Sam Seifter: A Man for All Seasons
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INTRODUCTION

After 20 years of service to The Einstein Quarterly Journal of Biology and Medicine (EQ), Dr. Sam Seifter is stepping down from his position as Chairman of the editorial board. His insight, advice, and energy were essential to the emergence of the EQ from its conception to the high-caliber student-run journal it is today. This issue is the first published without Dr. Seifter at the helm. This article is an acknowledgement and an appreciation of his enormous contributions to the EQ and to the Albert Einstein College of Medicine (AECOM) at large.

SAM SEIFTER: MEDICAL SCIENTIST

Sam Seifter, a native of Ohio, received his undergraduate education at Ohio State University and his graduate training at Western Reserve University, a breeding ground for biochemists during World War II and the years immediately following. After a decade at The Long Island College of Medicine, now Downstate Medical School, Dr. Seifter joined the Department of Biochemistry at AECOM in 1955. At that time, our medical school was a single building on the south shore of Morris Park Avenue, the Forchheimer Building.

Dr. Sam Seifter wholeheartedly espoused the prevailing philosophy at AECOM in the late 1950’s. He strove to maintain interactions between basic science and clinical departments without encumbrance from bureaucracy and departmental structure. The freedom to exchange ideas and share resources was paramount. This philosophy remained an attribute of Sam Seifter and the AECOM intellectual landscape. Our current Liver Center, Diabetes Center, Cancer Center, and General Clinical Research Center are some of its beneficiaries. Dr. Seifter was not merely a major advocate of this philosophy. He was a major practitioner. This was achieved via his enormous wealth of clinical knowledge, which spanned from clinical chemistry, to pharmacology, to endocrinology, to surgery, and beyond. This aspect of his scholarship made him a valued colleague among basic scientists and clinicians as well as a revered educator. His sense of humanity was as strong as his scholarship. He was a member of the Committee on Minority Affairs and the Committee on Scientific and Ethical Misconduct. There is an annual lecture in his name on minority issues. In the Faculty-Student Senate, he was an advocate of women’s and minority rights.

During his years at Western Reserve University, now Case Western Reserve, Dr. Seifter’s research focused on complement, a complex mixture of proteins involved in the innate branch of the immune system. His studies dealt with immune function, protein purification, as well as the chemical and physical properties of proteins. During this time he published a paper on determination of glycogen by the anthrone method that, nearly 25 years later, was honored as a Citation Classic.

As a member of the Biochemistry faculty at AECOM, Dr. Seifter studied connective tissue proteins, an area in which he gained worldwide recognition over the next 35 years. These studies began with chemical characterization of collagen and the discovery that this substance of bone, cartilage, tendon, and skin contains previously unknown linkages between amino acids and covalently...
bound hexoses. His work led to important studies about collagenase. These included characterization of the enzyme, its substrate specificity, and its use to analyze the molecular structure of collagen. Later studies addressed the biosynthesis of elastin and the function of elastase. Starting in the late 1970's and early 1980's, his research moved into more clinical areas with studies of collagenase in schistosomiasis and fibrosis as well as the synthesis and properties of collagens in heart.

Biomedical research is very much a here-and-now enterprise with few historical events cited as scientific advances. All of this notwithstanding, it should be noted that the work of Dr. Seifter, his colleagues, and others of that generation studying “ichthyocol” and “gelatin” laid foundations for some of the timeliest areas of research in the 21st century. Among these are the role of matrix metalloproteinases in metastasis, the molecular mechanisms of oxygen sensing, and the role of the extracellular matrix in signal transduction.

Dr. Seifter served as acting chairman of the Department of Biochemistry from 1975-1976 and as chairman of the Department of Biochemistry from 1976-1987. Basic science chairs are selected for their scholarship (e.g., their research publications and recognition in their field), their leadership abilities (e.g., representing their department in schoolwide issues and making Solomonic choices on the perennial issues of space, salary, and recruiting), and their teaching acumen (e.g., supervising, usually by example, the teaching load in the medical school and graduate school). Dr. Seifter excelled in all of these qualities, but there was a distinctive something more.

The something more is a certain whimsy that darts in and out in a most unpredictable fashion. A routine listing of faculty labs and their members becomes an exercise in rhymed couplets. The fatigue of writing and re-writing questions for a medical biochemistry exam is broken by a slip of tongue that turns scientific jargon into hilarious nonsense. A parse of Gilbert and Sullivan enlightens a discussion of life in academia. A standing faculty joke during the Seifter Chairmanship was that Biochemistry was the only department where you would go to the chairman asking for an additional 400 square feet of laboratory space and leave with a plant.

**SAM SEIFTER: MEDICAL EDUCATOR**

During a period spanning more than three decades, Dr. Sam Seifter delivered lectures in Medical Biochemistry to the first year medical students. His lectures were masterfully organized and presented in a way that enabled students to learn the basics of biochemistry and at the same time keep both students and visiting faculty abreast of new developments in biomedical science. There was no need to check course evaluation forms to assess the quality of Dr. Sam Seifter’s teaching. Through informal conversation with students, faculty, and alumni, his teaching skills clearly rose well above the ratings and defied mere quantification.

Dr. Seifter made complex topics in biochemistry, like bioenergetics, carbohydrate metabolism, and diabetes mellitus, supremely comprehensible and interesting. More importantly, he did not use his lectures just to transmit information that he knew students could easily obtain through reading a textbook. Instead, he framed the information in the context of scientific discovery, hence demonstrating the power of scientific reasoning and research. In addition, he integrated a variety of biomedical disciplines into his lectures, demonstrating how each contributed to our knowledge of biochemistry. Lastly, but certainly not least, he taught biochemistry in a largely discipline and lecture based course, perhaps old fashioned by today’s standards, but he always included clinical applications steeped in the basic sciences much like the integrated multidisciplinary and problem solving experience that the current AECOM curriculum provides. Indeed, the chronic student complaint of “what is the relevance” could never be attributed to his lectures. A student left Dr. Seifter’s lecture not only with the feeling that it was presented by a great teacher, but also by an outstanding laboratory investigator and by someone who, while not a physician, deeply understood the myriad applications of the basic sciences to clinical medicine.

In *The Art of Teaching*, the author Gilbert Highet, a legendary professor of Latin language and literature at Columbia, states that expert knowledge of subject is not the only necessary qualification for being a good teacher, since “he or she should know much else. The good teacher is a man or woman of exceptionally wide and lively intellectual interests.” Sam Seifter is the prototype of the teacher Highet refers to. He loves and writes poetry; he practices horticulture; he has a profound knowledge of history including the history of science and medicine; he is passionate about social justice. In fact, he has been in the thick of a number of social causes including the recruitment of underrepresented minority students here at AECOM. In addition, he is able to tell more stories about more notable people and historical events than almost anyone. Sam Seifter’s eclectic fund of knowledge and story telling ability inevitably pierce his teaching in both formal and informal settings; it enlivens and enriches any educational discourse. Just listening to him you acquire a sense of the complexity and depth of both the man and the topic discussed.

**SAM SEIFTER: EINSTEIN QUARTERLY CHAIRMAN**

Ever since the inception of the *EQ* in 1983 by the international publishing company Springer-Verlag, Dr. Sam Seifter has been instrumental in forming the vision of
the EQ as well as keeping the journal’s everyday operations unique. This peer-reviewed journal has regularly published original reports, review articles, critique, and commentaries, on topics in the basic and clinical sciences as well as in the interface of medicine and the social sciences, medico-legal and ethical studies, epidemiology, public health, and the history of medicine. Articles written by AECOM students and housestaff appear alongside those contributed by renowned scientists and clinicians from all over the world. While it is not unusual to have a scientific and medical journal that bears the name of an academic institution, the EQ is unique in that this journal is run primarily by AECOM students with the support of only a handful of faculty mentors.

Dr. Sam Seifter has been the guiding light for the EQ from the very beginning, as the chairman of the editorial board for the last 20 years. Most of the medical and graduate students who serve on the editorial board initially start with minimal background and experience in editing and writing, which introduces certain logistical and pragmatic difficulties when publishing a high caliber scientific journal. Nevertheless, student editors take care of most of the editorial tasks, including initial screening of submissions, arranging for referees, coordinating any necessary changes, and proofreading the galleys. In addition, Sam Seifter went through each and every article published in the EQ, consequently helping the student editors refine their editorial skills in the process. He has always been very proud of the fact that the students beginning with minimal publishing experience produce the journal largely on their own. He has single-handedly guided the EQ and its students making it the high-quality student-run scientific and medical journal that you read today.

Not only has he been invaluable to the education of student editors, he has also nurtured many other students who have written for the EQ. Referees would often send back articles written by students asking for major revisions before publication. Dr. Seifter has, many a time, spent hours with students helping them revise and fine-tune their articles to make them acceptable for publication in the eyes of the referee. These articles stand alongside the ones written by eminent scientists and clinicians. The core of his involvement with the EQ has been his desire to help the students grow into their roles as writers, researchers, and academicians. Instead of spoon-feeding the students or making his task easier by having the journal run by faculty and/or professional editors, he has taken the more difficult path of providing the moral and logistical support necessary to establish the EQ as a very high-caliber student-run journal.

In the course of working closely with him on the EQ, students have had the intangible benefit of spending many hours discussing myriad topics. He has an impressive grasp of the whole spectrum of the sciences and is a treasure trove in terms of the history of science and the history of AECOM. He is someone who is genuinely interested in the students’ intellectual interests and would engage the students in long conversations on topics ranging from science and medicine to religion and politics. Dr. Sam Seifter is more than a distinguished professor; he is truly a remarkable human being with a very down-to-earth and humble personality.

CONCLUSION

Dr. Sam Seifter continues to serve as Distinguished University Professor Emeritus of Biochemistry, a position he has held since 1992. As Professor Emeritus, Dr. Seifter remains active as a consultant for faculty, students, and postdoctoral fellows from his office in the Forchheimer Building. In fact, many have seen him walking along the path leading from the Forchheimer building to the street at the end of another day of work during one of his 47 years at AECOM. In the springtime, he might even stop a while to enjoy the beautiful flowering branches of the Paulownia tree. One wonders how many times he has walked along that path where former colleagues and students once walked and where recently appointed faculty and new students now pass him by without any sign of recognition. Regardless, Dr. Sam Seifter has influenced so many faculty and students at AECOM, many of whom have gone on to influence faculty and students at AECOM and other medical schools, that most of those who passed Sam Seifter were affected, albeit unknowingly, by his decades of devotion to his craft.

Throughout this article, “Dr. Seifter” and “Sam Seifter” have been used. In reality, “Sam” would have sufficed. This is not to ignore others with this name that have contributed to AECOM. Rather, in these parts, Sam unambiguously denotes the singular, unique individual Sam Seifter. He is, to quote from his recent book of poems, a person within whom there are “worlds within worlds.” In his contributions as basic scientist and chairman of the Department of Biochemistry, medical educator, and chairman of the EQ, we truly see a man for all seasons.