

## Basic And Applied Myology: A Reflection of our Roots and Vision for the Immediate Future

Michael Dodson, Zipora Yablonka-Reuveni<sup>(1)</sup>, Everett Bandman<sup>(2)</sup>, and Miranda Grounds<sup>(3)</sup>

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*Department of Animal Sciences, Washington State University, (1) Department of Biological Structure, University of Washington, (2) Department of Food Science and Technology, University of California (Davis) and (3) Department of Anatomy and Human Biology University of Western Australia*

### Abstract

"Published by Scientists for Scientists," *Basic and Applied Myology* (BAM) is entering its seventh year of service to the world-wide scientific community. Originally established to provide an outlet for articles covering topics relevant to "basic research in skeletal muscle," BAM coverage presently includes reports of "experimental studies in large animals, as-well-as basic and clinical research in anatomy, physiology, cell biology, biochemistry, molecular biology, gene mapping, comparative biology, development and differentiation, regeneration, pathology, epidemiology, bioengineering, pharmacology, toxicology, surgery and medicine." The format of BAM is different from many other journals in that many issues are centered on "Guest-Edited" topics, called "Hot Sections." As such, the most recent advances in a wide variety of disciplines are presented in BAM. While the foundation of the journal seems firm, the success of BAM's future depends on a number of variables. First, it is important for researchers who submit articles for publication in BAM to become more disciplined in their use of experimental hypotheses, data analyses and interpretation, and to assure strong article content. Second while BAM is presently included in *Science Citation Index Expanded*,<sup>®</sup> *Research Alert*,<sup>®</sup> and *Focus on Molecular Medicine*,<sup>®</sup> it is requisite that BAM be accepted as a citation into the myriad of full-service scientific indexing systems, like Medline,<sup>®</sup> Current Contents<sup>®</sup> and Agricola<sup>®</sup> to provide the entire muscle field access to BAM articles. Finally, since the field of muscle research is experiencing an unprecedented explosion of new data and research groups, BAM must continue to pursue Guest Editors of Hot Sections who would critically express the most current status of the topic covered.

Key words: *Basic and Applied Myology* journal, guest editors, hot section, indexing systems.

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### BAM Beginnings

The origins of BAM date back to discussions held at the XVII European Conference on Muscle and Motility at Abano Terme, Italy, October 17-19, 1988. Dr. Ugo Carraro served as the local organizer for this International Symposium, ably assisted by Dr.'s Luciano Dalla Libera and Claudia Cantini. The diversity of presentations at this meeting extended from basic research on contractile protein genes (and their regulation) to applied studies on the development of a skeletal muscle pumping chamber made *in situ* with *latissimus dorsi* in sheep. Dr. Carraro was so excited by the variety of different directions in which skeletal muscle research was moving that he chose to compile and publish the papers presented at this conference. That compilation was titled "*Sarcomeric and Non-*

*Sarcomeric Muscles: Basic and Applied Research for the 90 s*" [1]. In the introduction to that book Dr. Carraro noted not only the increase in numbers of muscle researchers over the 18 years of the European Muscle Club, but also the major achievements throughout the years in striated muscle, smooth muscle, and cell motility research. Specifically he noted that less than 10 years after publication of *Muscle Plasticity* by Dr. Dirk Pette [2] this basic concept was being implemented with the development of biomechanical devices for the management of heart diseases. In his conclusion Dr. Carraro writes: "It is my hope that this book will summarize and further stimulate research in free, basic biological science and in object-oriented, applied medical knowledge, so that both of them

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ultimately will bring benefit to many of the patients with disorders in sarcomeric and non-sarcomeric muscles".

Driven by this vision and in order to ensure the necessary cross-talk between basic and clinical researchers, Dr. Carraro organized another International Symposium in Abano Terme on May 30 - June 1, 1991. This gathering combined an 'International Symposium on Basic and Applied Myology: Perspectives for the 90s' with an 'Expert Meeting on Muscle Driven Devices for Cardiac Assistance' sponsored by the Medical and Health Research Programme of the European Communities Concerted Action on Heart Assist and Replacement Technology. It was on the last day of this meeting that Dr. Carraro gathered together the group of basic and applied muscle researchers who were to become the Advisory Board for a new journal *Basic and Applied Myology (BAM)*. On June 1, 1991 the decision to go forward with Dr. Carraro's vision for a journal, that was to bridge the gap between basic and clinical myology, was endorsed.

Clearly there were challenges ahead as the beginnings of a new journal are always difficult, but in this case even more so as can be seen by looking over the index of *BAM* volume 1. Would a journal that attempted to publish basic muscle research on muscle gene expression as well as clinical reports on the modeling of the walking patterns of paraplegic subjects find a readership? Would researchers who normally publish in prestigious (highly specialized) journals be willing to contribute similar high quality research papers necessary for the survival of a scientific journal like *BAM*?

In the Editorial for *BAM*, volume 1 [3], Dr. Carraro paints his image of *BAM* and asks whether "a new professional activity is arising." Since the medical community requires the findings of basic scientists in order to develop new strategies and manage muscle and non-muscle diseases, these experimental activities need to be disseminated to both clinical and basic myologists. Often the drawbacks in "real life" (*ie.* biological variability and ethical constraints) limit the experimental design and thus the interpretations of this research. Nevertheless, in order to realize their potential value and originality, bringing these possibilities and potential applications to basic muscle researchers and providing a forum for this work was one of the goals of *BAM*. Dr. Carraro firmly believed that public interest in this work, which provided the foundations for clinical experimentation, must become public as early as possible by the peer review process, which will discard unacceptable procedures, disseminate knowledge, and offer opportunities for basic scientists to interact with clinicians. Over the years *BAM* has continued to publish quality manuscripts on basic muscle research and its applications, reviews on diverse fields in myology, and perspectives on new trends in industrial and clinical applications.

### **BAM Composition: Hot Sections**

In 1993 a new format called the Hot Section was initiated. This section of *BAM* was first Guest Edited by Dr. Anne

d'Albis (France) and covered the topic: "Hormone regulation of skeletal muscle." While not every issue is devoted to a Hot topic, over ten Hot Sections have been published in *BAM*, covering the most current ideas in a range of aspects in skeletal, cardiac and smooth muscle research. The topics covered to date (and the Guest Editor) include: "Hormone regulation of skeletal muscle (A. d'Albis)," "Methods (L. Dalla Libera)," "Skeletal muscle-cardiac assist in America (L. Stephenson)," "Muscle damage (S. Salmons)," "FES for movement restoration (T. Bajd and R. Jaeger)," "Comparative myology (I. Martinez)," "Satellite cell regulation in agriculturally important animals (M. Dodson and U. Carraro)," "Microgravity and muscle unweighting (Y. Mounier)," "Myoparasitology (F. Bruschi)," "Skeletal and cardiac abnormalities in chronic heart failure (P. Poole-Wilson)," "Smooth muscle-aspects of differentiation (A. Draeger)," "Cell to cell communication in muscle development (M. Dodson and U. Carraro)," "Dynamic cardiomyoplasty, ventriculectomy and skeletal muscle ventricles (G. Arpesella and U. Carraro)," and "Rehabilitation biomechanics (J. Mizrahi)." Of the papers to appear in these Hot Sections, approximately 63% have been original (data) papers, 23% were review papers and 14% were combination (review and data) papers.

The Hot Section of each *BAM* issue represents a unique forum for bringing together the latest papers from leading researchers around the world, focused on a specific topic or theme. The Hot Section format change is partially responsible for the growth of *BAM*. Presently, *BAM* publishes six issues per year, but monthly printing will be required to handle the backlog of papers presently submitted to *BAM*. Other contributing factors relevant to the rapid growth of *BAM* include the: review turn-around [Hot Sections usually take from eight to twelve months from solicitation of Guest Editor, inspiration and vision of contributors, submittal, peer-review, revision, and printing, whereas regular articles take from four to eight weeks between peer-review and printing, depending on pages available]; and printing quality [during the past seven years, the type of paper used for printing the journal has changed from news-type paper to heavy-coated book paper; clarity of half-tone photo-reproductions has improved to at least 1200 points per inch; color plates are available; proofs are more timely and, in part, due to either Email or computer diskette submittals, fewer corrections are required on proofs].

In order to solicit sufficient numbers of new topic areas for the Hot Section of each issue, Guest Editors are invited from the world-wide muscle research community by the Editor-in-Chief (who reviews all submittals to *BAM*), Associate Editors and members of the Editorial Board. There are presently ten Associate Editors, representing six different countries, and forty-six members of the Editorial Board, representing sixteen countries, who evaluate Hot Section topics and other submitted articles. The international impact of this journal is also reflected by the countries in which contributors of articles reside. As an

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example, a qualitative examination of the ten issues in the two year period 1995—1996 [*BAM* volumes 5 (four issues) and 6 (six issues, but not including data from issues which contained meeting abstracts)] revealed that contributors from seventeen countries around the world had nearly one-hundred full-length articles published in *BAM*. Of these, approximately 32% of all articles published were from the United States, 23% from Italy, 14% from France, 10% from the United Kingdom, 6% from Poland, 2% from both Australia and Canada and 1% from contributors residing in Austria, Chili, Germany, India, Mexico, Netherlands, Russia, Slovenia, Sweden and Switzerland. These data show that *BAM* is a journal that serves the international muscle-research community. However, while *BAM* has established a very firm foundation among muscle researchers of a variety of disciplines, its future as a main-line journal unfortunately remains uncertain.

### ***BAM* Future**

Altogether, *BAM* is a journal about myology which does not discriminate against the specific system, the question, and the method. With this strength, *BAM* should strive to become the leading general platform for myology in the near future. For example, there is a clear need for a journal where researchers working on postnatal muscle growth, development and regeneration can rapidly publish new information. Likewise, with the generation of a diverse array of transgenic animals for research purposes, it is expected that many current hypotheses and notions in the field of muscle plasticity or cardiovascular research will be examined in animal models *in vivo*. *BAM* can become a home for publications in these (and other) fields of muscle research. With its relatively lower publication costs and potentially wide distribution among myologists, *BAM* can also support the publication of abstracts to specific muscle-related meetings (the way for example, another journal has traditionally published abstracts to the Annual European Muscle Meeting), and even take the leading role in sponsoring some of these meetings.

In order to gain such a leading status *BAM* must overcome two obstacles which are linked together in a catch-22 situation. 1) More leading scientists must be ready to submit original papers with important data to *BAM*. Currently, most members of the myology community are ready to submit papers, upon solicitation from Guest Editors, but many (although certainly not all) of these papers do not include much new data. Often these invited papers review the work in the author's laboratory with some reference to the work of other scientists, and add only a minor amount of new information (at times at the preliminary level). Although all invited contributions are peer reviewed by at least two referees, and although referees make recommendation as to how to improve the paper, the Guest Editors can find themselves in a dilemma at a time where rejection of an invited contribution may not be well received by the authors. Original contributions are certainly going to be improved dramatically if *BAM* is indexed by the major

citation indices. As such, 2) *BAM* must be indexed by the principal citation indices such as Medline<sup>®</sup>, Current Contents<sup>®</sup>, and Reference Update<sup>™</sup>. In these superfast and ever so busy times, what cannot be found by a computer search is considered non-existent. As it stands now, unless investigators circulate their own *BAM* papers among the scientific community, even the outstanding contributions to *BAM* are not cited anywhere by anyone. *BAM* is not available in many leading science libraries in large institutions in the USA and depends on personal subscriptions for continued success. Furthermore, with even the major academic libraries eliminating journals from their collections in order to save on expenses (as subscription rates are rising) the only means that will allow *BAM* to attract excellent future contribution is the incorporation of *BAM* in a leading scientific index.

To this end of realizing the need of having *BAM* indexed, the following actions have been taken. The Editor-in-Chief of *BAM* applied to the Institute for Scientific Information (ISI; also publishes Current Contents<sup>®</sup>) for the consideration of *BAM* for indexing by ISI services. The results of the ISI evaluation has recently come through. Starting with volume 7 (1), *BAM* will be indexed by *Science Citation Index Expanded*<sup>®</sup> (formerly *SciSearch*<sup>®</sup>) and by *Research Alert*<sup>®</sup>, both are products of ISI. Through indexing the material for these two services, ISI will also make *BAM* available, on an article-by-article basis, to its various selective coverage product algorithms, including the soon-to-be-released *Focus on Molecular Medicine*<sup>®</sup>. This exposure of *BAM* through the latter ISI products might benefit the journal when it is re-evaluated for Current Contents<sup>®</sup> (Life Sciences<sup>®</sup>). Further, with the strong support and effort of several of the Editors of *BAM*, an application is presently being prepared to the National Library of Medicine for the evaluation of *BAM* as a potential journal to be indexed by Medline<sup>®</sup>.

### **Implications**

Over the last seven years *BAM* has gained exceptionally strong support from the world-wide community of muscle investigators. While many other journals report on a broad spectrum of biological systems (including muscle systems) they focus on specific aspects of these systems such as biochemistry, physiology, anatomy, histology, cell structure, development, cellular biology, gene regulation, etc. Other journals are far more specific in their scope, focusing on a single biological system such as brain research, circulation research, neurology, muscular-neurological diseases, etc. *BAM* represents a unique journal because it brings both the basic and applied aspects of muscle research together. It is specific in that it publishes only studies related to myology, but it is certainly broader in scope than any other publication in the field of myology as it embraces all myological systems. Furthermore, *BAM* reports on all aspects of research of these different myological systems ranging from basic research to medical applications, and *BAM* does not restrict the type of scien-

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tific methodology used in the published reports. The dedication displayed by the Editor-in-Chief of *BAM*, Ugo Carraro, the international group of Associate Editors and Editorial Board Members, and all "Friends" of *BAM* (who served as Guest Editors of Hot Sections or submitted papers to *BAM* for publication) have helped *BAM* succeed during times when many other new journals would have faltered. We conclude that with continuing input from such dedicated supporters, *BAM* will not only prevail but will flourish as it faces new challenges in the last few years of this century and in the first half of the 21st century.

### Address correspondence to:

Dr. M.V. Dodson, Muscle Biology Laboratory, 139 Clark Hall, Department of Animal Sciences, Washington

State University, Pullman, WA 99164-6351, tel. 509 335 9644, fax 509 335 4246, Email dodson@wsu.edu.

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