

Cell and Molecular Biology

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A Brief History of the Cell and Molecular Biology Graduate Degree Program at CSU

by Mike Fox and Paul Laybourn

The roots of the Cell and Molecular Biology (CMB) graduate program at Colorado State University began in the mid 1960s with a few faculty members from the Colleges of Veterinary Medicine and Biomedical Sciences and Natural Sciences. These faculty were interested in collaborating and sharing their expertise in cell biology and molecular biology, and training students more broadly than could be done in any individual department. Steve Stack, the fifth Chair of the program, wrote an early history of the CMB program for a retreat at Pingree Park in 1982 organized by the higher administration to consider the future of the CMB program.

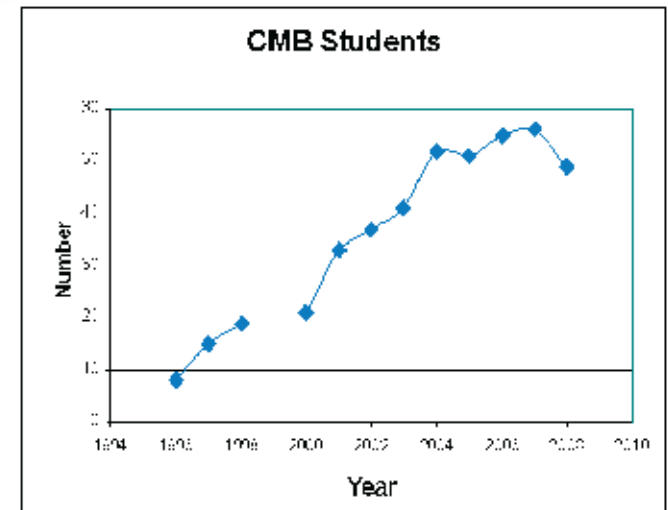
“Due to recognition in the mid-1960s of the importance of training students in CMB, a one quarter sophomore level course (BY202 Cell Biology; now LIFE 210), a three quarter Ph.D. level lecture course (BY705-707 Advanced Cell Biology; now CM 501), and a three quarter Ph.D. level laboratory course (BY701-703 Advanced Cell Biology; now CM 502) were established. Administration of the undergraduate cell biology course was placed with the Biology Council while the 700 level

courses were administered by a loosely organized CMB faculty and funded by joint contributions from the College of Natural Sciences and Veterinary Medicine. The lecture course was taught by all volunteer labor, poorly coordinated, and offered no clear professional advantage to the faculty participating. Still, even with these problems, the CMB faculty agreed that cell and molecular biology instruction on campus was better for the existence of the lecture course. In contrast, the advanced laboratory course has consistently been viewed as a success by students and faculty and remains to the present a particularly worthwhile part of the program.”¹ Faculty members who were leaders in the early stages of the CMB program include Bill Dewey (Radiation Biology), Jim Bamburg (Biochemistry), George Happ (Biology/Zoology), Dave Fahrney (Biochemistry) and Jay Best (Physiology).

“In 1974-75, the CMB faculty organized into a more coherent group with the blessing of the University administration. One rationale for this change was an attempt to obtain a NIH training grant to support the program. However, CMB faculty considered the reorganization to be justifiable only

if it were worthwhile without a training grant. Under the new bylaws, there was a chairperson, a secretary, four permanent committees, an academic program and curriculum for Ph.D. candidates, formally recognized faculty, and student members. The chairperson is responsible for the overall coordination of the program. In last year’s (1981) reorganization, the position of secretary was deleted in favor of having a chairperson-elect who served in a training capacity for one year preceding his/her one year tenure as chairperson. The admissions committee was responsible for attracting, screening, and admitting Ph.D. candidates into the academic program. Again during last year’s reorganization, the admissions committee was combined with the academic committee that had responsibility for overseeing the BY 700 courses, selecting course coordina-

Figure 1. Number of graduate students in the CMB program.



tors and lab modules, monitoring the progress of students in the program, and certifying that students complete the program. The seminar committee was responsible for the CMB seminar series. The research committee coordinates and communicates research activities of the CMB faculty. An expanded budget jointly administered by the Colleges of Veterinary Medicine and Biomedical Sciences and Natural Sciences

included six FTE months of salary for the academic coordinator, a half time GTA to help with laboratory modules, a quarter time secretary, and operating expenses for the courses and office work. In an attempt to reward faculty for participating in BY 700 courses, the student credit hours generated by the courses were assigned to departments in proportion to contributions by members of the departments. The program reported to an administrative committee made up of the Deans of Natural Sciences and Veterinary Medicine and Biomedical Sciences, the Director of BioCore, and the

Academic Vice President (Provost). In an effort to streamline the administration in 1978, the administrative responsibility was transferred to the Dean of the Graduate School, and a steering committee was established to make most decisions not requiring code amendment.²²

The number of faculty in the CMB program grew throughout the 1980s to reach about 40 by 1990 and the number of graduate students affiliated with the program reached a peak of 27 in 1988. The chairs of the program served two-year terms until the election of Marv Paule in

1984. At this time the terms were extended to three years, with a chair-elect in the last year who would take over as chair the following year. For a complete listing of all the CMB chairs/directors see Table 3 and Figure 3. The seminar committee established an extensive regular seminar program that brought outside speakers to campus nearly weekly. The research committee organized symposia on current research topics and arranged other

Figure 2. Number of faculty members in the CMB Program.

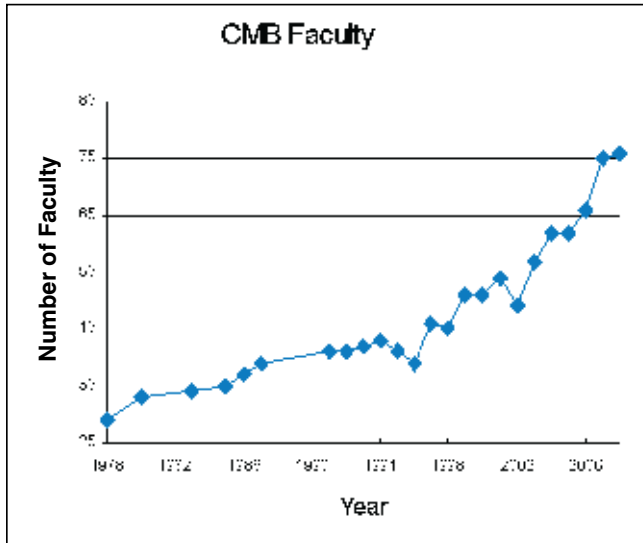


Table 3. Chairs/Directors of the CMB Program.

Chair/Director	Years	Department Affiliation
Bill Dewey	1974-1976	Radiological Health Sciences
George Happ	1976-1978	Biology (Zoology)
Tom Sneider	1978-1980	Biochemistry
John Rash	1980-1982	Physiology (Biomedical Sciences)
Steve Stack	1982-1984	Biology (Botany)
Marv Paule	1984-1990	Biochemistry
Elaine Roberts *	1987-1988	Biology
Mike Fox	1990-2005	Environmental & Radiological Health Sciences
Norm Curthoys	2005-2008	Biochemistry & Molecular Biology
Paul Laybourn	2008-	Biochemistry & Molecular Biology

* Acting Chair while Paule was on sabbatical

Figure 3. CMB Program Chairs and Directors (1974 to present).



Figure 4. CMB Program Coordinators (1992 to present).



Jones



Bulera



Williams

meetings for faculty and students to get to know about each other's research. The academic/admissions committee screened student applications and evaluated student progress. At the completion of the program, students received a certificate indicating they had completed the requirements of the CMB program and this was also noted on their transcript. The administration of the program became more professional with the quarter-time position of administrative assistant filled by Dee Stille (1986-1992; not pictured). This became a half-time position and then a three quarter-time position later and was filled by Linda Jones (1992-1999), Norma Bulera (1999-2005), and Lori Williams (2005-current) (see Figure 4).

There was a developing concern among the faculty that for the CMB program to be relevant, it needed to be able to offer degrees independent of other departments.

Initial work on developing a degree proposal for submission to the higher administration began with Marv Paule and was pushed by Elaine Roberts, but did not move forward due to resistance by certain departments and administrators. Finally, through the efforts of Mike Fox the degree proposal was pushed through, resulting in final approval by the

Colorado Commission on Higher Education in October 1995. This led to major changes in the CMB program, allowing students to be directly recruited as CMB graduate students even though they worked with faculty in various departments. The number of students in the CMB graduate program grew steadily from 8 the first year (mostly transfers from other departments) to 56 in 2007 (Figure 1). During the same time period the faculty members in the CMB program grew from 40 to 75 by 2008 (Figure 2). The CMB program became established as one of the premiere graduate programs at CSU, as evidenced by the ability to recruit strong students from around the United States and the world and to contribute substantially to research programs at Colorado State.

Additional important changes occurred in the CMB program as a result of the de-

gree status. Just prior to becoming a degree program, Provost Ellie Gilfoyle made a decision to move interdisciplinary graduate programs (CMB and the Graduate Degree Program in Ecology) out of the Graduate School office to be administered by a coalition of the deans of CVMBS and NS, with the budget flowing through the college (following the College home of the chair/director). This has led to some difficult administrative problems throughout the years.

The seminar committee established a regular weekly seminar program that became a highly recognized seminar series at CSU. The research committee organized fall and spring symposia to discuss new areas of cell and molecular biology, with one of the spring symposia focused on new research technologies. The academic committee worked on expanding course offerings for the students and determining degree requirements. A new admissions committee was formed to recruit and screen applicants. This committee developed a recruitment day highlighted by a poster competition (annual CMB Spring Research Symposium) for students and postdocs from laboratories in both CMB and other departments. A high-profile keynote speaker was brought in to highlight the meeting. This was subsequently developed into a more wide-ranging recruitment day involving other departments as well as CMB.

In summary, by any measure the CMB Graduate Degree Program is an unqualified success. Even so, room for improvements remain. High on the list of priorities is securing training grant funds for Ph.D. students and reconciling issues with how CMB and all interdisciplinary programs interface with the University administrative structure. This brief history largely serves to highlight the central architects and major contributors to the program from its inception to the present day. We hope you have found this short trip through CMB's history enjoyable and informative.

¹ Steve Stack, "Cellular and Molecular Biology (CMB) at Colorado State University." Report prepared for the Pingree Park Retreat, 1982.

² Ibid.

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