Chapter Twelve

The Development of the Technician’s Role, Technician Training and Certification

U. Kristina Stephens, MA, RLATG

The young technician spoke with a Swedish accent to the standing room only crowd during the 1968 annual convention of the Animal Care Panel (ACP) in Las Vegas, Nevada. She entered a plea for the technicians role and a call for unity within the organization. It was a thrilling moment for me (that young technician) to address the distinguished crowd and to be part of the beginning of a new era. As I reflect upon all the milestones from 1963 to the present, you will find comments that describe my personal experiences along the way. My intentions are to share with you the development of the technician’s role, the technician training program, and the evolving history of the certification program.

By the end of the 19th century, most American scientists were convinced of the value of animal experimentation; however, the number of animals used was small and no special attention was paid to their care, maintenance, and diseases. (1) During the early years of laboratory animal science, according to Dr. Nathan R. Brewer, the technician was someone who learned about animal care on the job with little supervision and less instruction (2). Nevertheless, in the years after 1920, a number of animal caretakers had acquired a wealth of practical experience with laboratory species, and truly became mainstays in their respective institutions. (1) Individuals such as George Collins, a self-starter, educator, and laboratory animal technician in the Department of Pediatrics at the University of Chicago, was said to know more about mice than Dr. Brewer himself in those early days. (2) Collins established a salmonella-free mouse colony before 1950, and that was no small accomplishment in those days.

The advantage of training soon became evident within the field. As laboratory animal science progressed, it soon became necessary for technicians to become more familiar with animal husbandry practices, gain knowledge about the characteristics of a variety of laboratory animal species, and use more sophisticated technology. My own role as a laboratory animal technician, after first learning cage changing methods in the early 1960s, was to learn specific pathogen-free barrier techniques, realize breeding differences of inbred mice strains, understand their diverse behavior patterns, and comprehend their immunological variations. My recollection of my work at Baylor College of Medicine would not be complete without acknowledging my first mentor, Dr. Gerald Van Hoosier, who guided my early years in laboratory animal science. Paul Ernest, 1979 AALAS president, summarized the development of the technicians role as follows:

“The decade of the ‘60s can in all honesty be called the era of the birth of the laboratory animal technician. This then makes the ’70s the era when the laboratory animal technicians came of age. We, today, who bask in the limelight should not forget the pioneers who made this possible. Our forefathers—George Collins, Alfred Havemeier, Norman Bleicher, and George Huebner—are a few of the names that come to mind. The technician no longer needs to humbly identify him/herself as only an animal caretaker.” (3)

AALAS Activities

After the formation of the Animal Care Panel (ACP) in 1950s, Branches of the ACP, which was later named American Association for Laboratory Animal Science (AALAS), began to flourish across the United States in the 1960s and ’70s. Many technicians joined their local organizations and participated on all levels. I attended my first Texas Branch ACP meeting in 1963 at Texas A&M where I met other technicians with similar backgrounds and interests. Many technicians became integral parts of their local organizations and participated on all levels. On the Branch level, my activities exemplified the activities of many technicians. My activities have included serving as newsletter editor, education and training committee chair, secretary, treasurer, board member, Technician Branch Representative, member of the local arrangements committee for AALAS National Meeting, and Branch president.
The Beginning—Committee On Laboratory Animal Technicians (COLAT)

During the 1966 National meeting in Chicago, a group of laboratory animal technicians formed the Animal Technicians Association (ATA), with an affiliate status to AALAS. Norman Bleicher served as the association’s first president, and it grew to include many laboratory animal technicians from throughout the nation.

At the AALAS convention in Las Vegas, 1968, the AALAS Governing Board voted to form a standing committee, the Committee On Laboratory Animal Technicians (COLAT), to avoid the formation of a splinter group. The ATA agreed to disband and, hence, the COLAT committee was born.

The first COLAT committee, which met in April of 1969, appeared almost as a list of “Who’s Who” among laboratory animal technicians of that decade: George Collins (chair), Osborne Bagg, Sam Martin, Vincent Difiglia, Alfred Havemeier, Dale Ettleman, and Norman Bleicher. Gene Bingham, a DVM, served on the Committee because of his support of technicians.

The objectives of the Committee were delineated and the first priority became determining the needs and interests of laboratory animal technicians. The Committee also felt a need to encourage greater participation of laboratory animal technicians in both National and Branch affairs. A third objective was to obtain recognition of laboratory animal technician members of AALAS as a responsible, cohesive force entitled to fair representation in the councils of AALAS. In addition the Committee was determined to work for added recognition, additional training, and greater status of laboratory animal technicians within the framework of AALAS, and in the conviction that the two are mutually dependent. Furthermore, the Committee recommended that AALAS adopt policies affecting laboratory animal technicians as seemed appropriate.

COLAT — Growth and Activities

The first COLAT committee identified technician problem areas they wanted to improve. Some of these problems still exist to a lesser degree; however, because of the Committee’s efforts, have come a long way toward solving them. Under the leadership of several individuals-including George Collins, Clayton Cisar, Ann Campbell, Thomas Darby, Fred Douglas, Paul Ernest, Gail Heidbrink, Paul and Richard Schwikert-many facets of the Committee’s objectives were reached, often working hand-in-hand with the Animal Technician Certification Board (ATCB). The role of the ATCB is described later in this chapter. A photograph of the 1975 COLAT (Figure 1) shows the Committee in session. We had a busy year sponsoring a “technician techniques seminar,” producing the “lesson plans,” and laying the groundwork for the uniform emblem program.

My first connection with COLAT was as member of a subcommittee dealing with Branch affairs. In April 1969 a group of us submitted a handwritten flowchart proposing the idea, process, and the implementation of the “Technician Branch Representation” (TBR) program. The intent of the TBR program was to provide a communications avenue for technicians on the branch level to COLAT, and the Committee could then formalize programs or take actions necessary serving their constituency within the AALAS organization. By 1975 19 Branches had responded, and it was with great personal satisfaction that I attended the first general Technician Branch Representatives’ (TBR’s) meeting during the 1975 Boston AALAS National Meeting. Although the program has had its ups and downs throughout the years, it still provides an avenue for technicians on the Branch level to have input and make an impact on technician affairs. Currently there are 53 TBR’s identified in the AALAS Reference Directory and they meet on an annual basis during the AALAS convention.

Many issues were discussed and solved throughout the years by COLAT. In 1995 COLAT changed name, as suggested by the AALAS Governance ad-hoc committee, and became the Committee on Technician Affairs (CTA). Dennis J. Piccione has provided a copy of the 1998 mid-year report from the Committee on Technicians Affairs (CTA) in which he reports that the Committee continues to develop the TBR Network (4). A “TBR Compendium” is a survey mechanism which is sent on a regular basis to all the TBR’s soliciting their input on issues that are important to AALAS. A new format (ice-cream social) was tried for the TBR meeting during the 1997 AALAS convention, where the TBR’s had an excellent chance to meet and get to know the officers and staff in an informal, relaxed atmosphere. Much positive feedback was received after the reception. CTA continues to identify and implement new initiatives to ensure that AALAS is meeting the needs and expectations of technician members. CTA also encourages technicians to submit tips and news items for Tech Talk and the “Branch News” section to AALAS for publication in Contemporary Topics in Laboratory Animal Science. CTA continues to work in collaboration with the Information Technology Committee (ITC) to implement ways to use the AALAS web-site ALPHA to meet the needs and interests of technicians. ALPHA offers instant access to dynamic information on membership, certification, National Meeting, publications, and services.

The Importance of AALAS’ Involvement and Mentoring

By joining AALAS, at any level, technicians can quickly realize the learning potential the various organizations offer. It is my firm belief that my involvement in AALAS activities
on National, District, and Branch levels has strengthened my career in many ways through education and training. Many individuals have assisted my career along the way and I believe strongly in the mentoring process. One of my early mentors was Rita Malek. She was a registered nurse and laboratory animal facility manager at the VA Hospital in Houston, Texas. In 1968 she offered to pay my AALAS dues for one year. She also offered a lot of management advice at the time to a young greenhorn supervisor like me.

Several colleagues share this view, including Paul Schwikert (5), and James Alford (6). “Al Edwards suggested that I join the local Branch of AALAS and make application to the Ralston Purina Training Program,” Schwikert said. “The experiences I absorbed over the next few years had a lasting impact on my life and set the stage for my career in laboratory animal science.”

Alford described the benefits of developing mentor relationships. “I was fortunate to have Bill and Al Thomas as vendors, Sally Newell [Papp] and Glenda Bowne as mentors,” Alford said. “I could have stayed isolated in Athens, Ga. but Sally and Glenda wouldn’t let me. I was lucky to have people who cared enough to educate me and get me going.”

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Technician Training, Certification, and The Animal Technician Certification Board

Incoming ACP President L. R. Christensen wrote in his letter to Norman Bleicher, ATCB Chair in November of 1962 (7):

“I feel that the technician certifying board is one of the most important activities of the Animal Care Panel, not only from the contribution we make to animal care by encouraging training in this field, but also from the political and public relations point of view since we can point to the activities of this board as an important, constructive program for the improvement of animal care . . . .”

In 1966 Norman Bleicher asked the ATCB to accomplish the following items during the year (8):

1. Establish a registry [a duplicate card system was developed for all persons who have been certified] of animal technicians.
2. Decide on the name for the third category of technicians and decide if the present “junior” and “senior” titles are proper and should be retained. [The third title suggested by Al Havemeier was “master.”]
3. Finalize the “master” examination.
4. Review existing exams for other technician levels.

This short list of charges was followed by an explanation of the functions of the ATCB. The 1966 ATCB set out to certify the content and quality of any technical courses that may be offered. ATCB established the prerequisites for examination, supervised the content of the certifying examinations, and supervised the certifying examinations and their evaluation. ATCB also issued certificates to successful candidates in the name of the Animal Care Panel.

In March 1966 an ATCB midyear report showed that 380 “junior,” 59 “senior,” and 79 “master” technicians had been certified (9). At about the same time Rita Malek, a member of the ATCB, suggested two different sets of emblem designs, one for each level of certification (10). It is interesting to note that the triangular emblems are very similar to today’s emblems and pins. The number of certified technicians grew throughout the years, and a report from the 1970s shows the increased number of individuals who successfully achieved certification at various levels (11). A total of 1,163 technicians had been certified by 1967, and by 1970 the total had reached 2,421.

Certification

The first certification levels were called “junior,” “senior,” and “master.” My recollection is that the “junior” level was dropped and then later reinstated. The nomenclature evolved to assistant laboratory animal technician (ALAT), laboratory animal technician (LAT), and laboratory animal technologist (LATG).

When I took the master examination in 1967, the examination was written and graded at the local level. The formation of the Regional Examining Boards (REBs) in 1970s changed the system, and the REB chairs often wrote the questions for the various levels of examination in those early days. Gail Heidbrink reported that in 1974, when she successfully passed the examination, the technologist exam was printed at the AALAS office and approved by the ATCB (16). Heidbrink also reported that during her tenure as ATCB chair, 1985-88, several major changes occurred.

• The record keeping of applicants’ success or failure on the examination was converted to the database at the AALAS office.
• Examinations were to be restricted to four “windows” each year, with a unique examination given for each window.
• Hands-on practical examinations were eliminated.
• The database of questions was evaluated and duplicate questions were purged. The remaining questions were organized into categories associated with basic course outlines.
• Hand-graded examinations were eliminated and replaced with computer-graded exams that included statistical analysis for each examination available.
• “Free re-takes” were eliminated.

Current Status and Efforts in AALAS Certification

The development of AALAS certification examinations and programs is directed by the ATCB. The board consists of 10 members who represent each of the eight AALAS Districts, one at-large member, and the chair, all of whom represent the entire National Membership. (17) The ATCB has overseen substantial changes in the certification program in the past few years.

• The examinations are now administered by computer at widely distributed commercial testing sites. Examinees register in advance for a test session, which accommodates their schedules. Exams are graded by computer and the examinee

FIG. 2. Michael P. King receiving the AALAS Technician Scholarship Award from Norman Bleicher in 1975.
is informed immediately after testing of the outcome. The exams consist entirely of multiple choice items, with no practical examination component as had been done previously. “A pencil-and-paper” version of the examinations is given each year at the AALAS National Meeting. There are three sections per examination: animal husbandry, facility management, and animal health and welfare.

- Application processing is now handled entirely in-house at the AALAS office. This has been done to contain costs and to facilitate the application process.
- Examination development is guided by a national testing service. This service, Chauncey Group, works with ATCB, as it does with certification groups of other professional organizations. Examinations are given at the Sylvan Pro-metric Test Centers.
- National members who are certified at the LATG level or hold appropriate doctoral degrees are invited to serve as item (question) writers.
- The blueprint for the examinations is based on the results of a study conducted by the ATCB, and from this study “Role Delineation Documents” (RDD) were created (18). The RDD skills and knowledge oriented items are listed giving required depth of skills and knowledge for each level of certification. The process itself is well-defined, and the program validates skills and knowledge of the individuals who receive a passing grade on the three existing levels.
- Active marketing of the AALAS certification program has been undertaken.
- Applications for financial assistance, through a grant program sponsored by Washers International may be obtained through the AALAS Office.

The AALAS National Office, concerned with professional development and education, has taken on an increasingly stronger leadership role through the efforts of Nancy Addcox, Jill Worley, and most recently, Dawn Vinson. The AALAS Office reports that in the past few years many more technicians have become certified. The number of individuals tested, on an annual basis, has grown substantially: 766 in 1995; 908 in 1996; 1,370 in 1997; 1,152 in 1998 (1998 figures are good through 11/30/1998). (18)

In summary, the AALAS Animal Technician Certification Program is very robust. Interest in certification is high, evidenced by the fact that the number of individuals tested in 1997 is double the number tested in 1995. AALAS certification continues to be recognized by technicians, researchers, and administrators alike as an important credential. This helps establish the professional competence of those who make a major contribution to the humane care and use of laboratory animals.

Development of Educational Materials

The AALAS organization has been in the forefront in producing of educational materials offering professional growth through the most widely accepted programs in the industry. A brief description of the main publications follows:

1967 The first AALAS Manual for Laboratory Animal Technicians (67-3) was published by the members of the Training Committee of the Chicago Branch with George Collins as chairman. Among the contributors were Durward Bannister, George Collins, Allen Craus, Theodore Harris, Curtis Port, and Ronald Surchaugh.

1971 The Basic Course Outline for the Laboratory Animal Technician Level was published by AALAS through the efforts of COLAT and coordinated by U. Kristina Stephens.

1972 The Syllabus for the Laboratory Animal Technologist (72-2) was dedicated to Lauritz Royal Christensen and preparation of the final copy was prepared by Jerry Fineg. The Committee on Laboratory Animal Technician Education of the Chicago Branch coordinated the effort with George Collins as chairman. Among the contributors were Nathan Brewer, Alfred Havemeier, and Daniel Ringer.

1972 The Basic Course Outline for the Assistant Laboratory Animal Technician Level was published by AALAS through the efforts of COLAT and coordinated by U. Kristina Stephens.

1973 The Basic Course Outline for the Laboratory Animal Technologist Level was published by AALAS through the efforts of COLAT and U. Kristina Stephens.

1977 The first Instructor’s Guide for Laboratory Animal Technician Training was published by AALAS through the efforts of COLAT and ATCB. The project was coordinated by Ann Campbell.

1980s There were two additional revisions of the Basic Course.
Outlines that were conducted under ATCB during the 1980s. The first revision was conducted by Tom Darby (chair), Clayton Cisar, Gail Heidbrink, and U. Kristina Stephens. The second revision, to be more closely aligned with the examinations, was conducted by Gail Heidbrink (chair), Fred Douglas, George Irving, and Ken Pyle. The Manual for Assistant Laboratory Animal Technician Level (84-2) edited by John E. Harkness and Walter Sapanski. This manual became known as the “Yellow Manual.” Among the contributors were James Alford, Ann Campbell, Ed Csanady, Skeeter Georgeson, and Gail Heidbrink.

1984 The Manual for Laboratory Animal Technician Level (84-2) was edited by Nephi Patton and U. Kristina Stephens, and it became known as the “Blue Manual.” Among the contributors were James Alford, Ann Campbell, Thomas Darby, Sharon Jahn, and Harvey Kalbach. As a side note, one of the editors had to set up an office at home and take vacation from work in order to finish the document.

1989 The Volume I Assistant Laboratory Animal Technician Training Manual (89-1) was published by AALAS. The manual was edited by Dennis Stark and Marshall Ostrow, and unit coordinators were Sherrill Baumgartner, Edward Csanady, Thomas Darby, Barbara Beard, Stanley Liebenberg, and Doug McBride.

1990 The Volume II Laboratory Animal Technician Training Manual (90-2) was edited by Dennis Stark and Marshall Ostrow with the same unit coordinators as for 89-1.

1991 The Instructional Guide to Technician Training (90-1), was edited by Taylor Bennett and Nancy Addcox, was jointly prepared by Lynn Anderson, Taylor Bennett, Janet Gonder, Bruce Kennedy, Ron Larson, and Dennis Taff.

1991 Volume III Laboratory Animal Technician Training Manual (91-3) had the same editors as 89-1 and 90-2. The unit coordinators were Dennis Baker, Edward Csanady, Thomas Darby, Donald Feldman, Barbara Beard, Stanley Liebenberg, and Doug McBride.

1998 Timothy Lawson reports that the new Assistant Laboratory Animal Technician Manual is now available (12). The new and improved version of the manual has updated information about all common laboratory animal species and contains many more definitions. The ALAT manual has an expanded glossary and index with an appendix that features tables for acronyms, abbreviations, and species-specific data.

The new Laboratory Animal Technician (LAT) Manual is currently in its second round of review by the Education Committee. The new Laboratory Animal Technologist (LATG) level manual should follow very soon. These new updated manuals are very “user-friendly.” Among other training and educational materials, made available during the last ten years, is the AALAS Challenge Game. The game is played similar to Trivial Pursuit, and it was developed as an educational tool by Deborah Donohoe and distributed through AALAS. The questions were categorized in seven major categories (barrier, breeding colony, diagnostic laboratory, containment, quarantine, cage sanitation, and office).

The Institute of Laboratory Animal Management (ILAM)

An early goal of an AALAS affiliate organization, the Laboratory Animal Management Association (LAMA), was to establish another level of certification for laboratory animal facility managers. (13) For further information about LAMA see chapter eight. In 1991 after much deliberation by LAMA, James Alford, the current AALAS president was approached and as a result he appointed an AALAS ad hoc committee which was given the task of preparing a curriculum and organizing a trial laboratory animal facility managers training program. Gail Heidbrink chaired the committee. She modeled the program from a course entitled “Professional Management of Zoological Parks and Aquariums,” conducted by the American Association for Zoological Parks and Aquarium (AAZPA) that she had attended. Many of the ideas concerning the formation of the Institute for Laboratory Animal Management (ILAM) grew out of that particular program. The original ad hoc committee members were William Britz, Gail Heidbrink, Robert Mueller, and Mary Ellen Wilson. It was the intent of all concerned that ILAM would be organized and governed by an independent Board of Regents that would consist of representatives of AALAS, LAMA, and the American College of Laboratory Animal Medicine (ACLAM).

The program includes 64 classroom hours of instruction over a two-year period. The school provides a progressive program requiring 32 hours of instruction annually. Orientation and classes for each level begins on the second or the third weekend in May, and closing ceremonies conclude the program on the following Thursday evening. Class topics vary from year to year depending on the needs of the industry and the requests of the students. Upon completion of the two-year program, each student receives a certificate recognizing their successful completion of the program.

ILAM was initiated in 1992, and the first class of ILAM students graduated in 1993. Shortly thereafter, AALAS adopted the ILAM program, and the ad hoc committee became a permanent member of Board of Regents within the AALAS organization. In 1994 the AALAS Board of Trustees approved a Registry for ILAM graduates; however the Registry was removed in 1997 by that year’s AALAS Board of Trustees.

In subsequent years, interest among students increased, filling the classes. Each year a new group graduated and students from foreign countries were added to the roster.

The 1998 chairman of the ILAM Board of Regents, Tom Woods, reported that the ILAM has become a shining star of AALAS. (14) The program is a premier laboratory animal management approach. The 1998 ILAM also was a tremendous success. The two-year program focuses on such topics as communication skills, facility technology, occupational health in the research facility, and stress management. The course is designed around a core curriculum with peripheral topics covering contemporary issues.

ILAM is currently held in Olive Branch, Miss., usually in the middle of May. The program is currently associated with the Redlands Community College, which offers college or CEU credit for any ILAM participant. It should be pointed out that initially ILAM was formed with a close relationship with the State Technical Institute of Memphis. An ILAM record has been established at the AALAS office listing all ILAM graduates, who are entitled to purchase a logo and an official lapel pin. By 1998 the number of ILAM Graduates has reached 220.

AALAS Activities — CD Rom

The 1998 final report of the AALAS Education Committee, chaired by Mike Fallon, reports that many efforts are directed toward technicians (15). The list of the president’s charges are:

• To complete revision and publication of the ALAT, LAT,
and LATG manuals.
- To review the status of and provide recommendations for the Redlands Community College LATG correspondence course.
- To develop Continued Education Units (CEU’s) for Contemporary Topics in Laboratory Animal Science. To update the Educational Resource Materials List.
- To consider and recommend ways to use AALAS ALPHA site to facilitate technician training and education.
- To evaluate programs and engage in collaborative partnerships, when possible, with existing training programs such as the Purina Lab Animal Care Course.
- To develop CD-Rom interactive technician training software with a language option.
- To complete development and publish the new “Instructional Guide for Technician Training” in 1998.
- To evaluate and implement video-taping/video conference of the “Train the Trainer” seminar and other Future short course presentations for sale and/or distribution.

**AALAS Awards Program for Technicians**

AALAS has recognized technician members through the awards program since 1961 when Alfred Havemeier received the first Animal Technician Award (later renamed the George Collins Award) (20). The Collins Award is presented to an individual for outstanding accomplishments to the field of laboratory animal training on an annual basis. Starting in 1967 AALAS recognized Nathan M. Essex as he received the first Technician Recognition Award (later renamed Technician of the Year Award). The award was instituted as a scholarship award to promote the laboratory animal technician as an indispensable and integral member of the research team and to encourage technicians to continue their education. The Technician Publication Award (formerly entitled Technical Notes Award) was presented for the first time in 1974 to E. Landrum Young. This award is intended to promote and reward technicians for sharing information related to laboratory animal science with their colleagues. The Joseph J. Garvey Award was first presented to Sheldon Scher in 1984. It is given for meritorious contributions and for outstanding accomplishments in administration, education, or support programs relating to the care, quality, or humane treatment of animals used in biomedical research.

The oldest and most prestigious AALAS award, the Griffin Award was given posthumously to George Collins in 1974. It is given annually to an individual that has demonstrated outstanding accomplishment in improving the quality of care and use of animals in biological and medical research.

**Today’s Technician**

Tom Wolfe has recently stated in an article entitled “Future Ain’t What It Used To Be” (21) that: “Today, animal care givers are recognized as the backbone of the entire research animal program in each institution. The evolution of this discipline (from dieners, to caretakers, to care givers) is a reflection of the increased importance given to the jobs these people do. This recognition has paralleled the development of modern laboratory animal science, and in the process, has changed the requirements.”

Technicians must be on a constant learning curve. We need to make sure that our knowledge and skills develop as our field becomes more technical and specialized, our equipment becomes more sophisticated, and become knowledgeable about additional animal models.

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