



Department of Electrical Engineering,
Tsinghua University



History and Facts

Department of Electrical Engineering (DEE) of Tsinghua University, founded in 1932, is one of the three earliest engineering departments since the foundation of the university.

為學在嚴
為人要正



Motto

Logo



Academic level

First place in the first three discipline assessments, A+ in the fourth and fifth.



Undergraduates

- **516** undergraduate students (including **43** students in the Energy Internet International Program)



Graduates

- **393** doctoral students (including **70** part-time students)
- **180** master students (including **42** part-time students)



Faculty

- Faculty members **102**
- **11** Fellows of CSE/CSET, **13** IEEE Fellows, **29** IET Fellows

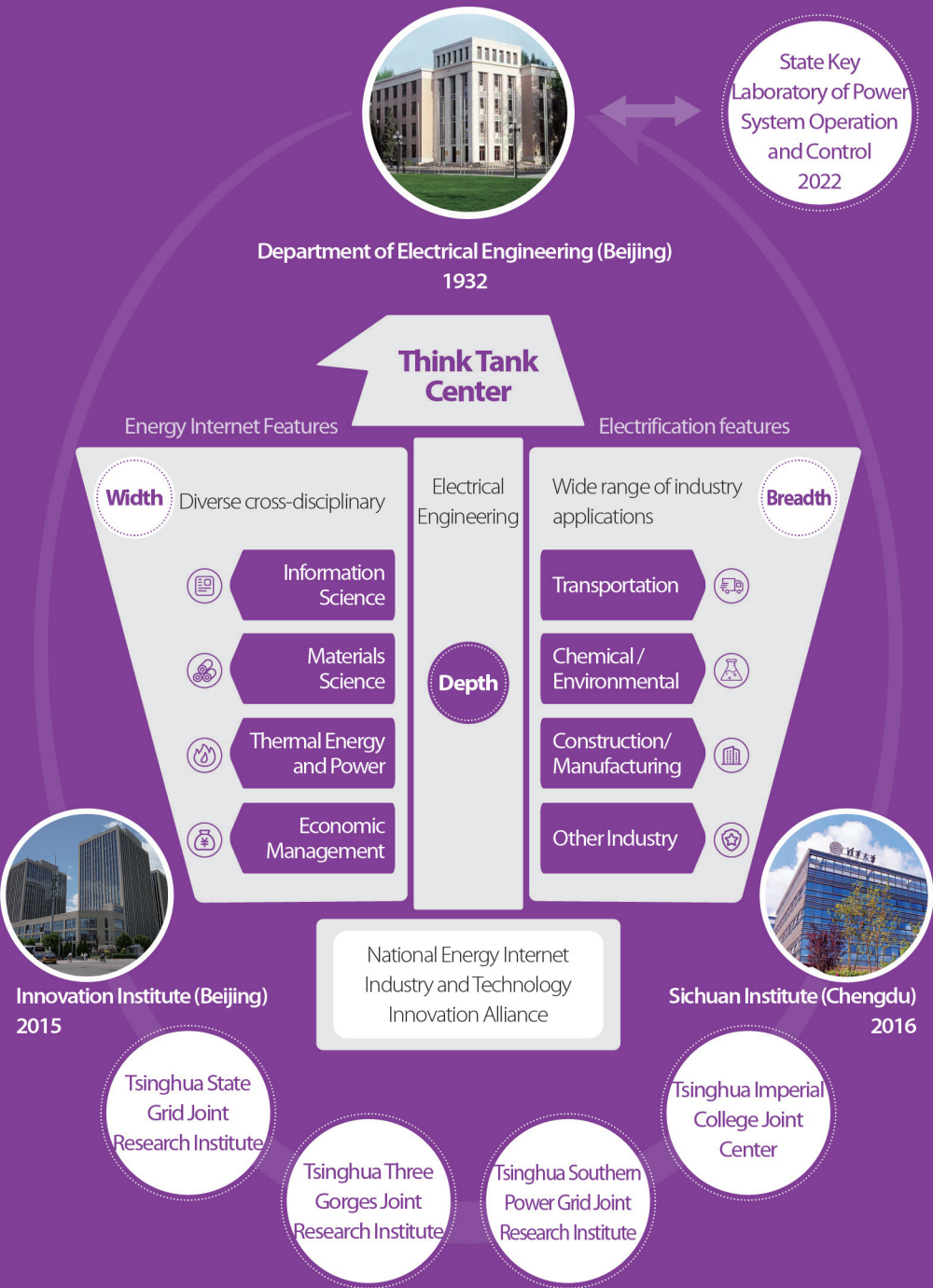


Alumni

- **19,000+** students
- **860+** faculties and staffs, **340+** post-docs
- **20,000+** in total

Organization

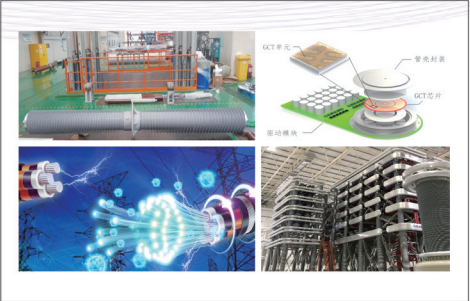
"One Department, Two Institutes, One Lab and One Alliance" Organizational Structure, "One Axis and Two Wings" Discipline System



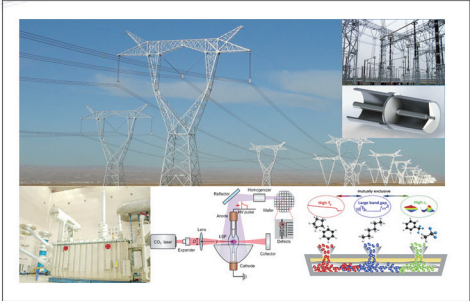
Research

Facing the major needs of the country, we achieved a number of important scientific innovation achievements.

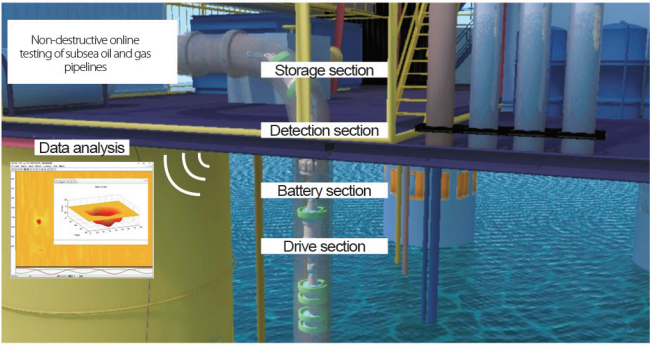
Key Materials, Devices and Equipment



Intelligent dielectric materials and DC key equipment

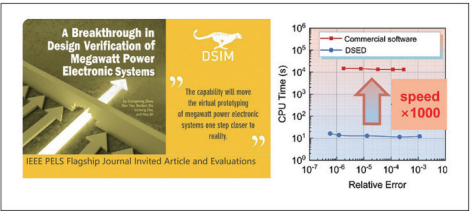


High voltage technology and power equipment

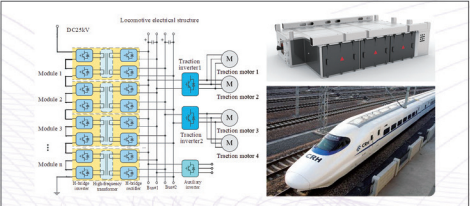


Non-destructive online inspection technology for oil and gas pipelines

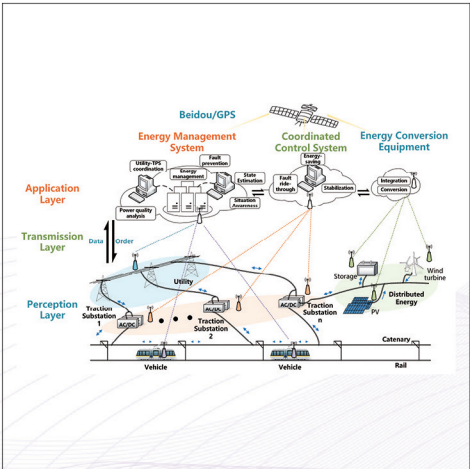
Advanced Power Electronics and Energy Conversion System



Power electronics simulation software DSIM

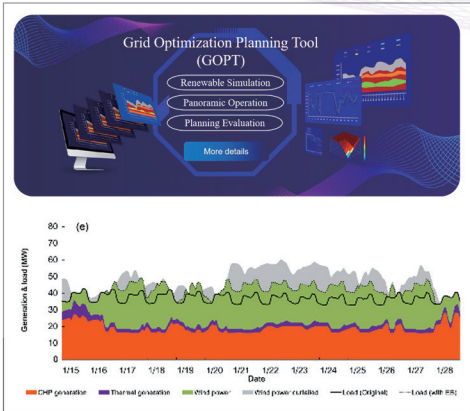


Power electronic transformer for high speed train traction drives

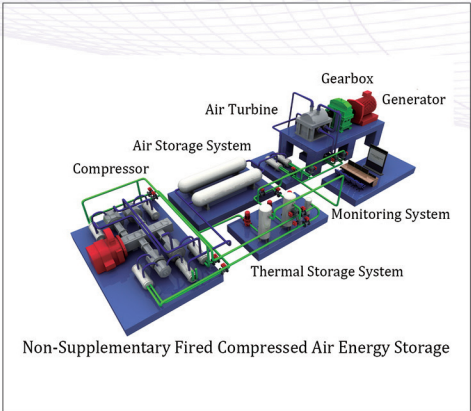


Rail transit flexible power supply system

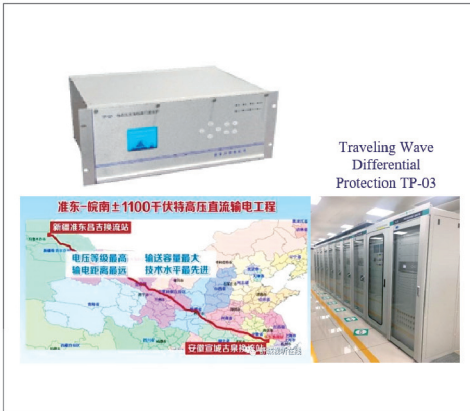
Complex Power Grid and Planning & Operation of Energy System



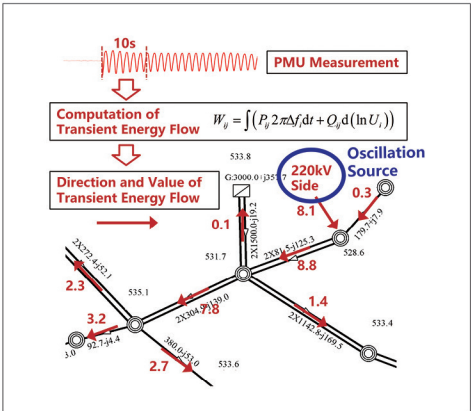
- High percentage of renewable electricity system planning and operation simulation



- Non-combustion compressed air energy storage technology



- Traveling wave differential protection TP-03 applied to UHV DC lines

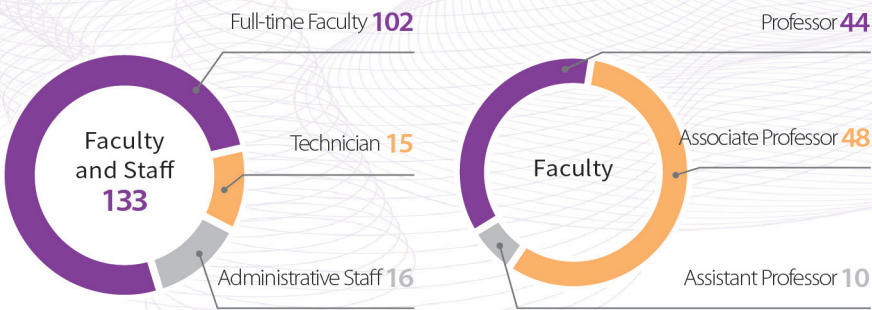


- Online analysis and emergency control of power system oscillation



- Integrated energy management for multiple energy streams

Faculty and Staff



11 Research teams have been founded since 2017, covering all related areas of power and energy engineering.



Prof. Mei Shengwei Safe control and efficient operation of modern power system	Prof. Min Yong Analysis and operation of new energy power system	Prof. Kang Chongqing Energy market and planning operation	Prof. Sun Hongbin Energy management systems of energy network
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Prof. Dong Xinzhou Power system protection	Prof. Zhao Zhengming Large capacity power electronics and new power transmission	Prof. Li Yongdong Advanced power conversion and electrified transportation	Prof. Lu Chao State awareness and equipment of AC and DC power grid
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Prof. He Jinliang Advanced electromagnetic materials and systems	Prof. Liang Xidong High voltage technology and equipment	Prof. Huang Songling Electromagnetic testing and equipment safety evaluation
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Teaching

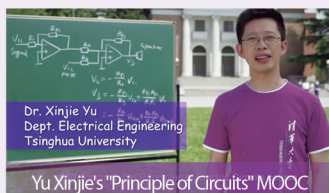
Enrollment

- Enrolls about 120 undergraduates a year, including 15 in the **Energy Internet International Class**. All undergraduates are educated with a four-year education program of Electrical Engineering and Automation.
- Enrolls about 130 graduates a year, including about 50 Master's students (**Energy Internet**) and about 80 Doctoral students (**Electrical Engineering**).



Online Teaching

- DEE has developed a **new International Energy Internet Program**, dedicated to cultivating future top-profile innovation leaders with international vision in the energy field.
- DEE actively explores "**student-centered**" teaching mode, besides offering **the first MOOC** (massive open online courses) of Principles of electric circuits in China.
- The online teaching team of the Department of Electrical Engineering was awarded **the Advanced Group of Tsinghua University** in 2020.



"Dream Network" Project

- Since 2014, students from the Department of Electrical Engineering have initiated the "Dream Network" project to **build photovoltaic microgrids** for **several small schools in remote areas in the west** to solve the problem of electricity shortage, which was reported by several central media.



International Cooperation

DEE has dedicated to build a comprehensive international academic cooperation system covering institutions, journals and conferences.



Co-founded the Energy Internet and Energy Systems Integration Conference (EI2) with IEEE



Establishment of Tsinghua University-Imperial College Joint Research Center for Smart Power and Energy Systems



Co-founded the International Conference on Sustainable Power and Energy (ISPEC) with the Chinese Society of Electrical Engineering



Established Beijing Green Energy and Electricity Security International Science and Technology Cooperation Base



Hosted the International Conference on AC/DC Power Transmission (ACDC)



Construction of China-Italy "Belt-and-Road" Advanced Manufacturing Laboratory



2022 iEnergy
He Jinliang as Editor-in-Chief



2018 IET Nanodielectrics
Dang Zhimin as Editor-in-Chief

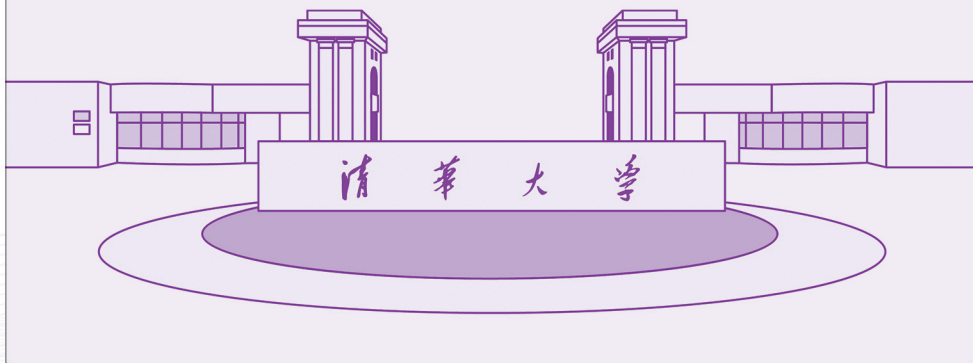


2015 High Voltage
Guan Zhicheng as Editor-in-Chief

Looking Forward

Tsinghua University 2030 Strategic Plan

Facing the future challenges, Department of Electrical Engineering of Tsinghua University will continue to carry forward the tradition of "Dedication to the Country and Pursuit of Excellence", uphold the department motto of "Rigorous in Learning and Righteous in Conduct", actively promote the development of discipline, improve the quality of talent training, and make significant contributions in serving the national energy revolution strategy.





**Department of Electrical Engineering,
Tsinghua University**

📍 West Main Building, Tsinghua University, Haidian District, Beijing

✉ 100084

☎ 010-6278 2014

💻 <https://www.eea.tsinghua.edu.cn/>

