

PROMOTION RECOMMENDATION

The University of Michigan
College of Engineering

Michael P. Flynn, assistant professor of electrical engineering and computer science, Department of Electrical Engineering and Computer Science, College of Engineering is recommended for promotion to associate professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering.

Academic Degrees

B.E.	1988	National University of Ireland (UCC), Cork, Ireland, Electrical Engineering
M.Eng.Sc.	1990	National University of Ireland (UCC), Cork, Ireland
Ph.D.	1995	Carnegie Mellon University, Electrical Engineering

Professional Record

2001-present	Assistant Professor of Electrical Engineering and Computer Science
1997-2001	Part time lecturer (adjunct professor), National University of Ireland (UCC)
1992-2001	Fellow, Technical Director, Parthus Technologies
1995-1997	Member of Technical Staff, Texas Instruments, DSP R&D, Dallas, TX
1993-1995	Resident Scholar, National Semiconductor, Santa Clara, CA
1990-1991	Research Scientist, National Microelectronics Research Centre, Cork

Summary of Evaluation

Teaching: Professor Flynn is a gifted teacher that cares deeply about his students and makes himself available to answer questions and counsel his students on their professional careers. His teaching evaluations have been consistently well above the College average. His students repeatedly mention how much they appreciate his careful preparation for lectures and his ability to lead them through complex subjects, handing out valuable notes but leaving blanks in those notes that they can fill in through the lectures. He has introduced challenging design projects into his classes, sometimes with prizes sponsored by major companies, and has recruited personnel from these companies to provide guest lectures to make those classes exciting and relevant. Since coming to Michigan, Professor Flynn has introduced one new course and substantially revised two others. As a result, the curriculum in solid-state circuits at Michigan has quickly increased in stature to the point where it is competitive with the best such programs in the country.

Professor Flynn has a group of twelve doctoral students working under his supervision, and it is clear that they enjoy and appreciate having him as an advisor. He motivates them to do their best, recognizing that out-of-class teaching by example is one of the most important roles for a faculty member. He is willing to spend time with his students, whether they are working on one of his research projects or working on a homework assignment from class. He is an advisor to our Circuits and Microsystems Ph.D. track, and in so doing has had many opportunities to help students with their programs and in planning their careers.

Research: In research, Professor Flynn is nationally and internationally known as a world-class pioneer in data converters, having introduced the concept of folding data converters in his doctoral research. This work has led to an entirely new area of research and to commercial products. He has attracted significant support for his research from both industry and from the National Science Foundation, where he has been awarded a CAREER award. He has published nine journal articles to date, has two more in review, has two others in preparation, and has no less than 35 conference papers to his credit. His publications are in

the leading journals and conferences in the field. Most importantly, his work has been seminal and is uniformly regarded as innovative and creative. His recent work on redundancy in data converters and on RF transceivers is regarded as potentially of great importance. The recent acceptance of two papers at the *International Solid-State Circuits Conference* puts Michigan in very elite company.

We expect Professor Flynn to be a prolific researcher whose papers will continue to lead the field of solid-state circuits. He collaborates with many colleagues within the University, at other universities, and in industry. Many of these are interdisciplinary collaborations, extending microelectronics into biomedicine, transportation, and environmental monitoring, where society faces increasingly critical problems.

Recent and Significant Publications:

- Park, S. and M. P. Flynn, "A 4GS/s 4bit Flash ADC in 0.18 μ m CMOS," to be presented, *IEEE International Solid State Circuits Conference (ISSCC)*, San Francisco, February 2006.
- Chen, J., M. P. Flynn, and J. Hayes, "A Fully Integrated Auto-Calibrated Super-Regenerative Receiver," to be presented, *IEEE International Solid State Circuits Conference (ISSCC)*, San Francisco, February 2006.
- Kang, J., J. Park, and M. P. Flynn "Global High-Speed Signaling in Nanometer CMOS," *Asia Solid State Circuits Conference (A-SSCC)*, November 2005.
- Kocer, F. and M. P. Flynn "A New Transponder Architecture for Long-Range Telemetry Applications," *European Conference on Circuit Theory and Design*, August 2005.
- Flynn, M. P., C. Donovan, and L. Sattler, "Digital Calibration Incorporating Redundancy of Flash ADCs," *IEEE Transactions on Circuits and Systems II: Analog and Digital Signal Processing*, Vol. 50: 5, pp. 205-213, May 2003.

Service: Professor Flynn has made significant contributions in the area of service, both within the University and in his profession. His service as associate editor for the *IEEE Transactions on Circuits and Systems* and on the technical program committee of the *IEEE International Solid-State Circuits Conference* attests to the high regard in which he is held professionally and his commitment to leadership in the field. His efforts within the department have likewise been significant. He has served as an advisor to our Circuits and Systems Ph.D. track, and has served for the past four years as one of five thrust leaders in our Engineering Research Center for Wireless Integrated MicroSystems. He has done a superb job making this thrust one of the real strengths of the Center.

External Reviewers:

Reviewer (A): "Mike's pioneering innovations in CMOS folding and flash ADC design have very quickly elevated him to one of the top contributors in this area." "The perhaps most striking attribute of Mike is the diversity of his results. Already he has made important contributions to high speed serial links and RF transceivers. Although new in these areas, he is already proposing new approaches with a potential to significantly change those fields."

Reviewer (B): "I do not know of any analog circuits faculty at his career stage who has had as much impact."

Reviewer (C): "I am particularly impressed by two of his published projects... Both projects address important and challenging problems. The chips are unusual in that they are complete, integrated systems.... They demonstrate a combination of creativity and excellent execution that in my view place Mike in the top rank of researchers in his field in terms of research quality."

Reviewer (D): "I believe Michael Flynn is one of the best junior faculty members in the United States today and that he has the potential to play a key role in developing a program that will be at or near the top of all programs in his field in this country."

Reviewer (E): "I have known of Michael since he graduated from CMU, and have consistently been impressed by the quality of his work. He has made very notable contributions in a number of areas of mixed-signal circuit design, and, quite simply, I consider him to be one of the premier researchers and scholars of his generation in the field of integrated circuit design."

Summary of Recommendation: Professor Michael P. Flynn has excelled in every aspect of faculty life: teaching, research, and service. It is with the support of the College of Engineering Executive Committee that I recommend him for promotion to associate professor of electrical engineering and computer science, with tenure, Department of Electrical Engineering and Computer Science, College of Engineering.



Ronald Gibala,
Interim Dean, College of Engineering

May 2006