

i-CREATe 2021

The 15th International Convention on Rehabilitation Engineering and Assistive Technology

To achieve a full participation of persons with disabilities, Her Royal Highness Princess Maha Chakri Sirindhorn initiates Thai-Singapore collaboration project on persons with disabilities. One of the projects is i-CREATe which aims to be a platform for assistive and rehabilitation technologies in ASEAN countries. The i-CREATe, initially started in 2007, has been jointly organized annually by National Science and Technology Development Agency (NSTDA) of Thailand and Singapore Therapeutic, Assistive and Rehabilitative Technologies (START) Centre of Singapore. It has become an annual conference of the Coalition on Rehabilitation Engineering and Technology of Asia (CREATe Asia) since 2016.

Into its 15th year, i-CREATe continues to provide an international platform of conference, Global Student Innovation Challenge, and exhibition featuring innovative technology, equipment, applications, techniques and materials applied in the field of Assistive and Rehabilitative Technology. It is also a stage for technical exchanges to share ideas and best practices in the disabilities field from across the countries. This conference will include a range of workshops on the types of assistive technologies available for use in education and employment. There will also be presentations by persons with disabilities using technologies in their daily lives, including education, training and employment.

We are very honored to have the presence of Her Royal Highness Princess Maha Chakri Sirindhorn for the 15th consecutive year. We are also pleased to invite you to the 15th International Convention on Rehabilitation Engineering and Assistive Technology (i-CREATe 2021) organized by Coalition on Rehabilitation Engineering and Technology of Asia (CREATe Asia) which will be held on 6-8 December 2021 at Millennium Hilton Bangkok Hotel in Bangkok, Thailand.

i-CREATe 2021 conference themes

1. Assistive Technology
 - Augmentative and Alternative Communication
 - Blind / Low Vision
 - Computer, Mobile Device and Web Access
 - Deaf and Hard of Hearing
 - Environmental Control
 - Mobility Aids
2. Biomedical Science and Technology
 - Stroke, Spinal Cord Injury, Traumatic Brain Injury, Cerebral Palsy, Dementia
 - Musculoskeletal Injury, Amputation, Respiratory Issue, Gait and Balance, Motor Control
 - Geriatric Rehabilitation, Paediatric Rehabilitation
3. Rehabilitation Technology
 - Cognitive Training and Assessments
 - Brain Computer Interface
 - Mixed Reality System
 - Neurorehabilitation Technology
 - Prostheses and Orthoses
 - Robotics
 - Transcranial Magnetic Stimulation
4. Social and Lifestyle
 - Building and Public Transport Accessibility
 - Disable Sports and Leisure Activities
 - Employment and Training
 - Inclusive Community
 - Public Policy and Service Delivery
 - Universal Design

Global Student Innovation Challenge (gSIC 2021)

The Global Student Innovation Challenge (gSIC 2021) is an annual event held at the International Convention on Rehabilitation Engineering and Assistive Technology (i-CREATe). It provides a platform to encourage students from all over the world to compete one another in developing creative and innovative devices or solutions to improve the quality of living of elderly and persons with disabilities. It showcases the extraordinary talents of these students while providing them the opportunity to work clients and clinicians to develop these innovative ideas. There are 2 categories in this challenge.

Design Category

Students are expected to apply User-Centered Design process to produce a concept that makes life easier for its users. Their solution could use any type of technology and result in an improvement to the quality of life, 'make life easier' for its users or enhance the user experience of the solution.

Technology Category

Student entries are expected to apply principles in Engineering and Information Technology principles to design and implement Assistive and Rehabilitative Technology solution to address the issues/problems faced by the need, their caregivers and clinicians.

Competitive requirement

This challenge is open to senior high school, post-secondary education, undergraduates and postgraduates. These include Universities, Polytechnics, and Institutes of Technical Education students. Submissions are invited from all students at all stages of their academic studies.

There is no limit to the number of teams that may compete from any given academic institute and each team can have up to 5 members. As the standard entry fee is set for 4 members, so additional fee is required for 5th member.

Entries submitted should not exceed two years of development. All participants must provide proof that they are students at the time of work for the challenge conducted.

Successful teams must bring their prototypes for the presentation. Large prototypes that are not transportable will be taken into consideration during the judging. In case of this, the movie or such kind

of visual material may assist your team. Selected entries will be notified by emails and are required to register for i-CREATe 2021.

Competition Guideline

1. The teams will submit the Entry Form of gSIC Project to i-CREATe 2021 website.
2. Expert reviewers will evaluate submissions to be selected to attend the Global Student Innovation Challenge at i-CREATe 2021 convention.
3. Selected teams will be expected to attend the convention with A1 size poster outlining their design and innovation. Prototypes will have to be displayed together with the posters at the convention to a panel of gSIC judges.
4. The finalists will be given 5 minutes for oral presentation covering the key ideas of the project to the panel of gSIC judges and followed by 2 minutes Q&A.
5. There will also be a prototype walk-through for the judges to grade each team during the convention. Each team will be given 5 minutes for their prototype demonstration and followed by 2 minutes Q&A.
6. Based on the judging criteria, the judges will rank and identify overall winners of the competition.

Judging Guideline

Design Category	Technology Category
Creativity / Idea Novelty (20%)	Creativity / Idea Novelty (20%)
Impact on Society and/or Professional Practice (20%)	Impact on Society and/or Professional Practice (20%)
Commercialization Potential (20%)	Commercialization (20%)
Prototype Design and Implementation (20%)	Prototype Engineering (20%)
Usability / Ergonomics (20%)	Usability / Ergonomics (20%)

Award

Awards	Design Category	Technology Category
Champion	A trophy, prize money and certificates for all members	A trophy, prize money and certificates for all members
1 st Runner-up	A trophy, prize money and certificates for all members	A trophy, prize money and certificates for all members
2 nd Runner-up	A trophy, prize money and certificates for all members	A trophy, prize money and certificates for all members
Merit Award	A trophy and certificates for all members	A trophy and certificates for all members
Best Presentation Award	A trophy and certificate for all members	A trophy and certificate for all members
Best Poster Award	A trophy and certificate for all members	A trophy and certificate for all members
Best Prototype Award	A trophy and certificate for all members	A trophy and certificate for all members
Peer's Choice Award	Public's Choice Award	Public's Choice Award
Public's Choice Award	Public's Choice Award	Public's Choice Award

The results of top 3 winners from each category will be announced at the i-CREATe 2021 Gala Dinner.

Intellectual Property

Kindly take note that i-CREATe will not have any involvement concerning Intellectual Property (IP) protection. Like other academic conferences or competitions, it is the participating institution's responsibility to protect their IP before disclosing their projects.

Important Dates

Date	Activity
15 July 2021	Paper/poster/workshop submission deadline
31 August 2021	Notification of paper/poster/workshop acceptance
15 September 2021	Submission of final manuscript
15 August 2021	gSIC submission deadline
15 September 2021	gSIC notification of acceptance
30 September 2021	Early Bird Registration
6 December 2021	gSIC 2021 competition @ Siridhorn Science Home, Thailand
7-8 December 2021	i-CREAtE 2021 @ Millennium Hilton Bangkok Hotel, Thailand
9 December 2021	Technical tours

International Organizing Committees (IOC)

IOC	Fullname	Organization	Country
General Chair	Pairash Thajchayapong	National Science and Technology Development Agency (NSTDA)	Thailand
Vice Chair	Wei Tech Ang	Rehabilitation Research Institute of Singapore, Nanyang Technological University	Singapore
Advisory Committee	Hongliu Yu	University of Shanghai for Science and Technology (USST)	China
	Narong Sirilertworakul	NSTDA	Thailand
	Robyn Chapman	Assistive Technology Australia	Australia
	Shih-Ching Chen	Taiwan Rehabilitation Engineering and Assistive Technology Society (TREATS)	Taiwan
	Simon Wong	Hong Kong Occupational Therapy Association (HKOTA)	Hong Kong
	Takaaki Chin	Hyogo Institute of Assistive Technology (HIAT) / Hyogo Rehabilitation Center (HRC)	Japan

IOC	Fullname	Organization	Country
Scientific Program and Editorial Committee Chair	Sarun Sumriddetchkajorn	National Electronics and Computer Technology Center (NECTEC), NSTDA	Thailand
Scientific Program Committees	Ananda Sidarta	Rehabilitation Research Institute of Singapore, Nanyang Technological University	Singapore
	Ananlada Chotimongkol	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Arun Kumar	Singapore Polytechnic	Singapore
	Benjamin Soon	Singapore Institute of Technology	Soingapore
	Bunyong Rungroungdouyboon	Thammasat University	Thailand
	Cha Cher Liang	Temasak university	Singapore
	Chan-Yun Yang	National Taipei University	Taiwan
	Chatchawan Hansakunbuntheung	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Cyril Donnelly	Rehabilitation Research Institute of Singapore (RRIS), NTU	Singapore
	David Banes	David Banes Access and Inclusion Services	United Kingdom
	Desmond Chong Yok Rue	Singapore Institute of Technology	Singapore
	Emma Friessen	NSW Paediatric Spinal Outreach Services	Australia
	Eng How Lung	Rehabilitation Research Institute of Singapore (RRIS), NTU	Singapore
	Hang Peng	Nanyang Technological University	Singapore

IOC	Fullname	Organization	Country
	Hong Liu Yu	University of Shanghai for Science and Technology (USST)	China
	Hsin-Yi Kathy Cheng	Institute of Early Invention, Chang Gung University	Taiwan
	Ian Gibson	Daekin University	Australia
	Jiro Sagara	Kobe Design University	Japan
	Kenneth Fong	The Hong Kong Polytechnic University	Hong Kong
	Kong Keng He	Tan Tock Seng	Singapore
	Li Lei	Nanyang Technological University	Singapore
	Meng Ee Wong	National Institute of Education	Singapore
	Onintra Poobrasert	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Phyllis Liang	Rehabilitation Research Institute of Singapore, Nanyang Technological University	Soingapore
	Pichaya Tandayya	Prince of Songkla University	Thailand
	Renzo Andrich	Centre for Innovation and Technology Transfer / IRCCS Fondazione Don Carlo Gnocci	Italy
	Robyn Chapman	Assistive Technology Australia (AT Australia)	Australia
	Stephane Bressan	National University of Singapore	Singapore
	Surapa Thiemjarus	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Tracey Lee	Singapore Polytechnic	Singapore
	Yodchanan Wongsawat	Mahidol University	Thailand

IOC	Fullname	Organization	Country
	Yuichiro Honda	Hyogo Institute of Assistive Technology (HIAT) / Hyogo Rehabilitation Center (HRC)	Japan
	Zhongxu Hu	Nanyang Technological University	Singapore
Publicity Co-Chairs	Robyn Chapman	Assistive Technology Australia	Australia
	Wantanee Phantachat	National Science and Technology Development Agency (NSTDA)	Thailand
gSIC Co-Chairs	Piyawut Srichaikul	National Electronics and Computer Technology Center (NECTEC), NSTDA	Thailand
	Simon Wong	Hong Kong Occupational Therapy Association (HKOTA)	Hong Kong
gSIC Judges	Duojin Wang	University of Shanghai for Science and Technology (USST)	China
	Hock Soon (Andrew) Chia	Assistive Technology Australia (AT Australia)	Australia
	Kavin Karunrattanakul	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Piyawut Srichaikul	National Electronics and Computer Technology Center (NECTEC), NSTDA	Thailand
	Robyn Chapman	Assistive Technology Australia (AT Australia)	Australia
	Simon Wong	Hong Kong Occupational Therapy Association (HKOTA)	Hong Kong
	Yuichiro Honda	Hyogo Institute of Assistive Technology (HIAT) / Hyogo Rehabilitation Center (HRC)	Japan
Secretariat	Channarong Prommakan	National Nanotechnology Center (NANOTEC), NSTDA	Thailand

IOC	Fullname	Organization	Country
	Jagkapong Pipitpukdee	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Jessada Jongsukvarakul	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Sarinya Chompoobutr	Assistive Technology and Medical Devices Research Center (A-MED), NSTDA	Thailand
	Vera Yang	Rehabilitation Research Institute of Singapore (RRIS), NTU	Singapore

Supported by CREATE Asia

- Assistive Technology Australia (AT Australia), Australia
- Australia Rehabilitation Assistive Technology Association (ARATA), Australia
- China Association of Assistive Products (CAAP), China
- Hong Kong Occupational Therapy Association (HKOTA), Hong Kong
- Hyogo Institute of Assistive Technology (HIAT) / Hyogo Rehabilitation Center (HRC), Japan
- Korean Association of Assistive Technology Professional (KAATP), South Korea
- National Science and Technology Development Agency (NSTDA), Thailand
- New Zealand Federation of Disability Information Centre (NZ FDIC), New Zealand
- Rehabilitation Engineering Society of Japan (RESJA), Japan
- Singapore Therapeutic, Assistive and Rehabilitative Technologies (START) Centre
- Taiwan Rehabilitation Engineering and Assistive Technology Society (TREATS), Taiwan
- University of Shanghai for Science and Technology (USST)
- Universiti Teknologi Malaysia (UTM), Malaysia

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