



**Thomas G Habetler**
Professor
*Technical Interest Groups: Electrical Energy*

email
T: 404/894-9829
F: 404.894.4641
VL E172

Prof. Habetler is a native of Racine, Wisconsin. He received the B.S.E.E. degree in 1981 and the M.S. degree in 1984, both in electrical engineering, from Marquette University, Milwaukee, Wisconsin, and the Ph.D. degree from the University of Wisconsin-Madison, in 1989.

From 1983-1985, he was employed by the Electro-Motive Division of General Motors as a Project Engineer. While there, he was involved in the design of switching power supplies and voltage regulators for locomotive applications. In 1985 he was awarded the General Motors Fellowship to attend the University of Wisconsin-Madison.

Dr. Habetler is most well known for his work in sensorless (current- and voltage-based) condition monitoring of electric machines. This includes sensorless bearing fault detection, turn-to-turn insulation fault detection and rotating mechanical fault/unbalance detection. Practical, low cost on-line motor monitoring has been achieved in his work though the use of neural network-based systems that eliminate the need for maintenance experts to interpret the data. This has led to a significant amount of

research in neural network applications in power electronics. Other research areas include speed-sensorless direct torque control of ac machines, sensorless speed estimation, sensorless temperature estimation, and controlled rectifiers.

He currently serves as President of the IEEE Power Electronics Society, and as Chair of the Industrial Power Converter Committee of the IEEE Industry Applications Society. He has published over 75 technical papers in power electronics and electric machines, and has worked closely with industry while at Georgia Tech.

**Research interests:**

- Current-based condition monitoring of electric machines
- Control of electric machine drives
- Power electronics
- Design and protection of electric machines

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