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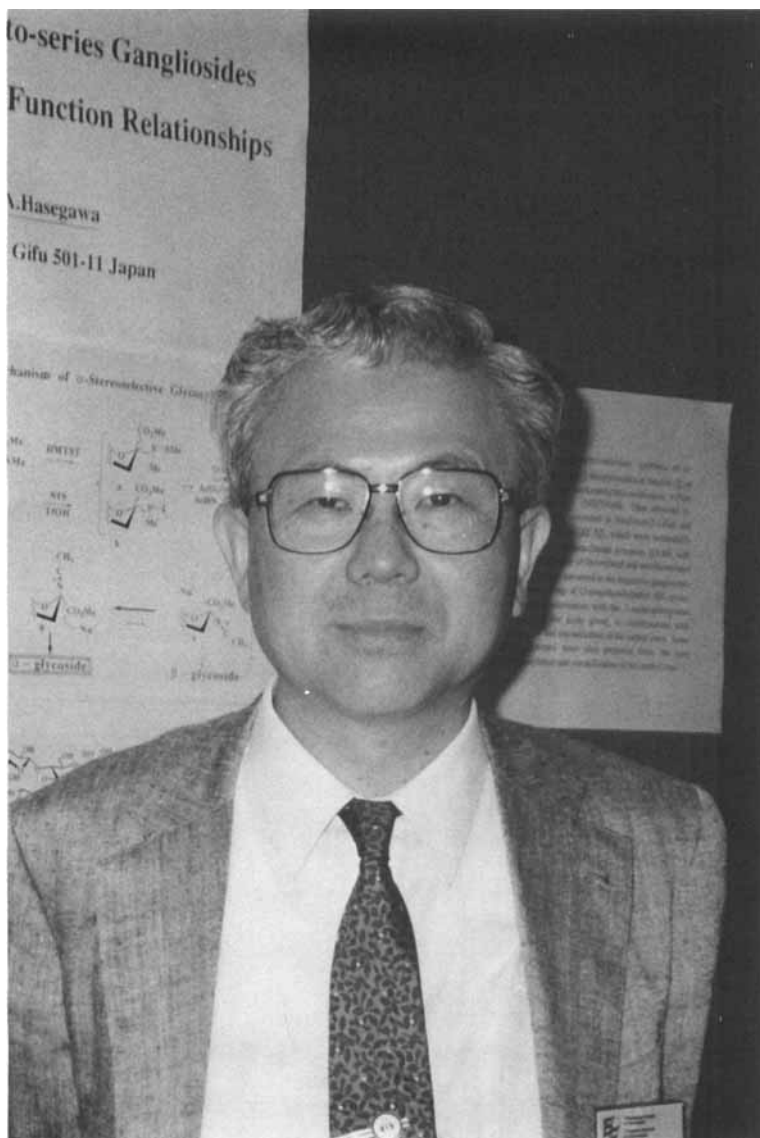
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Akira Hasegawa
1934–1996

IN MEMORIAM

Akira Hasegawa

1934 -1996

This issue of the *Journal of Carbohydrate Chemistry* is dedicated to the memory of Akira Hasegawa, Professor of Applied Bio-organic Chemistry, Gifu University, Gifu, Japan, who served as a Regional Editor for this journal from its inception in 1981 to the time of his death on October 10, 1996. It is fitting that we include here a listing of his scientific accomplishments and some personal remarks from colleagues who knew him. This issue is made possible thanks to the authors who contributed to it, the students in Akira's lab who were his pride and joy, and Dr. Hideharu Ishida - a former student of Akira's, who as Associate Professor of Applied Bio-organic Chemistry at Gifu University, now helps to keep the Hasegawa tradition of scientific excellence moving ahead. Final thanks go to Professor Makoto Kiso, Gifu University. Professor Kiso was Akira Hasegawa's colleague for 23 years and his tireless efforts have been the essential ingredient in preparation of this issue.

Akira earned a B.S. degree from Gifu University (1957) and M.S. (1960) and Ph.D. degrees (1964) from Kyoto University, where he then stayed two additional years as a Research Associate with his Ph.D. mentor, Professor Minoru Nakajima. It was at Kyoto that Akira began his first major line of research, syntheses of aminocyclitols and aminocyclitol antibiotics. He reported the first total synthesis of Kanamycin A. For his outstanding achievements in the aminocyclitol field he was awarded the Japan Agricultural Chemical Society Award for the Encouragement of Young Scientists. He continued his work on aminocyclitols for three years as a postdoctoral research associate with Professor H. Z. Zable at Western Reserve University, Cleveland, Ohio, USA. In 1969 he returned to Gifu University as an Associate Professor, and he was appointed as Professor in 1974. At Gifu Akira would develop and maintain an outstanding research group for the next twenty-seven years. During that time he expanded his research efforts to include synthetic approaches to bacterial peptidoglycan and lipid A components having immunomodulatory activity, synthetic approaches to the sialoglycoconjugates - including systematic synthesis of gangliosides, sialyl Lewis X, and their analogs - and their applications in medicinal chemistry. He also carried out a variety of synthetic studies on heterosugars and reactions thereof. Suffice it to say, his 350 published papers, 21 books and numerous patents provide the scientific details of Akira's career, a magnificent career marked by truly significant and numerous achievements. His contributions to basic bioscience research were recognized in Japan in 1995 when he was given the Japanese Bioscience, Biotechnology and Agrochemistry Society Senior Scientist Award for his work on "systematic synthesis and molecular analysis of the biologically functional glycoconjugates, and application as indispensable probes for the life sciences".

On September 28, 1997 the "Hasegawa Memorial Lectures on Glycoscience and Glycotechnology" were held in Gifu, Japan gathering together scientist colleagues and former students of Akira to honor his memory and celebrate his accomplishments. Lectures were given by Drs. T. Ogawa, Y. Ishido, Y. Suzuki, R. Kannagi, Y. Nagai, and D. E. Kiely on behalf of the Japanese Society of Carbohydrate Research, his scientific collaborators, and all of his friends throughout the world. What made those lectures and following reception so striking and memorable was the presence of more than a hundred of Akira's former students whose scientific careers he had launched and whose lives he had enriched. A memorial book "AKIRA", that chronicles Akira's life as teacher, scientist, mentor, sports enthusiast and family man and includes contributions from his



Noriyo and Akira

colleagues, former students and research scientists, was presented at the lectures. Copies of the book were given to the attendees. The book through words and pictures depicts his life and captures his spirit. Some pictures and a sketch taken from that book are included here.

Akira Hasegawa was a history buff and he traveled the world with his wife Noriyo to scientific meetings and then beyond to visit and learn more about places that were historically renowned. He traveled also to interact and collaborate with many scientific colleagues from around the world. Those collaborators also rapidly became his friends. His travels included time spent time as a visiting scientist at Purdue University (R. L. Whistler), the National Institutes of Health (H. G. Fletcher, Jr.), University of Paris (S. Czernecki), University of Konstanz (R. R. Schmidt), and most recently at Virginia Commonwealth University (R. K. Yu). His collaborations in Japan included many scientific groups and particularly of late those of Y. Suzuki (University of Shizuoka), R. Kannagi (Aichi Cancer Center) and Y. Nagai (Mitsubishi Kasei Institute of Life Sciences). Akira was also very active in the scientific community in Japan and served as a member of the Councilor and Inspector Boards, Japanese Society of Carbohydrate Research; Councilor Board and Director Board, Japan Society for Bioscience, Biotechnology and Agrochemistry.

Akira was very proud of Gifu University and invited many colleagues from Japan and abroad to visit the university and his research group. He brought his students into direct contact with carbohydrate chemists from around the world by way of Gifu glycoscience lectures beginning in the

mid 1970s: Frieder W. Lichtenthaler (1976, 1992); Roy L. Whistler (1978); R. R. Schmidt (1983, 1990, 1993, 1996); P. Sinay (1983, 1990); Donald E. Kiely (1984, 1993); B. Lindberg, P. J. Garegg, and P. E. Jansson (1984); L. Anderson (1984, 1990); P. Kovac (1985, 1990); Z. J. Witzak, E. Zbiral, J. Thiem, G. D. Daves, Jr., and Gerard Descotes (1990); S. Czernecki (1990, 1994, 1996); Rene Roy (1995); Ole Hindsgaul (1995, 1996); Monica M. Palcic (1995); and D. C. Baker (1996); Roger A. Laine, Robert K. Yu, Su-Chen Li, Yu-The Li, Ronald L. Schnaar, Brian E. Collins, and Stephan Ladisch (1996). Through the years many other carbohydrate chemists and biochemists also presented lectures in Gifu and enjoyed Akira's seemingly unending hospitality.

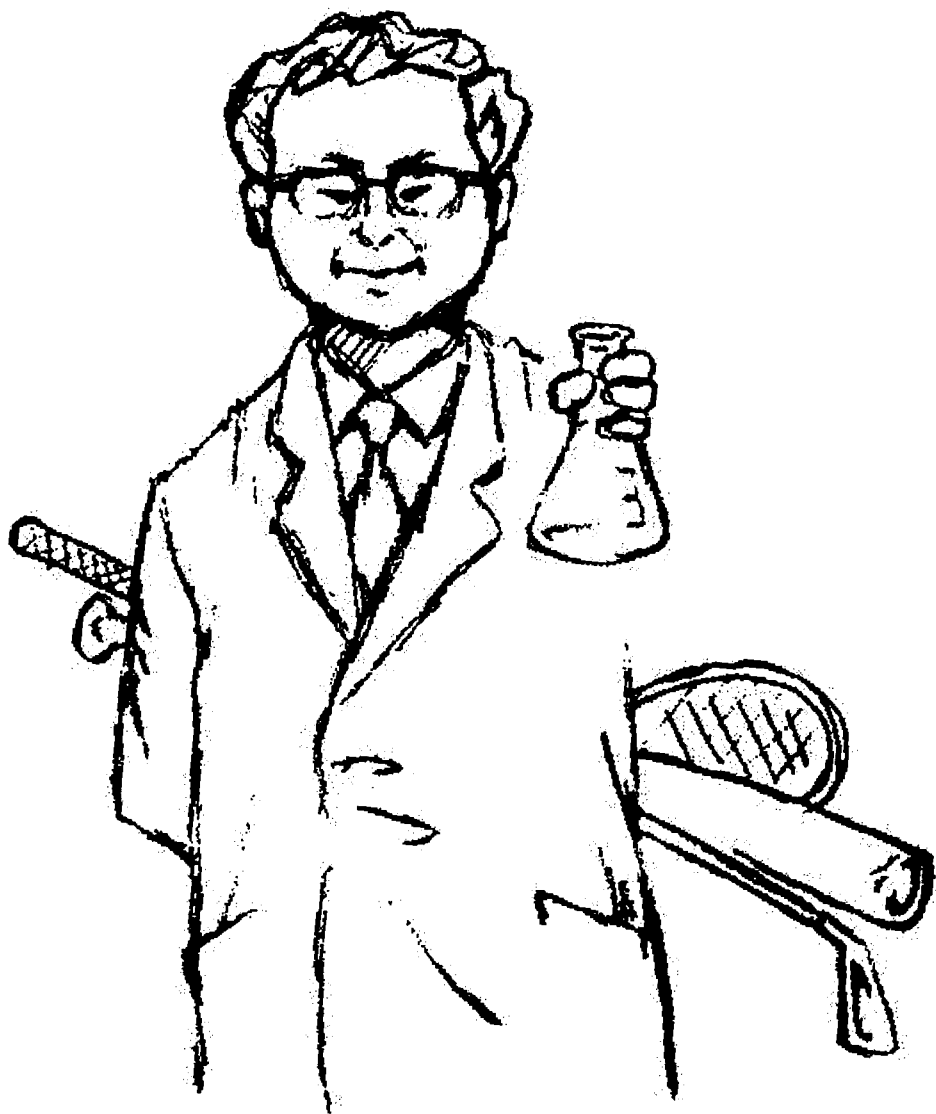
In addition, Akira organized the *XIth Japanese Carbohydrate Symposium* at Gifu in 1988, the only *Gordon Research Conference on Structure and Function of Glycolipids and Sphingolipids* (Gifu, Sept. 30 - Oct. 4, 1996), and also the *Gifu '96 Post-Gordon Symposium* (Oct. 5, 1996). Regrettably, his illness prevented him from attending the latter meetings, and he passed away on October 10, 1996.

Akira Hasegawa will be remembered for what he accomplished and what his friendship and scientific stature meant to so many scientific colleagues. The following personal remarks about Akira from just a few of the many colleagues who knew him tell of him as teacher, scientist, mentor, colleague and friend.

Makoto Kiso - Gifu University - In 1975, just after completion of my Ph.D. work in the same lab with Dr. Hasegawa at Kyoto University, I became a Research Associate of Prof. Hasegawa in Gifu University through the recommendation of Prof. Minoru Nakajima (our common boss at Kyoto University). At that time already Dr. Hasegawa was one of the youngest and most outstanding professors at Gifu. Prof. Hasegawa earnestly told me his dream to establish a world-famous, outstanding research group on carbohydrates in Gifu. We worked so hard even on weekends and holidays, and this enthusiasm inspired numerous students and colleagues. He continued to encourage us to be active in the world, and often we traveled together to attend international meetings, which provided many good memories. The Hasegawa Memorial Lectures on September 28, 1997 and both "AKIRA" and this special *Journal of Carbohydrate Chemistry* issue are true memorials to Dr. Hasegawa's achievements. Actually, this March was expected to be Prof. Hasegawa's retiring time at the age of 63. Regretfully his figure is not here, but his spirit is continuously living in Gifu. Finally, I would heartily like to thank all of the contributors to this special issue, and in particular, Dr. Kiely for his warm encouragement and kind help in the total editorial work.

David Baker - University of Tennessee - Rarely does one encounter an individual who moves with equal grace in all settings, be it a scientific meeting, a discussion of chemistry, a formal dinner, an informal luncheon, a coffee break, or a game of golf. Prof. Akira Hasegawa was one of those rare individuals whose scientific and personal charm traveled with him in all aspects of his life. My first meeting with Akira was at a Gordon Conference when I was a regional editor of this journal. I well remember the warmth of our discussion, his quizzical nature—asking about what I was doing—and his polite, reciprocal exchange of science. I grew to know him well and looked forward to seeing him at meetings, almost always accompanied by his charming wife, Noriyo. I fondly remember his persuasive arguments made at a Gordon Conference at lunch that I should come to Gifu and visit for three months. As a confirmed homebody totally resistant to world travel, he had a tough time wearing me down, but by lunch's end, I had succumbed to his persuasive arguments and had agreed to a three-week visit, which, in all reality, turned out to be a highlight of my career. I genuinely enjoyed his and Noriyo's hospitality while in Japan, and I thoroughly enjoyed the interaction with his associates and his lively research group. I sadly miss Akira. Scientific meetings are less enjoyable without his presence. The field has lost one of its best. As a journal editor, a lump always forms in my throat when I append the footnote, "Deceased..." to his name. However, at Gifu, the legacy lives on, and we all can look forward to science continuing, guided by his spirit and example.

Rene Roy - University of Ottawa - Akira Hasegawa will remain in my mind as a great scientist and, perhaps most importantly, as a human being of tremendous generosity and care for others. When my wife Francine and I spent a most memorable sojourn in Gifu, back in May 1995, he and his adorable wife Noriyo spent numerous cherishable moments with us. During our one month stay, I was once asked by Akira what we had planned for the next day and I answered him that we decided to watch the Cormorant fishing event that he admittedly mentioned having seen several times before.



Akira the Sportsman

I recall vividly that, in spite of it, he organized this activity with great care and details. We ended up going with his wife, Makoto Kiso and his lovely wife and daughter, and Hideharu Ishida also accompanied by his wife and their young son. It is noteworthy to mention that in spite of being a very productive and a conscientious scientist, as we all knew him, his temperament was that of a quiet and patient individual. In the peaceful atmosphere of his office, we had several discussions over his traditional biscuits and coffee. His charisma will remain impregnated in those with whom he has been in contact. It is always with a spark in our eyes that my wife and I recall Prof. Akira Hasegawa's lovely memories.

Richard Schmidt - Universität Konstanz - I still vividly recall my first visit to Gifu in the eighties which resulted in an active long-term exchange of information and scientific ideas concerning our common interest in the synthesis of glycosphingolipids and especially of gangliosides. Though aiming at similar goals we became very good friends, and we met quite frequently in Gifu, in Konstanz and all over the world, whenever complex glycoconjugate synthesis was part of the conference program. It was only in August 1996 when my wife Krista and I enjoyed again the warm hospitality of Akira and Noriyo Hasegawa while being invited for a stay and a lecture series in Gifu. The official and private events with the Hasegawas and the very active research team around him will always be remembered: they took place in the same charm and joy and enlightened spirit as ever before; no complaints about the eventual termination of the activities devoted to science, no complaints about the fragility of our bodies. The last day, Akira and Noriyo insisted on driving us to the railway station. It was a most hearty farewell - in the face of eternal farewell. We lost a very good friend, a most charming personality, and an excellent scientist whose spirit will stay with us forever.

Donald E. Kiely - University of Montana - Akira Hasegawa - Editor, Scientist and Friend - Akira Hasegawa was an outstanding editor for the *Journal of Carbohydrate Chemistry*. The papers from the Gifu lab were so well written and scientifically sound that they were a model for how manuscripts in the field of carbohydrate chemistry should be written. These manuscripts (of which there were many) also served as a standard for the Japanese (and other) carbohydrate chemists with whom Akira interacted during his years as editor. I have a special appreciation for the efforts that Japanese authors take in preparing manuscripts for the journal, and I know that is because of the influence and direction they received from Akira Hasegawa. Akira had very high scientific standards - standards which he followed - and standards that he taught the many students who were fortunate to have worked with him and his colleagues, Drs. Kiso and Ishida. The scientific legacy of Akira Hasegawa is a legacy of scientific excellence. I was privileged to know Akira Hasegawa for 26 years, and during the last 17 of those years we established a very close scientific and personal relationship. It was also during those years that Akira and Noriyo became very special friends to my wife Judy and me as we met with them in Japan, our former home in Birmingham, Alabama or at some scientific meeting. These two wonderful people were also very supportive of our son Jason during the time he spent in Japan as a college student studying Japanese. Akira Hasegawa is someone we miss and remember, but in remembering him we always feel good because that is how he made us feel.

Donald E. Kiely
Editor