



TAIWAN TECH

National Taiwan University of Science and Technology

Department of Civil & Construction Engineering

I-TUNG YANG
Professor & Chair

2019.09

Milestones

- 1 • Department established in 1975
- 2 • 1976 Bachelor Program
- 3 • 1979 Master Program
- 4 • 1983 Doctoral Program
- 5 • 2005 International Student Program (Graduate)
- 6 • 2007 IEET Accreditation (Undergraduate)
- 7 • 2008 IEET Accreditation (Graduate)
- 8 • 2010 Dual-degree International Program
- 9 • 2019 International Student Program (Undergraduate)

Accreditation of Department

- The Department have passed the accreditation of engineering and technology education programs by the **IEET (The Institute of Engineering Education Taiwan)** in 2007, 2008 and 2013 respectively.
- The diplomas of undergraduate and graduate students of the Department will be worldwide accredited by the members of **Washington Accord**.



International Reputation



QS 2019 World Univ.



World **251**



Taiwan **5**

QS Civil and Structural Engineering



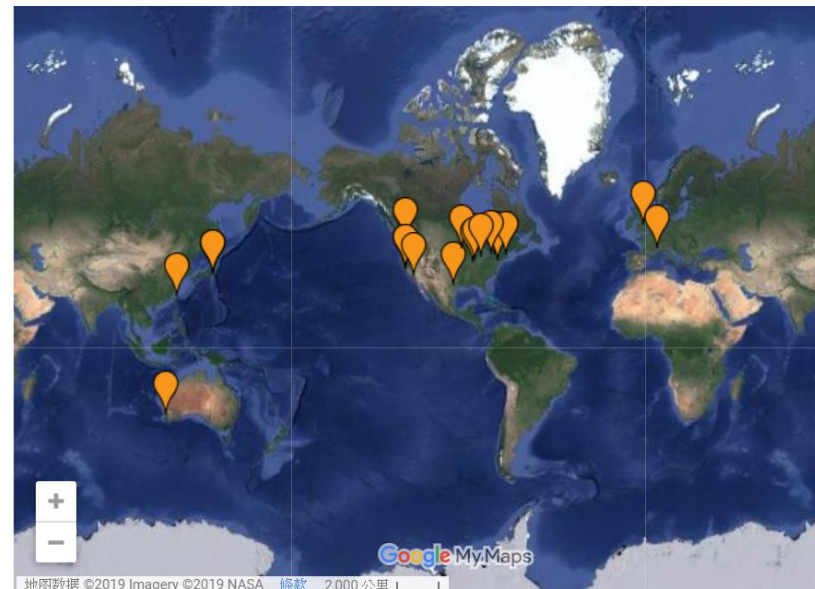
World **101-150**



Taiwan **3**

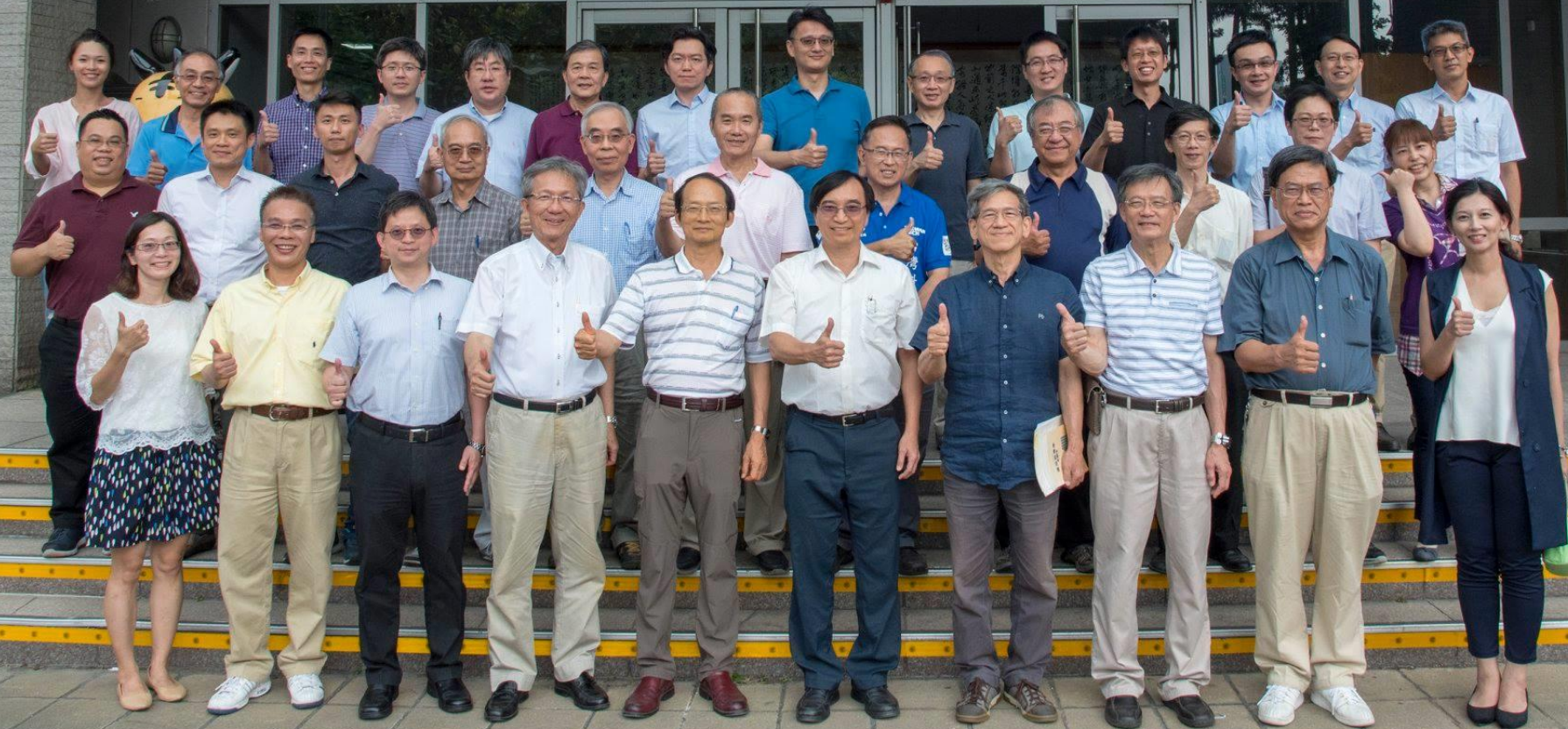
Faculty and Staff Members

- 33 full time faculty members
 - 19 full professors
 - 9 Associate professors
 - 5 Assistant professors
- 5 project faculty members
- 26 part-time faculty members
- 8 staff members
 - 4 supporting staff
 - 4 technicians



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TAIWAN TECH
National Taiwan University of Science and Technology



Chairman

Professor I-TUNG YANG

■ Ph.D., U. of Michigan, Ann Arbor, U.S.A.

■ Research areas:

Construction Management,
Decision under Uncertainty,
Computational Intelligence,
Information Technology



Research Divisions



Construction
Management



Geotechnical
Engineering

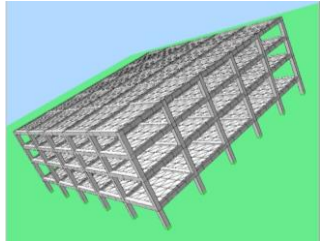


Structural
Engineering

Construction
Material



Information
Technology



Construction Management

RESEARCH FOCUS

Project Management

Risk Management
Financial Engineering
Decision Support
Strategic Management

Infrastructure Systems

Maintenance Management
Disaster Management
Sustainable Engineering

Planning and Design

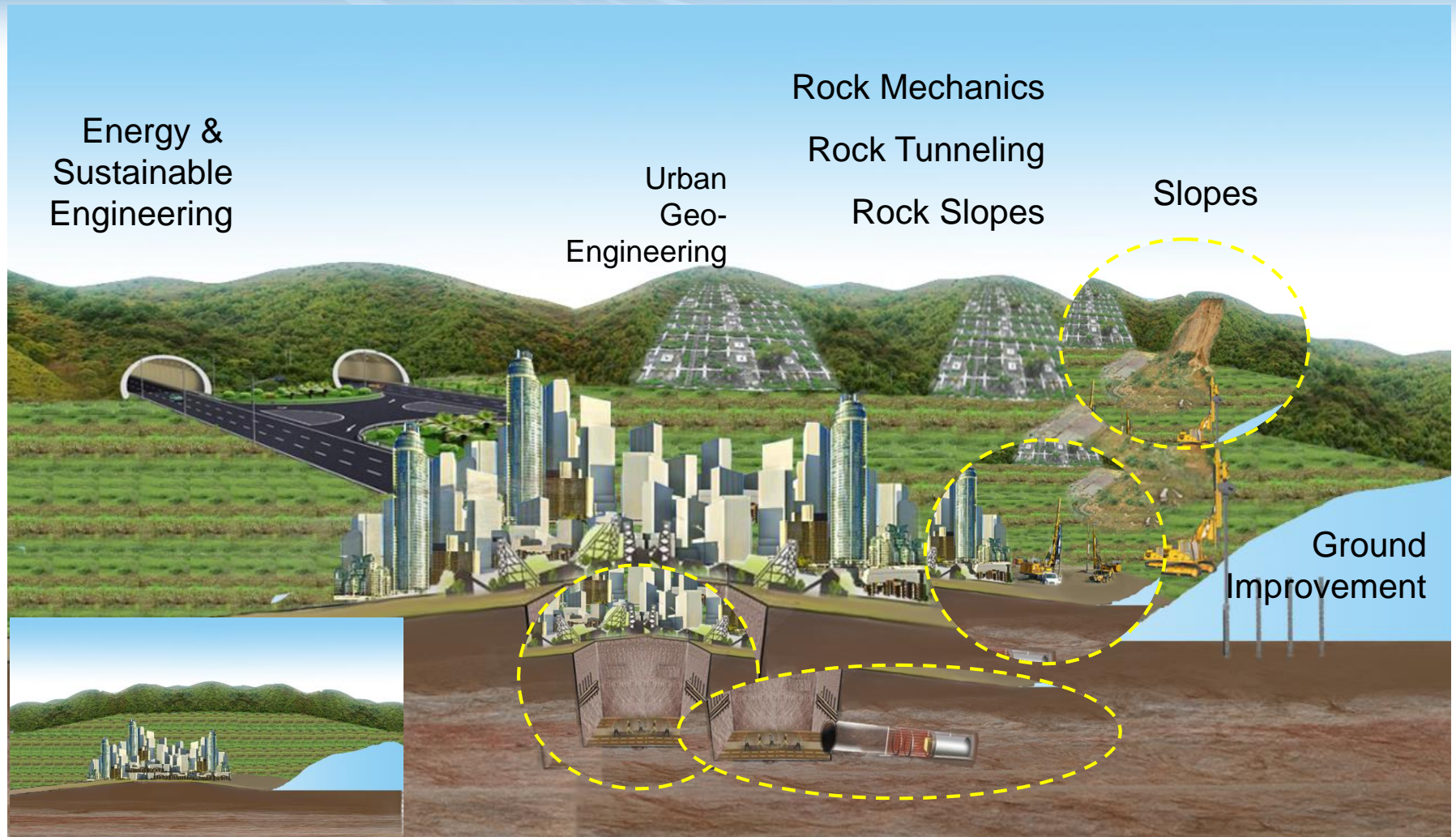
Green Building
Process Re-Engineering
Building Information
Modeling

AI and Computing in Management

Artificial Intelligence
Optimization Algorithm
Internet of Things
Simulation

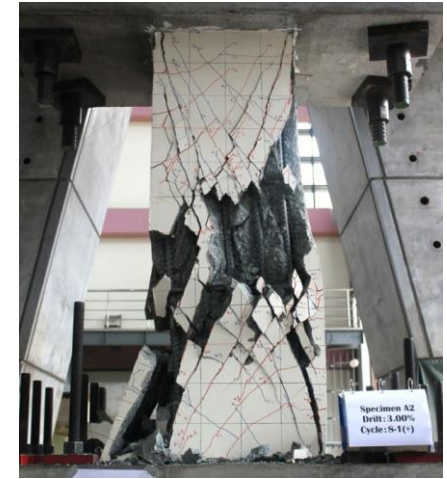


Geotechnical Engineering

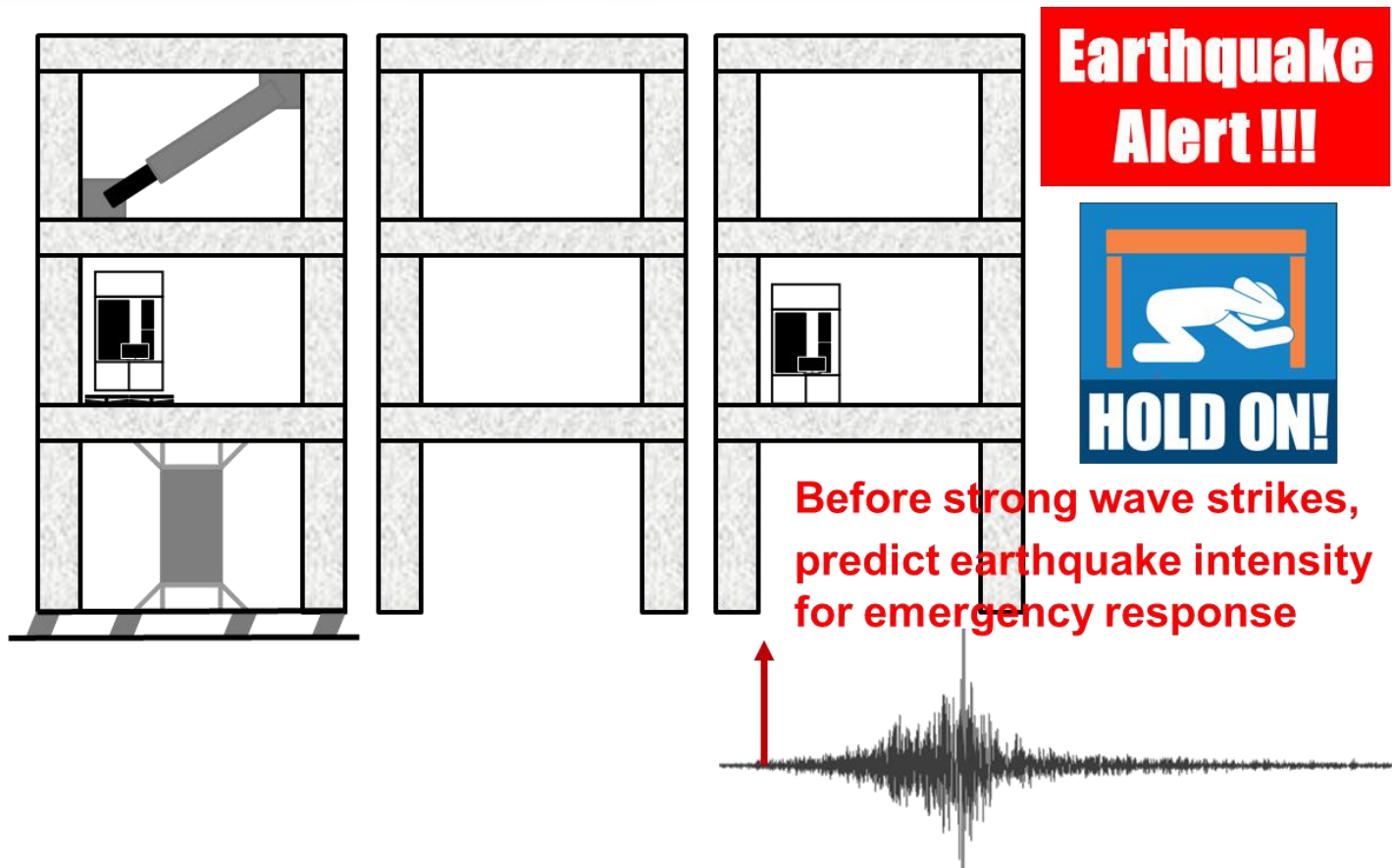


Structural Engineering

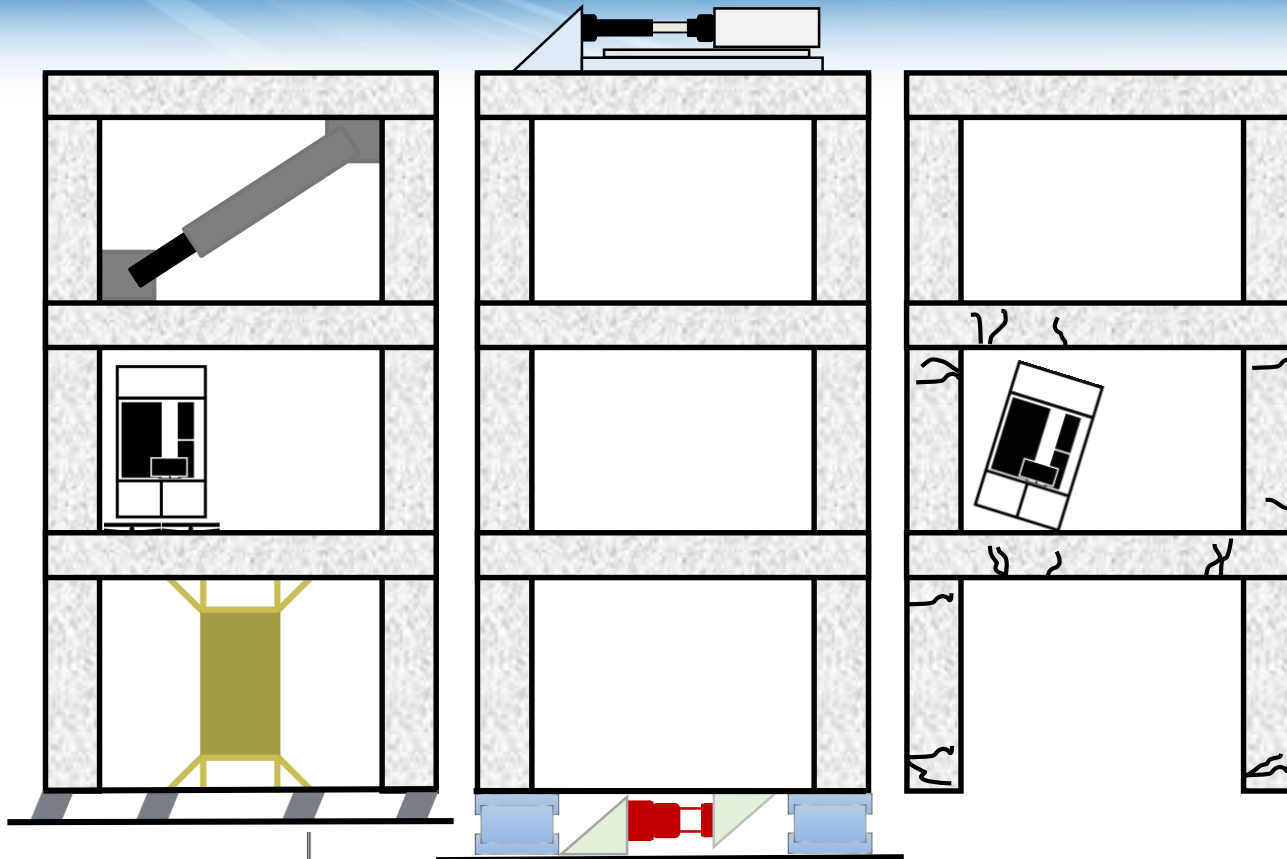
- Life-cycle management / Rehabilitation
- Structure
 - Reinforced Concrete
 - Steel
 - Hybrid
- Earthquake Engineering



Before Earthquake

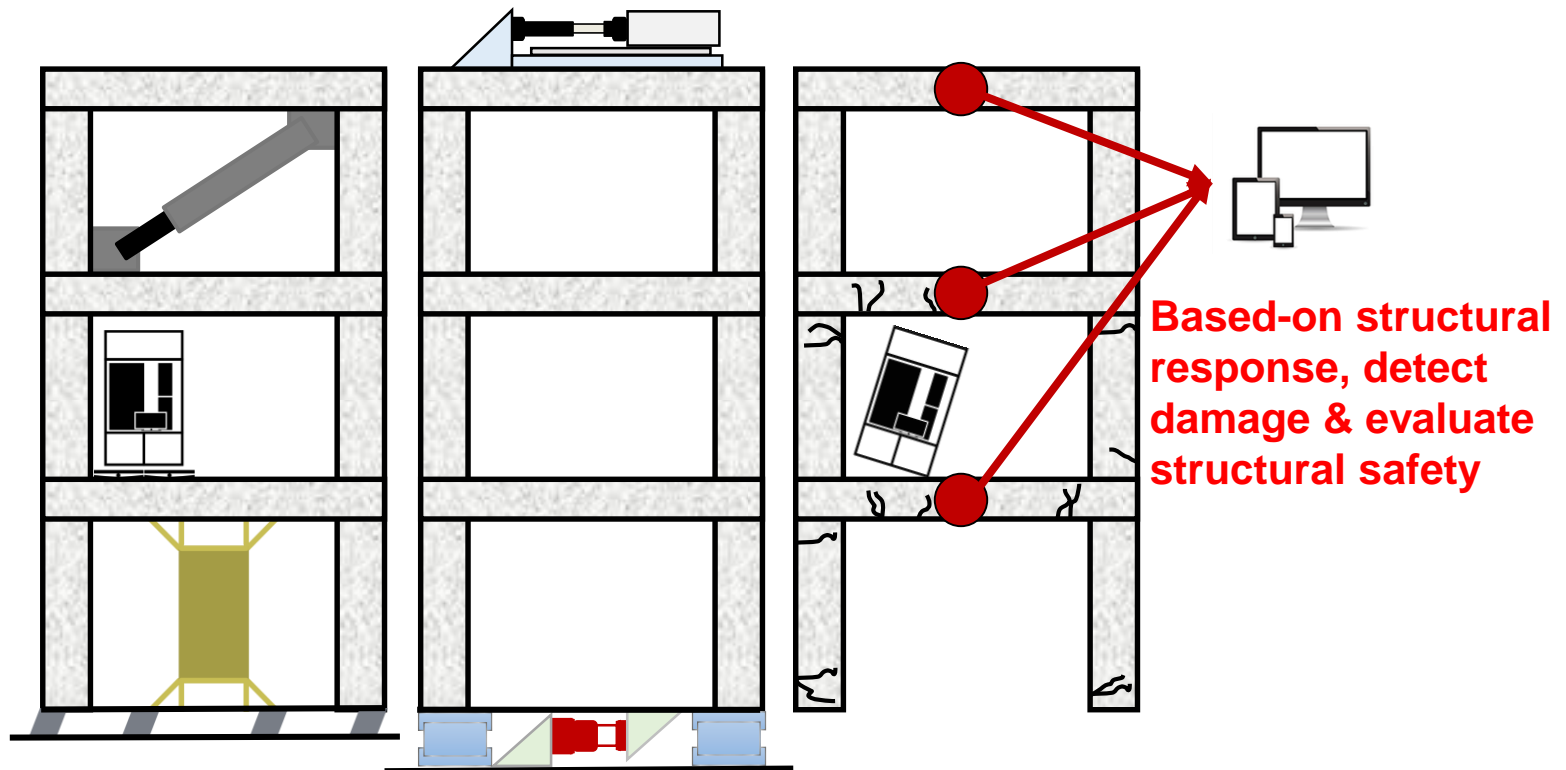


During Earthquake



Semi-active Control
MR Damper

After Earthquake



Construction Material

- Concrete material / Corrosion
- Circular material
(slag, mud, ash, wastes)
- Solar glass
- Sponge city
- Pavement material



Concrete Bowling Balls

Information Technology

Cloud

Computing & Service



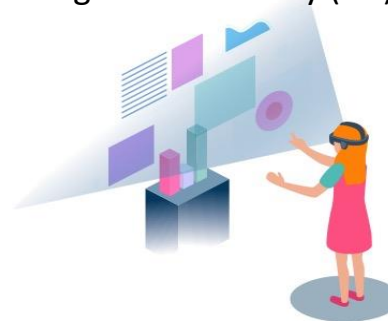
Internet of Things (IoT)

Smart Building



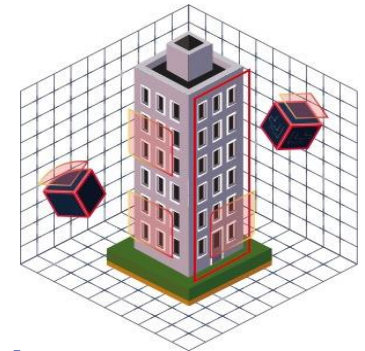
Visualization

Virtual Reality (VR)
Augmented Reality (AR)



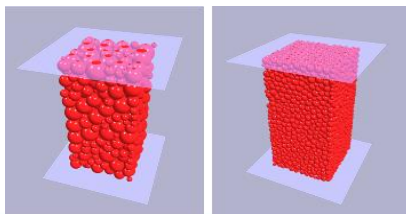
BIM

Life-cycle Engineering



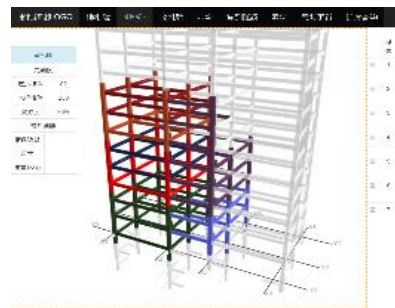
Superior Design

High-speed/High-fidelity simulation, Parameter estimation, Construction site risk assessment with BIM-based presentation



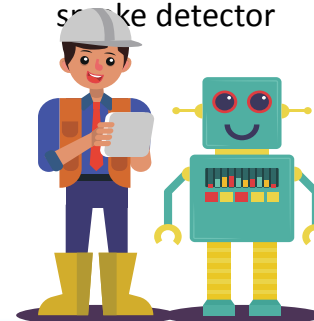
Better Construction

BIM-based steel structure erection scheduling and communication platform



Safer World

Slope/structure safety monitoring, visual inspection assistance, smart smoke detector



Enabled by IT

MCU, SBC, Mobile, Multicore PC, GPU, PC clusters, Internet-Scale Computing



Information Technology

3D Spatial Mapping

LiDAR + UAV



Intelligent Image Processing

Deep learning

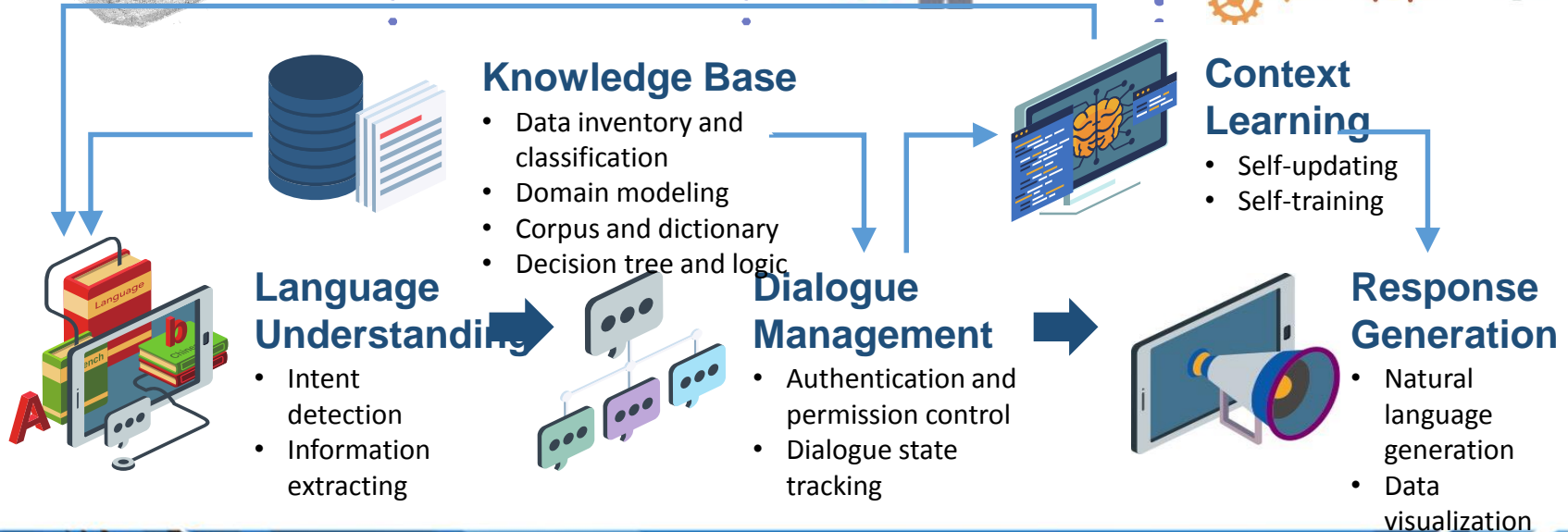


Spatial Information Applications

Pavement Quality Assessment
Sensors + IoT + Big data analysis



Sewer Inspection Platform
Decision support + Self-



Facilities (1/2)

Geotechnical Laboratory



Rock Mechanics Laboratory



Surveying Laboratory



Material Laboratory



Facilities (2/2)



Structural
Laboratory



Computer Laboratory



Construction Materials Testing Center



Local Students (up to 2019/05)

- 33 Doctoral Students
- 240 Master Students
- 361 Bachelor Students



International Students (up to 2019/05)

- Up to 2018, Taiwan Tech has 1400+ international students;
No. 1 in Taiwan
- Currently, CCE has 62 international students from 11 countries
 - 21 Doctoral
 - 39 Master
 - 2 Bachelor students)

Indonesia	37
Vietnam	7
Ethiopia	4
Gambia	3
Burkina Faso	2

Eswatini	2
Kenya	2
Philippines	2
Hungary	1
Turkey	1
Iraq	1

International Alumni (up to 2019/05)

- Our alumni include 42 international Ph.D. and 209 Master graduates (from 12 countries) ; **No. 1 in Taiwan**



- Sepuluh Nopember Institute of Technology
- Universitas Kristen Petra
- Universitas Katolik Parahyangan
- Universitas Muhammadiyah Yogyakarta
- Matana University
- University of Danang

iSACCE - NTUST

International Student Association of Civil & Construction Engineering (iSACCE)



International Partnership

(department level)



- Tokyo Univ.
- Univ. of Tokushima
- Osaka Institute of Technology
- Fukui Univ.
- Univ. of the Ryukyus
- Seoul Univ.
- Yonsei Univ.
- Sungkyunkwan Univ.
- National Univ. of Singapore
- Univ. of Indonesia
- Institute of Technology Bandung
- Sepuluh Nopember Institute of Technology
- Universitas Gadjah Mada
- Wayne State University
- University of Alabama in Huntsville
- Eindhoven University of Technology
- Lomonosov Moscow State University

Partners in Czech

(university level)

1. Brno University of Technology

2. Czech Technical University in Prague
3. University of Hradec Kralove
4. University of Pardubice
5. Technical University of Ostrava
6. Technical University of Liberec
7. University of West Bohemia



International Collaboration

- Exchange professors/students
- Laboratory internship (3 to 6 months)
- Bachelor, Master, Doctoral degree-seeking
- Dual degrees
 - 2+2 Bachelor, 3+2 Fast-track, 1+1 Master, 2+2 PhD
- Intensive courses (9 , 18, or more hours)
- Summer camp



Video



Why CCE at NTUST?

<https://youtu.be/BZi6Dk9eIQE>



Contact Info



Please contact **Chair Yang, I-Tung** for inquiries regarding international collaboration, or Ms. Fang for assistance in administrative affairs. Their contact information is as follows

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