

Curriculum Vitae

Charles Byrne (Charles_Byrne@uml.edu)
Department of Mathematical Sciences
University of Massachusetts Lowell
Lowell, MA 01854, USA

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Born: April 16, 1947, in Melrose, Massachusetts

Current address: 116 Hanks Street, Lowell, MA 01852

1 Education

I have a B.S. from Georgetown University (1968) and an M.A. (1970) and Ph.D. (1972) from the University of Pittsburgh, all in Mathematics.

2 Employment

In the fall of 1972 I joined the Mathematics Department of The Catholic University of America (CUA), Washington, D.C., as an Assistant Professor. In 1978 I was tenured and promoted to Associate Professor. In 1983 I became a Full Professor. I was chairman of that department from 1983 to 1986. I also co-chaired the Program in Computer Science that became the present-day Department of Computer Science.

In 1986 I left CUA to join the Mathematics Department at what is now The University of Massachusetts Lowell. I was hired at the rank of Full Professor and received tenure the following year. From 1987 to 1990 I was the department chairman. I retired from UML in May, 2014.

Throughout most of the 1980's I was a part-time consultant to the U.S. Naval Research Laboratory and the Office of Naval Research, in the area of acoustic signal processing. In 1986 I spent a month in Australia, as a consultant to their Department of Defence. From 1990 to 2008 I was a consultant to the Department of Radiology, University of Massachusetts Medical Center, in the area of computed tomography.

3 Research

My thesis work was in the areas of topology and functional analysis. I moved into signal processing in the 1980's and, most recently, iterative image reconstruction and optimization. I have published two graduate-level books and over seventy research papers in refereed journals. The publications listed below are refereed journal articles and books. I have not included articles that have appeared in proceedings of conferences and workshops, although some of these were refereed. I have also omitted book reviews, short courses and abstracts of talks given at conferences. Many of the publications listed here are available at <http://faculty.uml.edu/cbyrne/cbyrne.html> .

4 Teaching

During my over forty years of teaching I have taught most of the courses in the undergraduate mathematics program, as well as several in the undergraduate computer science program. At the graduate level I have taught topology, functional analysis, calculus of variations, numerical methods, signal processing, probability and random processes, real analysis, complex analysis, optimization, medical imaging, abstract algebra, wavelets, information theory, applied linear algebra, and probably others that I have forgotten to list. At CUA and at UML I taught courses in programs for the preparation of secondary school mathematics teachers. I have taught about half of the courses in our Masters' Program for high school math teachers, including Mathematical Analysis, Probability and Statistics, History of Math, Geometry, Problem Solving and Discrete Structures. I introduced Mathematics of Tomography, partly for our own students, and partly as a service course for doctoral students in our Radiological Sciences program in the Department of Physics.

5 Department and University Service

In addition to chairing the mathematics departments at both CUA and UML, and co-chairing the computer science program at CUA, I served a term on the CUA Faculty Senate and chaired the committee to find a Dean for the College of Arts and Sciences at UML. For ten years I was the coordinator of the UML Masters' Program for high school mathematics teachers. From 2001 to 2009 I served as the Graduate Coordinator for the master's degree program in Mathematics. For most of my years at UML I have served on the departmental personnel and graduate curriculum committees.

6 Advising of Doctoral Students

At CUA I was the thesis advisor for a doctoral student in topology, who received his Ph.D. in 1976. At UML we have no doctoral program in Mathematics. I have, however, participated actively in the advising of several doctoral students in our Electrical Engineering Department.

7 Miscellaneous

Since 1972 I have given numerous seminar talks, presentations to conferences and workshops, and several invited talks at meetings. I review technical articles for SIAM, IEEE, JOSA and Inverse Problems. For the last few years I have been a member of the organizing committee for the annual IEEE Medical Imaging Conference, helping to select speakers. For several years in the late 1980's and early 1990's I taught short courses in signal processing in the USA and Canada for Applied Technologies, Inc.

In 2010 the journal *Inverse Problems* celebrated its 25th anniversary by publishing a special issue containing one paper from each of its first 25 years. The paper [56] was chosen to represent 2004.

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