



Yujing Liu, Full Professor

Head of Electrical Machines and Power Electronics

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After 17 years working in ABB Corporate Research with the last position of Senior Principal Scientist, Yujing Liu became full professor in 2013 on electrical power engineering at Chalmers with focus on the applications of electrical machines and power electronics in sustainable electrical systems. Yujing Liu leads his research team to develop innovative and cost-effective solutions for renewable energy conversion and transportation electrification. Some examples of on-going research include (1) electrically-excited machine; (2) integrated PE-machine drive; (3) fuel cell powered drivetrain; (4) modular distributed vehicle drive; (5) 5-level MV NPC converter and generator for renewable power; (6) synchronous reluctance motor; and (7) electrified drive for vessels; and (8) inductive charging (3.7 kW to 200 kW). He is Chalmers' project leader in 2 EU Horizon2020 projects. He teaches the course "Electrical Machines: Design and Analysis" for 80 master students and PhD course "High Efficiency Electrical Machines" for 26 students. Now he supervises 1 postdoc, 9 PhD students, 2 project researcher and several master students. In 2018 he is appointed as the Head of Unit for Electrical Machines and Power Electronics at Dept. of Electrical Engineering at Chalmers.

Employments:

1. 2018.03~now: **Head of Electrical Machines and Power Electronics** at Department of Electrical Engineering, Chalmers University of Technology.
2. 2013.02 ~ now: **Full Professor** on electrical power engineering, Chalmers.
3. 1996.05 ~ 2013.02: **Senior Principal Scientist** (since 2008. The only person in ABB worldwide held a same or higher researcher title in machine and drive area at the time), Principal Scientist (since 2004), Project Leader (since 1998), Development engineer (since 1996), in ABB Corporate Research, Västerås, Sweden. Has worked with 1000MVA turbo-generator design for nuclear plants, 40MW synchronous motors for compressor drives, 56kV/44MW cable-wound motor for oil-platform Troll-A, 6MW permanent magnet (PM) wind generators, 6MW high speed induction motor. Worked also with high power SynRM, MV drives, 3D simulations, FEM design tool, and design software for LV and traction motors.
4. 1994.05 ~ 1996.05: Visiting researcher, Dept. of Applied Electronics, Royal Institute of Technology (KTH), Kista, Stockholm, Sweden
5. 1985.05 ~ 1994.04: **Associate professor** (since 1991), **deputy head** of Electrical Machine and Control Devices (since 1989), lecturer (since 1988), and assistant lecture (since 1985). Dept. of Electrical Engineering, Harbin Institute of Technology (HIT), Harbin, China. Worked with 24kW PM torque motor, wind generator, high precision speed generator and other servomotors.

Educations:

1. 1985.04 ~ 1988.12: **PhD in electrical engineering on electrical machines**, HIT, China
2. 1978.10 ~ 1985.01: BSc and MSc in electrical engineering on electrical machines, HIT, China

Others:

1. Published 60 peer-reviewed journal and conference papers
2. Holds 26 patent applications and 10 granted patents
3. IEEE Senior member
4. Member in Swedish Standard Committee on Electrical Machines
5. Member in Steering Committee of International Conference of Electrical Machines (ICEM)
6. Member in Steering Committee of International Conference on Ecological Vehicles and Renewable Energies (EVER)
7. Chairman of Organization Committee of 24th ICEM in 2020 in Gothenburg