

List of MNDRF awarded projects for the MNDRF RFP 07/02

Name of PI/ Co-PI	Collaborating organisation	Project objective
1. Test-bedding of building integrated wind turbine system		
Christopher French (PI) Wee Boon Kiat Kelly Tan	NuEnergy Pte Ltd City Developments Ltd	To analyse on-site wind patterns, test-bed of prototype of Building Integrated Wind Turbine System and on-site performance evaluation of 2 nd generation wind turbine in a residential development in Singapore
2. Developing a carbon index for construction projects		
Dr Teo Ai Ling, Evelyn (PI) Dr Kua Harn Wei Assoc Prof Lee Siew Eang Dr Asanga Gunawansa Eugene Seah Alice Goh	NUS Davis Langdon & Seah BCA	To understand the capacity of current lifecycle analysis tool such as the ENVEST2, in calculating carbon equivalents and develop a comprehensive carbon library
3. Enhancing energy efficiency through web-based real-time building energy audit and benchmarking		
Assoc Prof Lee Siew Eang (PI) Benny Raphael Sekhar Chandra Tan Tian Chong	NUS BCA	To identify suitable technology components and platform and develop a web-based wireless, real-time energy consumption monitoring system for Singapore's building
4. Effective removal of organic pollutants and bacteria/germs for indoor air quality control under normal indoor lighting		
Prof Tan Ooi Kiang (PI) Prof Tse Man Siu (Co-PI) Prof Chang Wei Chung	NTU	To develop a low cost high volume process for the production of the nano-structured materials suitable for self-cleaning of air-bound chemical pollutants using normal indoor lighting
5. Enhancing the use of unwanted soils for land reclamation purpose - solving an environmental problem and developing a viable alternate fill		
Prof Tan Thiam Soon (PI) Assoc Prof Phoon Kok Kwang Ng Kim Chua Chia Way Seng Tee Choon Peng	NUS HDB Surbana Int'l	To develop design methods to use such treated soils in the most optimal ways and recommend construction methodology for the use of treated soils for future reclamation
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6. Synthetic aggregate from dredged material and industrious slag fine		
Wang Danmei Roy Tan Hsin Loong Yvonne Soh	Newearth Pte Ltd BCA Academy	To develop and pilot-test Newearth's technological process to convert dredged materials and selected industrial wastes into synthetic sand and aggregate materials suitable for non-structural civil and construction applications and test-bed the synthetic sand and aggregates in concrete mix for actual site application
7. Designed for disassembly building systems for Singapore		
Assoc Prof Gary Ong Khim Chye (PI) Assoc Prof Somsak Swaddiwudhipong Pang Sze Dai Sisomphon Kritsada Dr Johnny Wong	NUS HDB	To develop disassembly building systems to maximize materials conservation from building end-of-life management and create adaptable buildings to avoid building removal together
8. Performance Approach to Recycled Aggregates Classification		
Prof Ting Seng Kiong (PI) Assoc Prof Wee Tiong Huan Yvonne Soh	NTU NUS BCA Academy	To develop method of classifying recycled aggregates for use in concrete by performance; appropriate tests for establishing recycled aggregates quality and performance; and recycled aggregate specifications for appropriate concrete applications
9. Development of cost-effective wall for sustainability in construction		
Assoc Prof Wee Tiong Huan (PI) Prof Yong Kwet Yew Prof Koh Chan Ghee Prof Ng Kim Choo Assoc Prof Phoon Kok Kwang Dr Tamilselvan Thangayah Lim Hwee Sin Pek Lian Guan Tian Liang	NUS DE Consultants Pte Ltd Tiong Seng Construction Pte Ltd Singapore-U Technologies Pte Ltd	To propose a process and application for a closed-loop up-cycle recycling of waste concrete and masonry and explore the feasibility of using recycled aggregate processed from waste concrete and masonry for production of hollow core wall panels
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10. Full Scale Evaluation of the Use of Recycled Concrete Aggregate (RCA) in Structural Concrete Applications		

Dr. Ho Nyok Yong (PI) Koh Oon Bin Dr. Kelvin Lee Yang Pin Assoc Prof Ting Seng Kiong Guah Eng Hock Ronny Ong Yvonne Soh Dr. Edward Anggadjaja	Samwoh Corporation Pte Ltd NTU SamGreen Pte Ltd BCA Academy	To conduct a full-scale study to evaluate the use of RCA in structural concrete for building structures and monitor performance of a three-storey building constructed using concrete with RCA
11. Development of vertical greenery systems for the tropics		
Dr Johnny Wong (PI) Er Yap Tiem Yew Alan Tan Hock Seng Chan Yeow Kwang Derek	HDB NParks	To develop a prototype vertical greenery system which is self-sustaining with minimal maintenance and study, test and build up a repository of suitable plant species for purposes of the vertical greenery system as well as to develop floristic biodiversity
12. To develop landscape guidelines for the application of green plot ratio (GnPR) in Singapore		
Dr Ong Boon Lay (PI) Dr Tan Puay Yok Caroline Seah Alan Tan Hock Seng- Andrew Ho Ramon Torres	NUS NParks URA HDB JTC Corporation	To determine the optimal levels of GnPR as appropriate for various landuse types and develop guidelines on use of GnPR to achieve various desired landscape designs and intent
13. Silent Nights Project - Quiet natural ventilation for tropical high-rise homes		
Richard Hassell (PI) Andre Lovatt	WOHA Pte Ltd Arup Singapore	To investigate ways to supply acoustically treated natural ventilation in a practical and immediately implementable fashion and ways that this air can be further conditioned using greenhouses or green walls to remove city pollutants and create healthier indoor air
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14. In vitro Propagation technology for Endangered/ Difficult Tree Species		
Dr. Hong Yan (PI) Dr. Fong Yok King	Temasek Life Sciences NParks	To develop plant tissue culture technology for a selected list of tree

		species (either being endangered in Singapore, or having heritage value, or having high ornamental value but difficult to propagate with seeds or vegetative cutting).
15. Understanding the Genetic Diversity of Important Urban Trees in Singapore to Enable Effective Management		
Dr. Hong Yan (PI) Dr. Fong Yok King	Temasek Life Sciences NParks	To understand the genetic diversity of <i>Pterocarpus indicus</i> and <i>Samanea saman</i> in Singapore to enable effective management, and develop microsatellite genetic profiling technology for <i>Pterocarpus indicus</i> and <i>Samanea saman</i>
16. Urban development in the coastal zone: Garden Cities in the sea		
Tan Koh Siang (PI) Sin Tsai Min Serena Teo Lay Ming Chua Kok Eng Chia Wee Song Lim Tai Yan Chou Loke Ming Chia Way Seng Tee Choon Peng Tan Wui Hin	Tropical Marine Science Institute HDB NUS Surbana Int'l	To develop coastlines that may be used as nature recreation and conservation areas and enhance marine biodiversity in Singapore by creating living spaces for marine life on the extensive urban coastline.
17. The social capital of green spaces		
Dr. Belinda Yuen, NUS (PI) - Victor Tan Hee Hiong - A/P Mardie Townsend - Dr. Claire Henderson- - John Senior, Parks Victoria	Nparks Deakin University	To develop a tool for social capital impact assessment and to measure the social capital impact of green spaces - the extent of social connectedness, sense of place, health and well-being among residents in high-rise high-density neighborhoods.

BCA: Building & Construction Authority
HDB: Housing & Development Board
NParks: National Parks Board
NTU: Nanyang Technological University
NUS: National University of Singapore
URA: Urban Redevelopment Authority