National Taiwan University of Science and Technology

Shi-Shuenn Chen
President
September 2007
History

- **1974** Founded as The National Taiwan Institute of Technology
  *1st Technical University in Taiwan*

- **1997** Renamed The National Taiwan University of Science and Technology

*Former & Current Presidents*

[Images of former and current presidents]
# Taiwan’s Education System

<table>
<thead>
<tr>
<th>Level</th>
<th>Duration</th>
<th>Description</th>
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<tbody>
<tr>
<td>Elementary School (6)</td>
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<tr>
<td>Junior High School (3)</td>
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<tr>
<td>Senior High School (3)</td>
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<tr>
<td>University &amp; College (4)</td>
<td>2-3</td>
<td>Master’s Program (2-3)</td>
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<tr>
<td>Tech. Univ. &amp; Col. (4)</td>
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<tr>
<td>Tech. Univ. &amp; Col. (2)</td>
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<tr>
<td>2-year Jr. Col.</td>
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<td>5-year Jr. Col.</td>
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<tr>
<td>Sr. Vocational High School (3)</td>
<td>3-year</td>
<td>Doctoral Program (3-7)</td>
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<tr>
<td>Junior High School (3)</td>
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<tr>
<td>Elementary School (6)</td>
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Faculty & Staff Members

Faculty Members (Total 383, Ph.D. 96%)
- Professors 153
- Associate Professors 89
- Assistant Professors 110
- Instructors 13
- Contractor professor 18

Staff Members (273)
- 132 Administrative staff members
- 71 Technical staff members
- 64 Maintenance workers
Current Student Body

Total: 9000

Doctoral: 1050
Master’s: 3150
Bachelor’s: 4800

1.2
Colleges & Departments (1)

College of Engineering
- Mechanical Engineering
- Polymer Engineering
- Construction Engineering
- Chemical Engineering

Engineering
- Automation & Control
- Materials Science & Technology

Departments

Graduate Institutes
Colleges & Departments (2)

College of Electrical & Computer Engineering

- Department of Electronic Engineering
- Department of Electrical Engineering
- Department of Computer Science & Information
- Graduate Institute of Opto-Electronic Engineering
Colleges & Departments (5)

College of Liberal Arts & Social Sciences

- Department of Applied Foreign Languages
- Department of Humanities
- Department of General Education
- Graduate Inst. of Technological & Vocational Education
Achievements (1)

**Overall**
- **Top 12 University Grant.** Received part of the top-level university grant sponsored by Ministry of Education (MOE)
- **The Best Technical university in Taiwan (MOE)**
- Most graduate programs are ranked top from 5th to 6th nationally

**Faculty**
- Ranked 6th in number of recipients of Excellent Research Awards by the National Science Council (NSC)
- Ranked 1st in Technology Licensing individually-allocated funding
- Received *The ACM SIGGRAPH 2005 Computer Animation Festival Award*
Achievements (2)

**University-Industry Cooperation**
- Ranked 4th in The Industry-University Cooperative Research Awards (Ministry of Education)

**Technology Licensing**
- Ranked 3rd in overall amount of NSC Technology Licensing funding
- Declared one of the top five Best Technology Licensing Centers by the NSC

**Students**
- Graduates chosen by Cheer’s Magazine as among the industry’s top six most-preferred students
- Awarded more than 60 awards in international or national design contests in the past five years, including 2007 if Design Award (German)
Research Achievements

High-rise Building Earthquake-Resistant Beam Patent
Patent used in almost 86 buildings and in the Taipei 101 Skyscraper

HPC Patent
Used in Tuntex Sky Tower, Kao-hsiung
Research Achievements

The ACM SIGGRAPH 2005 Computer Animation Festival Award

2005 Jin-Yi Award
The First Prize of Creative Design Award for Photovoltaics and Application
# Taiwan Results in ESI (1996-2006)

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<tbody>
<tr>
<td>NTU</td>
<td>1877</td>
<td>13</td>
<td>49 (121)</td>
<td>31 (64)</td>
<td>58 (77)</td>
<td>47 (128)</td>
</tr>
<tr>
<td>NCKU</td>
<td>1172</td>
<td>7</td>
<td>96 (177)</td>
<td>26 (65)</td>
<td>26 (63)</td>
<td>206 (363)</td>
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<tr>
<td>NTHU</td>
<td>583</td>
<td>5</td>
<td>101 (182)</td>
<td>79 (146)</td>
<td>38 (72)</td>
<td>110 (226)</td>
</tr>
<tr>
<td>NCTU</td>
<td>637</td>
<td>5</td>
<td>21 (67)</td>
<td>35 (81)</td>
<td>119 (173)</td>
<td>362 (476)</td>
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<tr>
<td>NCU</td>
<td>566</td>
<td>5</td>
<td>160 (212)</td>
<td>174 (189)</td>
<td>222 (238)</td>
<td>488 (617)</td>
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<tr>
<td>NCHU</td>
<td>749</td>
<td>5</td>
<td>296 (387)</td>
<td>354 (493)</td>
<td>471 (525)</td>
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<tr>
<td>NTUST</td>
<td><strong>383</strong></td>
<td><strong>4</strong></td>
<td><strong>162 (241)</strong></td>
<td><strong>142 (257)</strong></td>
<td><strong>219 (310)</strong></td>
<td><strong>446 (567)</strong></td>
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<tr>
<td>NSYSU</td>
<td>459</td>
<td>4</td>
<td></td>
<td>202 (266)</td>
<td>244 (376)</td>
<td>461 (657)</td>
</tr>
<tr>
<td>NYMU</td>
<td>360</td>
<td>3</td>
<td></td>
<td></td>
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<tr>
<td>CCU</td>
<td>478</td>
<td>3</td>
<td>159 (251)</td>
<td>295 (442)</td>
<td></td>
<td>618 (744)</td>
</tr>
<tr>
<td>NTOU</td>
<td>354</td>
<td>3</td>
<td></td>
<td>508 (644)</td>
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* Rank in no. of papers (Rank in citation no.); ESI: Essential Science Indicators
Ranked 454th in the world (QS THES)

Taiwan Results by Faculty Area
- Peer opinion, Citations per paper, Not aggregated

1. Arts & Humanities
   - NTU (124), NTHU (293)
2. Engineering & IT
   - NTU (43), NTHU (101), NCKU (141), NTUST (152)
3. Life Sciences & Biomedicine
   - NTU (59), NCKU (242)
4. Natural Sciences
   - NTU (61), NTHU (175), NTUST (243)
5. Social Sciences
   - NTU (58), NCCU (197)
Campus Development Plans

Gong-guan Campus: 2.3 hectares
Main Campus (Taipei): 10 hectares
Kee-lung Campus: 9.5 hectares
Tu-cheng Campus (Taipei County): 5 hectares
Tsu-Bei Campus (Hsinchu): 20 hectares
Collaboration
- Jointly founded by Academia Sinica, NTUST, NCTU, NCKU
- UC Berkeley, Carnegie Mellon University (CMU), etc.

TWISC (Taiwan Information Security Center)
- TWISC@NTUST
- TWISC@NCTU
- TWISC@NCKU

Data security
- Cryptography, data protection

Software/Hardware security
- Software verification, IC card security, embedded system security

Network security
- Security protocol, wireless network security, firewall, intrusion detection system

Information Security Management System
- Security policy, privacy protection, intelligent property protection
Opto-Mechatronics Technology Center

Opto-Mechatronics component design & manufacturing

Low db Plastic Optical Fiber Disk Array heat transfer analysis

Opto-Mechatronics sub-system

Double-wave length laser light

Opto-Mechatronics system design & integration

Micro-drill Laser inspection system
WavePro

USB Dongle

Stereo Headset

DVB Tuner

Bluetooth Card Reader

Far Field and Near Field Antenna Measurement Facility
Intelligent Robot Center

Robot Theater
Dancing, Singing, Imitation show Drawing… etc.

Intelligent Robot DOC-1 & DOC-2
Teach English Spelling
Solve Algebraic Problem
Play Gobang, Chess and Chinese Chess
Recognize Human Faces
Interpret Facial Expressions
Energy Conservation & Environmental Protection Center

- Renewable energy system research
- Clean energy system development
- Building lighting and equipment energy saving
- Small wind and solar photovoltaic systems
- Building ventilation energy-saving technology
建材物理化學性能基礎研究
高性能綠色建材研發
健康綠建材研發
綠色建材產業開發
亞熱帶綠建材研發與應用
建築資訊網路平台
建築照明與色彩整合系統
建築安全監控
前瞻優質數位生活環境系統
生活安全產業開發
前瞻優質創意設計
建築生命週期監控
亞熱帶室內環境品質
新世代SRC結構系統
高性能鋼結構系統
■都會地下工程建築災變防制
■山坡地建築防災技術
International Outreach

- Academic Cooperation
  - Memorandum of Understanding
  - Academic Exchange Programs
  - Dual Degree Programs
  - Research Cooperation

- Language Skills
  - English Taught Courses
  - Intensive English Courses
  - Free Chinese Courses
Internationalization

- **Foreign Students**
  - 185 (1.2%) international students

- **Countries of Origin**
  - U.S., Indonesia, Thailand, Czech, India, Italy, etc.

- **Courses**
  - 50% of the courses in The Engineering Graduate School are conducted in English
  - Intensive English Summer Camps
  - Free Mandarin-Chinese Language Courses

- **Objective**
  - To reach 350 (3.5%) international students by 2010
There are over 50 students clubs. Student activities include sports, cultural events, performing arts, religious clubs, and more.
International Partnerships

- **U.S.** Ohio State Univ., Univ. of California-Berkeley, Tulane Univ., Univ. of Kansas, Rochester Inst. of Technology, etc.

- **Central America** Univ. of San Carlos, etc.

- **Europe** Univ. of Leeds, ETH Zurich, EPF Lausanne, Ecole Speciale D'Architecture, Univ. Rene Descartes Paris, Czech Technical Univ./Prague, etc.

- **Australia** Queensland Univ. of Technology, etc.

- **Asia** Kanagawa Univ., Tokyo University, Moscow State Technical Univ., Moscow Aviation Inst., Institut Teknologi Sepuluh Nopember, Institut Teknologi Bandung, Univ. of Mongolia, Univ. of the Philippines
International Cooperation

- Harvard Business School, USA
  - Cooperation Program on Case-Study International Method

- University of California, Berkeley, USA
  - Earthquake Research Center

- Tokyo University, Japan
  - Cooperative Agreement and Student Exchange

- University of Salford, UK
  - Cooperative R&D on Creative Thinking Center

- Kansas State University
  - Student Exchange

- St. Petersburg, Russia University, USA
  - Research Cooperation

- University of California, Santa Barbara, USA
  - Cooperative Agreement

- Czech Technical University
  - 5 exchange students and research cooperation

- Ministry of Education, Nicaragua
  - Pursuing 20 of Taiwan Scholarship for International Students

- Ministry of Education, Indonesia
  - Dual Degree and Student Exchange Program

- Ohio State University, USA
  - Student Exchange

- Illinois Institute of Technology, USA
  - Faculty and Student Exchange
A Glocal Touch with a global view:

Establishing a World-Class University of Multifaceted Excellence through International Outreach and Applied Research