando Malvezzi; Prof. Renato Orsino; Design(#); Administração(*)
31	Sustainability, Health	A, B	Recycling processes: polyester-fiberglass composites; PET for 3D printing; printed circuit-boards for extracting metallic nanomaterials	Mechanical Engineering	IMT, Fapesp, USP	ready	Susana Lebrão; Guilherme Lebrão; Viviane Moraes; Design(#); Administração(*)

32	Sustainability, Safety	A,C	Development of Superhydrofobic materials for safety and cleaning-water use reduction	Mechanical Engineering	IMT	ready	Susana Lebrão; Guilherme Lebrão; Viviane Moraes; Design(#); Administração(*)
33	Sustainability, Health	A, B	Environmental Impact of A/C and Refrigeration systems gases	Mechanical Engineering	IMT, EPUSP, Danfoss	ready	Roberto de Aguiar Peixoto; Design(#); Administração(*)
34	Sustainability	A	Energy Consumption from A/C and Refrigeration systems	Mechanical Engineering	IMT, EPUSP, Daikin	ready	Roberto de Aguiar Peixoto; Design(#); Administração(*)
40	Sustainability, Health	A, B	Environmental Impact of GHG (Green-House Gas) Emissions	Mechanical Engineering	IMT	ready	Roberto de Aguiar Peixoto; Joseph Y. Saab Jr.; Design(#); Administração(*)
42	Sustainability, Joy of Living	A, D	Civil Engineering Materials	Civil Engineering	IMT	ready	Heloisa Cristina Fernandes Cordon; Fernando Luis Lavoie; Design(#); Administração(*)
43	Sustainability, Safety	A, C	Modeling and Methods on Structural Analysis	Civil Engineering	IMT, Ecorodovias	ready	Pedro Henrique Cerento de Lyra; Paula Katakura; Design(#); Administração(*)
44	Sustainability, Safety, Joy of Living	A, C, D	Manufacturing Automation and Intelligent Productive Systems: Integration of technologies for industry 4.0.	CP-IMT, Electronics Engineering, Electrical Engineering, Control and Automation Engineering, Computer Engineering.	IMT	ready	Alexandre H. Moreira; Anderson H. Moreira; Andressa Corrente Martins; Fernando S. Madani;; Design(#); Administração(*)
45	Safety, Joy of Living	C, D	Smart factory: Integration, connection and data exchange in manufacturing technologies for automation and management of the industrial environment.	CP-IMT, Control and Automation Engineering	IMT, Mitsubishi Electric Brazil	ready	Alexandre H. Moreira; Anderson H. Moreira; Andressa Corrente Martins; Fernando S. Madani; Aparecido R. Borghi; Design(#); Administração(*)
46	Safety, Joy of Living	C, D	Autonomous Mobile Robots Development	Control and Automation Engineering, Computer Engineering	IMT	ready	Alexandre H. Moreira; Anderson H. Moreira; Andressa Corrente Martins; Fernando S. Madani; Murilo Zanini de Carvalho; Design(#); Administração(*)
47	Health, Safety, Joy of Living	B, C, D	Service Bot: Development of service robots for human interaction.	Electronics Engineering, Control and Automation Engineering, Computer Engineering	IMT	ready	Alexandre H. Moreira; Anderson H. Moreira; Andressa Corrente Martins; Fernando S. Madani; Murilo Zanini de Carvalho; Tiago Sanches; Design(#); Administração(*)

(#) Mentores Design: Professora Claudia Facca

(*) Mentores Administração: Sandra Leonardo; Reynaldo Dannecker Cunha; Afonso Braga; Geraldo Prado; Joyce Zampirolli; Ricardo Balistiero; Luciano Venelli

Mentores Produção (consultar projetos que podem mentorar): Aparecido Borghi; Eduardo Linzmayer; Gabriela de Sá Leitão Mello; Jorge Kawamura; Nelson W. Paschoalinoto

FAPESP	São Paulo State Research-Support Foundation
GMTO	Giant Magellan Telescope Office (Australian, Brazilian, Korean and American Joint-Venture)
ESA	European Space Agency
IMT	The IMT non-profit parent organization grant funds twice annually for internal and external (non-IMT students) approved researches.
CP-IMT	IMT Reseach Center
PSA	Peugeot-Citroen Automotive Group
EPUSP	São Paulo State Polytechnic School of Engineering
Danfoss	Danfoss HVAC Corporation
Daikin	Daikin HVAC Corporation
N/N	Specific funding Not Necessary. Activities developed under the budget of the regular disciplines.
Daimon	An energy sector Corporation
Celesc	A Santa Catarina State Hoding - Electricity Generation and Distribution Services.
Sulgipe	A Sergipe State Hoding - Electricity Generation and Distribution Services.
Thales	Na Aerospace, Defense and Security French Company
Cognitivos	A Sustainability Services Company
Gemalto	A World Leader in Digital Security
USCS	São Caetano City University