**National Academy of Engineering Grand Challenge Scholars Program**

**Research Themes & Sustainable Development Goals**

CECS research interests align with many of the 14 Grand Challenges as listed below. Check the research themes and groups within the College here <https://cecs.anu.edu.au/research> for more information and opportunities.

**CECS Research Theme Aligned Grand Challenge(s)**

Energy Make Solar Energy Economical

Provide Energy from Fusion

Restore Urban Infrastructure

Fabrication Restore and Improve Urban Infrastructure Engineer Better Medicines

Information Engineer the Tools of Scientific Discovery

Intelligence Reverse-Engineer the Brain

Secure Cyberspace

Prevent Nuclear Terror

Materials Provide Access to Clean Water

Manage the Nitrogen Cycle

Develop Carbon Sequestration Methods

Systems Advance Personalised Learning

Enhance VR

Theory Advance Health Informatics

The 14 Grand Challenges align to many of the 17 United Nationals (UN) Sustainable Development Goals (SDGs) agreed to in 2015 and aiming eradicate poverty and inequality by 2030 (from Reynolds 2016):

**Grand Challenge SDGs**

Make solar energy economical 7, 11, 12

Provide energy from fusion 7

Develop carbon sequestration methods 9, 11, 12, 13

Manage the nitrogen cycle 2, 7, 12, 13

Provide access to clean water 6, 12, 13, 14, 15

Advance health informatics 2, 3, 5, 6

Engineer better medicines 3, 5

Reverse-engineer the brain 3

Prevent nuclear terror 16, 17

Enhance virtual reality 2-15, 17

Engineer the tools of scientific discovery 1-15, 17

Advance personalized learning 4, 5, 10, 17

Secure cyberspace 8, 9, 11, 12, 16, 17

Restore and improve urban infrastructure 3, 6-9, 11-15, 17

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