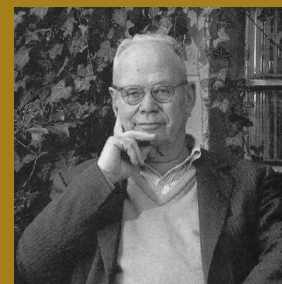


A Leader in Service and Learning

SOUTTER REVIEW



Newsletter of the Lamar Soutter Library ■ University of Massachusetts Medical School ■ Issue 38

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DIRECTOR'S CORNER

AMERICAN ARCHIVES MONTH, ARCHIVES, AND THE HISTORY OF UMASS-WORCESTER

October is American Archives Month—an opportunity for us at the Lamar Soutter Library to reach into the archives of the University of Massachusetts-Worcester and share the stories of the faculty, staff and students: about the early years of all three schools and how their experiences here have made a difference in their lives. After having earlier celebrated the founding of the School of Medicine and the Graduate School of Nursing, we focused the October 2011 program on celebrating the history of the Graduate School of Biomedical Sciences (GSBS).

This issue of the library's newsletter highlights the political landscape of the time when the graduate program for the medical center was first proposed, and the evolution of the GSBS from a Program in Medical Sciences to the Graduate School of Biomedical Sciences. What became evident to the early observers of, and participants in, this story were these core values: the supportive and collaborative environment of the faculty, the excitement of the research being conducted, the camaraderie between the basic and clinical investigators, and the outstanding quality of the graduates. These fundamentals live on in the Graduate School of Biomedical Sciences today. I hope you will enjoy reliving the events of those early years as we walk you through the milestones of the history of the GSBS from 1972 to today.

Elaine R. Martin, DA
Director of Library Services

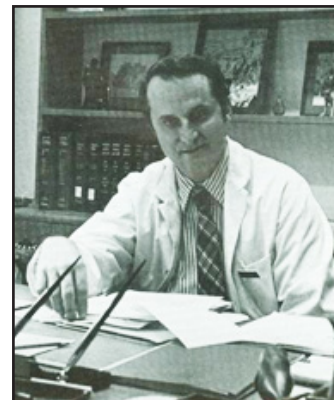
THE GRADUATE SCHOOL OF BIOMEDICAL SCIENCES AT UMASS-WORCESTER

On April 10, 1978, Chancellor Roger J. Bulger, MD, wrote an emphatic letter to UMass Interim President Franklin Patterson, urging him to support a proposal for a "PhD program in Medical Sciences" at the Medical Center in Worcester. "This proposal has received the unanimous approval of the Faculty Council and Executive Council of the Medical School."¹

Bulger emphasized that the faculty came here, "expecting to be able to teach in a graduate program and eagerly await its arrival. It will not only contribute further to the intellectual enrichment of the campus, but this enrichment itself becomes an invaluable attraction in our efforts to recruit first-rate clinical faculty... To put it another way, it is doubtful that high quality faculty would be attracted to an institution which does not have the intellectual ferment and excitement generated by the kinds of scholarly activities which characterize graduate education." On June 7, 1978 the President and Board of Trustees gave the new program their full support.²

BACKGROUND

Why would anyone have opposed establishing a graduate program for the medical center, where research was as central as teaching to the institution's success? In the early 1970s, just when UMass-Worcester began to plan its graduate school for the biomedical sciences, the UMass system began to cut many of its doctoral programs in the face of waning demand for new PhDs. As a report by the UMass Vice President for University Policy concluded, "At present trends, we may turn out 100,000 to 200,000 more PhD. during the rest of this decade than can be absorbed in academia, industry, and government..." In response, the University administration and Board of Trustees turned to consolidation, streamlining, and avoidance of duplicate graduate programs.³



Roger J. Bulger, MD
Chancellor, 1976 - 1978



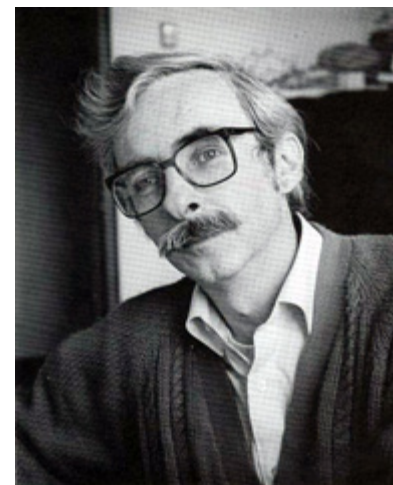
Lamar Soutter, MD
Founding Dean & Chancellor

An independent program based at the medical campus, however, had been envisioned by a 1972 agreement with UMass-Amherst. Shortly before his retirement in 1975, Chancellor/Dean Lamar Soutter appointed a formal planning committee of faculty from both the basic and clinical sciences, chaired by George Wright, Associate Professor of Pharmacology and eventually Director of the Graduate Program. From early on, its members understood the political facts of life: to win approval for a freestanding degree program, it must cost little or, if possible, nothing; its course of study must be unique within the UMass system; it must, if possible, incorporate collaboration with UMass-Amherst and local universities; and finally, it must fill a niche in the then-ailing job market for PhDs. The committee worked for two years to devise an acceptable proposal. Wright, who by all accounts was instrumental in launching the program, explained that "We wrote [the proposal] as a program in the *medical* sciences so that it could not be easily duplicated by any other school in the state..."⁴

CURRICULUM

Regarding the original curriculum, Wright remembered, "The biggest problem was trying to match the particular scientific rigor that each department would want to offer with the political realities of the times...to prove that we were not duplicating other existing programs."⁵ An early catalogue states that, "The program of study leading to the PhD in Medical Sciences consists of a core curriculum to be taken by all students and a specialization and research phase to be selected by the individual student...The core curriculum will provide all students with an integrated foundation...emphasizing coursework in at least four of the seven basic medical sciences at the Medical School, interdisciplinary courses in Molecular Biology and Cellular Biology and Seminar in the Medical Sciences." Students were also required to participate in at least two lab rotations during their first year. The core curriculum was to be completed in 18, or at most, 24 months.

Initially, the areas of specialization included anatomy, biochemistry, microbiology, pathology, pharmacology, physiology, and an interdisciplinary course of study, possibly working with one of the Worcester Consortium institutions, to be arranged with one's advisor. By 1981, an interdepartmental faculty group in Immunology had been added to the list of possible concentrations. Eventually, it was anticipated, "clinical medical science departments in which faculty members will teach and direct research of graduate students would include the Departments of Pulmonary, Renal, and Cardiovascular Medicine, and the Departments of Infectious Diseases, Hematology, Endocrinology and Immunology-Rheumatology." Others would be added in future.



George E. Wright, PhD
Founding Dean, 1979-1984

FROM A PROGRAM TO A SCHOOL

On April 2, 1986, nine years after the founding of a Program in Medical Sciences, the University Board of Trustees approved a significant change of status for UMass-Worcester, granting it the right to form a Graduate School of Biomedical Sciences (GSBS).

The force behind this transformation, in similar fashion to George Wright a decade earlier, was Tom Miller, now Emeritus Professor of Biochemistry, Molecular Biology, and Pharmacology. Miller became Wright's successor as Acting Dean of the Program in 1984 and founding Dean of the GSBS in 1986. Miller believes that, "It was becoming a trend for PhD programs that were attached to medical schools to seek out their own identity by becoming a school... So I started a crusade [with] the Graduate Council to change the Graduate Program into the Graduate School of Biomedical Sciences..."⁷ The GSBS draft proposal explained that:

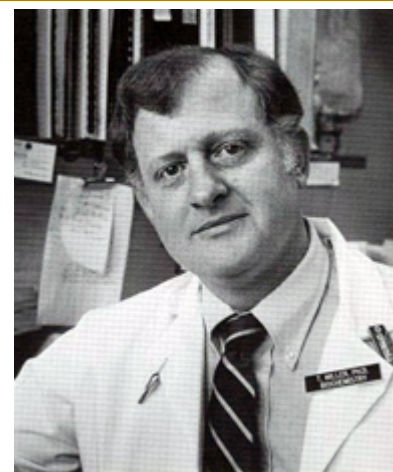
Another compelling reason for this change in status is to give the PhD students themselves an independent identity. . . Without this [new] organizational structure, PhD candidates tend to view themselves as second-class citizens vis-à-vis medical or other health science students on campus. In the words of our Dean for Graduate Studies [Tom Miller], the "identity problem for graduate students in a Medical School, although anecdotal, is real..."⁸

By 1986 over 130 faculty participated in the program; an MD/PhD program was initiated in 1983, a signal of its growing importance and the wide involvement of faculty across the basic/clinical research divide. Miller recalled this period of growth:

[At first], we were in a small little area down in the student wing of the medical school. There hadn't actually been an office of Graduate Studies when I started. George Wright hadn't had an office; he had run it out of his faculty office in the department of Pharmacology. We were allowed to start an office...By that time there were, I think, 35-40 graduate students...I spent the next 18 years being the Dean. By the time I left we had a couple of hundred, 150-200 students.⁹

THE GSBS TODAY

Today, hundreds of faculty members participate in the GSBS curriculum, while nearly 450 students are currently enrolled in its programs. When in 2002 Tom Miller decided to take early retirement, he was succeeded by Dr. Anthony Carruthers, the GSBS's current Dean and Professor of Biochemistry and Molecular Pharmacology. Dr. Carruthers first came to the Medical School in 1982 as a Research Associate. He has participated in the Graduate School's development at each phase. He strongly supports the School's interdisciplinary curriculum. As he told an interviewer in 2004, "Our faculty determined it's not enough for our students just to do neuroscience or biochemistry or cell biology. They must have a core understanding of the principles involved in all these areas."¹⁰



Thomas B. Miller Jr., PhD
Dean, 1984-2002

Thus the core curriculum—originally the product of political expediency imposed by the need not to be duplicative—has become a signature feature of the GSBS. Indeed it is likely that most U.S. graduate schools on medical campuses now introduce students to basic science research in this way. GSBS students work in a wet lab, in a computer lab, or by designing clinical trials. Newer initiatives are reflected in the two divisions that currently structure GSBS coursework. They include Basic and Integrative Biology and Clinical and Translational Sciences. Such expansion and differentiation have allowed for the incorporation of new specialty tracks such as the programs in Clinical and Population Health Research or Bioinformatics and Computational Biology.

Notes

¹ Roger J. Bulger to Franklin Patterson, April 7, 1978; Franklin Patterson to Committee on Faculty and Educational Policy, April 24, 1978, both in Box "Board of Trustees Documents FY-78, #085-133," fol. "Trustee Documents T78-085-092;" Board of Trustees, "Minutes, June 7, 1978," Box "Board of Trustees Minutes of Meetings of Full Boards and Committees, a. Budget and Finance," fol. "General Meeting, Jan.-June, 1978," Trustees Collection, all at UM/A. My thanks to Anne Moore, Special Collections Librarian, Archives and Special Collections, W.E.B. Du Bois Library, UMass-Amherst, for her gracious assistance in acquiring these and many other documents.

² Roger J. Bulger to Robert C. Wood, November 3, 1977, pp. 1-3 [draft letter, typescript]; George Wright, PhD, "Abstract: Doctoral Program in Medical Sciences," typescript, both in George Wright papers [unprocessed], UM/Worcester.

³ Peter B. Edelman, "Issues Concerning the Future of Graduate Education in Massachusetts, A paper for the Trustee Council of the University of Massachusetts," Aug. 22, 1973, p. 2; "Minutes, Trustee Council Meeting," Sept. 8, 1973, both in Box "Board of Trustees Minutes of Full Board and Committees," May-Dec., 1973, Trustees Documents, UM/A.

⁴ Oral history with George E. Wright, by Ellen More, March 7, 2011, Oral history Collection, UM/W. Italics added.

⁵ Wright, Oral history.

⁶ "1980-1981 PhD Program...Catalogue," p. 7."

⁷ Thomas B. Miller, "Memo: Graduate Faculty Membership in the GSBS," August 1, 1987, in Goodman, Box 7, folder 1, "Microbiology and Physiological Systems (MAPS), GSBS, Correspondence, Student/Faculty Handbook, etc., 1986-1988;" Oral History Interview with Raymond Welsh, Prof. of Pathology and Molecular Genetics and Microbiology (MGM), by Ellen More, Worcester, MA, July 14, 2011, Oral History Collection, UM/W.

⁸ Gale L. Kelly to Maurice Goodman, January 9, 1986, in Goodman, Box 7, folder 1, "Microbiology and Physiological Systems (MAPS), GSBS, Correspondence, Student/Faculty Handbook, etc., 1986-1988;" Miller to Kelly, Jan. 9, 1986, p. 3, in Goodman, UM/W.

⁹ Oral History Interview with Tom Miller, by Ellen More, October 21, 2010, Worcester, MA, Oral History Collection, UM/W.

¹⁰ Michael I. Cohen and Andrea L. Badrigian, "25 Years of Discovery," *Vitae*, 2005, 27:2, p. 22.

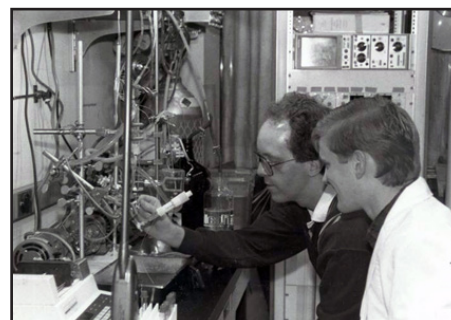
MILESTONES

GRADUATE SCHOOL OF BIOMEDICAL SCIENCES

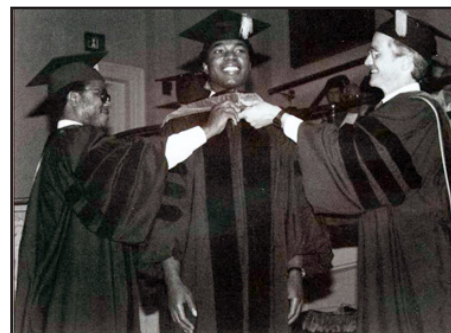
- 1972** Members of UMass Medical School's Basic Sciences faculty form a committee to plan a graduate program
- 1972** "Five College Program" guidelines established, allowing students at UMass-Amherst to take graduate courses at UMass-Worcester, WPI, Clark University, and the Worcester Foundation for Experimental Biology (now the Worcester Foundation for Biomedical Research)
- 1975** UMass Medical School Dean Lamar Soutter appoints a formal planning committee
- 1977** UMass-Worcester invited to join a joint PhD "Program in Medical Sciences" with Clark University, WPI, and the Worcester Foundation for Biomedical Research
- 1978** Proposal for a PhD Program in Medical Sciences submitted to UMass President Patterson
- 1978** UMass Board of Trustees approve the establishment of a PhD Program in Medical Sciences at UMass Medical School
- 1979** PhD in Medical Sciences program begins with seven students
- 1979** George E. Wright, PhD, appointed founding Dean
- 1984** First PhD students graduate
- 1984** Thomas B. Miller, PhD, appointed Dean
- 1986** Graduate School of Biomedical Sciences established
- 1988** First MD/PhD student graduates
- 1990** Program in Molecular Medicine established
- 2002** Anthony Carruthers, PhD, appointed Dean
- 2005** Program in Clinical & Population Health Research established
- 2008** Program in Bioinformatics and Integrative Biology established



Professors Allan Jacobson, PhD, and Donald Tipper, PhD, talk with students in 1997



Students in lab.



First MD/PhD student, Claude Simon, graduates in 1988



Wearing polarizing glasses to look at 3-D images of cells at the opening of the Program in Molecular Medicine's facilities in 1990

CELEBRATING THE HISTORY OF THE GRADUATE SCHOOL OF BIOMEDICAL SCIENCES

On October 12, 2011 the Lamar Soutter Library, in collaboration with the Graduate School of Biomedical Sciences and the Office of Alumni and Parent Relations, hosted an event to observe American Archives month and celebrate the history of the Graduate School of Biomedical Sciences (GSBS). The luncheon event and panel discussion were held in the Faculty Conference Room.

Moderated by Terry Flotte, MD, Executive Deputy Chancellor, Provost and Dean, the panel included: George Wright, PhD, founding Dean of Graduate Studies, Professor (Adjunct), Biochemistry and Molecular Pharmacology, President, GLSynthesis, Inc.; Tom Miller, PhD, founding Dean, GSBS, Professor Emeritus Biochemistry and Molecular Pharmacology; Ray Welsh, PhD, Professor, Pathology and Molecular Genetics and Microbiology (MGM); John Sullivan, MD, Vice Provost for Research, Professor, Pediatrics, Molecular Medicine, MGM, and Pathology; Jack Bukowski, PhD, MD, GSBS '85 (first graduate); Chief Scientific Research Officer, Nutritional Science Research Institute; Susan C. Schiavi, PhD, GSBS '89 (first out-of-state student); Senior Scientific Director of Bone and Mineral Research, Genzyme/Sanofi; and Anthony Carruthers, PhD, Dean, GSBS, Professor, Biochemistry and Molecular Pharmacology.

Following introductions by Elaine Martin, DA, Director, Lamar Soutter Library, and Ellen S. More, PhD, Head, Office of Medical History and Archives and Professor, Psychiatry, Dr. Flotte opened the discussion by asking Dr. Wright to talk about the obstacles he and others encountered in the early years of the school and about the reasons for starting as a graduate "program" in 1978, rather than a "school." Dr. Wright explained that the program was created "after a period of a lot of social turmoil and upheaval, at a time when budgets were very constrained." It was important to create a program that was unique and, it was implied, as inexpensive as possible.

Dean Flotte continued the discussion by asking Tom Miller, PhD, the founding dean of the GSBS, why he eventually pushed for a full fledged graduate school of biomedical sciences rather than just a graduate program. Dr. Miller said that it had been the goal for years to achieve school status. When he took over in 1984 it seemed like a fitting time. By then graduate school students were taking courses specifically designed as graduate courses rather than taking classes with medical school students. The Chairs of the Basic and Clinical departments had recruited "world class faculty" and there was a very strong research community according to Dr. Miller. Funding and office space were available as well as an institutional commitment to the PhD program. Both school and clinical faculty liked having graduate students in their labs so they wanted to see the program succeed. The GSBS was established in 1986.

Dr. Flotte then introduced Ray Welsh, PhD, who was the primary research mentor to the first graduate of the GSBS as well as to the School's 500th graduate in 2012. Dr. Welsh reflected on the differences in the school from when he began in 1980. For one, there weren't computers everywhere. Years ago students would spend hours and hours in the lab working on experiments rather than "doing an experiment for an hour then sitting in front of the computer for the next week." At first, graduate students took courses with medical students. Eventually courses were developed specifically for graduate students. These courses, biochemistry, molecular biology, and cell biology, evolved into what became a core curriculum. The core curriculum has had various forms over the years but these three disciplines have remained the consistent foundation. However, department-based programs of the early years were "not necessarily suited for modern day science," explained Dr. Welsh, who, in 1986 chaired the Immunology Program, the first interdepartmental program. Many of the people in this program were viral immunologists and most of the papers coming out at that time were about viral immunology. This corresponded to the early years of the AIDS epidemic and UMass was receiving a lot of AIDS-related grants. Realizing that there were virologists and immunologists here working with viruses, the two groups merged to form the Interdepartmental Immunology and Virology Program.

Following Dr. Welsh's remarks, Dr. Flotte introduced John Sullivan, MD, who came to be part of GSBS faculty as a physician-scientist. Dr. Sullivan explained that he came to UMMS in 1978 after realizing that the other academic health science centers he had considered joining had very large children's hospitals whose mid-career people were mostly "involved in clinical work and had been pulled away from their laboratories at that time and were clinically focused." With UMMS being such a new institution (the hospital opened in 1976) the pediatrics floor only had five patients. There were people here who were also interested in immunology and virology. As a physician investigator, he thought it would be difficult to get a lab going but it was different here. There was a group of basic scientists here who were excited to have a clinician interested in bench-to-bedside science. The "core value of collaboration and entrepreneurship was already present at that time...there was a real camaraderie between the basic scientists and clinical investigators."

Jack Bukowski, MD, PhD, was asked to reflect on his experience as one of the earliest students and the first graduate of the PhD Program at UMass. When asked if he felt it was a disadvantage being part of such a young program, Dr. Bukowski said that it was "less about the youth of an institution than it was about the quality of investigators that were here." He saw that there were seasoned

SoutteReview is a seasonal publication of the Lamar Soutter Library at the University of Massachusetts Medical School

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CELEBRATING THE HISTORY OF THE GRADUATE SCHOOL OF BIOMEDICAL SCIENCES (CONTINUED)

investigators here and he felt that by being one of the first students he had a better choice of which lab to work in. He worked in Dr. Welsh's lab, learning all about natural killer cells. He also had the opportunity to interact with other excellent NIH funded scientists. It didn't matter that this was a young institution because, "quality faculty [were] here from the start."



Anthony Carruthers, PhD
Dean, 2002-present

Dean Flotte asked Susan Schiavi, PhD, a 1989 graduate of GSBS, to comment on the culture of the school during her time at UMass from both a personal and a scientific perspective. Dr. Schiavi said it was somewhat challenging to determine what the culture was because there were so few students here at that time. The faculty was relatively young in the biochemistry department. During the first year of her program most of the students spent time studying together; as they moved on into different research labs they became more isolated. She felt that the culture was very department-dependent. When asked if she experienced any difficulties because she was a woman, she said that in general people were open and enthusiastic and encouraging. It was a very supportive environment. However, there were not a lot of women role models. Reflecting on how her education influenced her experience in the biotech community, she said that a lot of what she saw at Genzyme when she started there twenty years ago reflected the same "spirit of possibility" and entrepreneurialism that she experienced while she was a student in GSBS. She said it was "very much like finding your roots again".

The final panelist was the current Dean of the GSBS, Anthony Carruthers, PhD, who was asked to reflect on some of GSBS's major milestones and where he sees the school going in the future. He said when he became dean he inherited a school in which all students could be trained well and where original research could take place. Dr. Carruthers said he believes the GSBS is still that way and that the school belongs to the faculty and the students. There have been "some incredible milestones." In the last year students have published their 2000th article, there has been a 500th graduate from GSBS, and the student attrition rate is now less than 10% because our admissions standards are very high. "The accomplishments of our students and faculty are so great." There has been a natural evolution from the beginning....recruiting outstanding faculty and students. Dr. Carruthers spoke of the challenges ahead, including flat undergraduate levels and less federal funding for research. He concluded, however, by saying the "fundamentals are really sound here and it's a testament to my colleagues and fellow researchers, both students and faculty, that we're in that position."
