4. 創立 50 周年記念へのメッセージ—海外名誉会員から—

PURDUE UNIVERSITY

WHISTLER CENTER FOR
CARBOHYDRATE RESEARCH

August 30, 2002

Professor Hajime Taniguchi, President
The Japanese Society of Applied Glycoscience
College of Bioscience and Biotechnology
Chubu University
1200, Matsumoto, Kasugai
Aichi 487-8501 JAPAN

Dear Professor Taniguchi:

One of the greatest honors in my life was to be selected to receive the Award of Merit of The Japanese Society of Applied Glycoscience. The greatest disappointment in my life was not being able to attend the meeting to receive the medal and deliver my lecture. (For the record, my wife's emergency surgery was a success and her health is good.)

I congratulate The Society on its 50th anniversary and applaud it for what it has evolved into and accomplished. The Society has maintained its focus where it began, that is, on starch, and has become especially dominant in the area of starch-related enzymes.

There are several international meetings on various aspects of glycoscience that move from country to country. However, as far as I know The Japanese Society of Applied Glycoscience is the only organization in the world that holds an annual meeting on glycoscience and which publishes a journal on glycoscience. The scientific community thanks The Society for what it is doing for the field.

It is truly an honor for me to be associated with The Japanese Society of Applied Glycoscience.

Sincerely,

A handwritten signature in black ink, reading "James N. BeMiller".

Dr. James N. BeMiller
Professor and Director

PhilRice
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July 22, 2002

Professor Hajime Taniguchi, President
Japanese Society of Applied Glycoscience
C/o Department of Bioscience and Biotechnology
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Kasugai, Aichi 487-8501
Japan

Dear Professor Taniguchi,

Thank you for your letter of June 20, 2002 inviting me to contribute a letter or a short article on the occasion of the 50th anniversary of the Japanese Society of Applied Glycoscience this year.

I send advanced greetings to the Society on its 50th Anniversary! I was special guest lecturer of its predecessor, the Japanese Society of Starch Science in 1970 and a recipient of its Award of Merit in 1982, my first international award. My association with your Society and its members through the years have been crucial in my rice research at the International Rice Research Institute in 1961-1993 and even at Philippine Rice Research Institute Los Baños since 1993. Our most extensive collaboration was with Dr. Susumu Hizukuri at Kagoshima University. I have been receiving *Denpun Kagaku* since 1973 and it is an important reference in our research work.

I am submitting a diskette and a hard copy of a short paper in MS Word 97 entitled "An Adventure in Rice Chemistry and Quality: the Japan Connection" based on a paper I presented at the Workshop on Rice Quality and Utilization, Niigata in 1998 to your approval for possible publication in the memorial issue of the *Journal of Applied Glycoscience* in 2003. It is a testimony of the importance of my collaboration with the Japanese Society of Applied Glycoscience members in my rice chemistry and quality research.

Best regards,

BIENVENIDO O. JULIANO
Senior Research Fellow
Rice Chemistry and Food Science

Encl.: a/s

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Mutual Japanese-German Contacts in Starch Science - The activity of Honorary Life Member Director and Professor Wolfgang Kempf †

Letter of celebration on the occasion on the 50th anniversary of The Japanese Society of Applied Glycoscience

This address commemorates activities and life of Director and Professor Wolfgang Kempf who became honorary life member in 1978 of today's The Japanese Society of Applied Glycoscience. By the time given, this outstanding scientific society was known world-wide as Japanese Society of Starch Science. Professor Kempf came into contact with many renowned members of the society obviously during the years preceeding his first study tour to Japan in September 1962. Little is known about these early contacts. In 1962, however, he has had the opportunity to take part this year's Japan Starch Congress. Invited by the Technological Society of Starch of Japan, Tokyo, the Food Research Institute of the Ministry of Agriculture and Forestry, Tokyo, the Hokkaido University, Sapporo, and the Hokkaido Prefectural Government, Sapporo, he took part this remarkable congress that began by September 10 and lasted until September 30, 1962. The speciality of the congress was that it comprised several meetings held at divers research centres of the main islands Honshu, Hokkaido and Kyushu. During the meetings Professor Kempf was allowed to present in total 14 lectures concentrating on his activities in starch research, but also on the actual situation and future development of industries situated in Europe and Western Germany. Focus of his presentations were the main products starch, glucose syrup and dextrose, and furthermore the respective machinery industry. During the many visits to university institutes and federal research institutes as well as starch and glucose syrup plants he gained manifold experiences and became deeply impressed by the development and success of both, the state of art in research and the level of industrial production. The diversity of impressions inspired him to portray his experiences in a report subdivided into five parts. The report had the title "Actual position and future development of starch industry and starch research in Japan" and was published in the scientific periodical "Die Stärke" (actually entitled "Starch/Staerke"). Part I focused on starch economy, potato and sweet potato starch (No. 12, pp. 455-458). Part II presented the production of corn and wheat starch, monosodium glutamate and dextrins (No. 1, pp. 26-29) and part III the production of glucose and maltose syrup, dextrose, total sugar, caramel colour and sorbitol (No. 3, pp. 96-99). In part IV recent research in the enzymatic conversion of glucose into fructose was presented in many details yet unknown to the scientific society of German starch industry and research. Finally, starch research, the Starch Division of the Food Research Institute of the Ministry of Agriculture and Forestry, Tokyo, and a summary comprised part V. of this presentation.

A similar chance was given to Professor Kempf in 1978 in recognition of his intensive and outstanding contacts to Japanese starch scientists who visited him occasionally during the years in between in Detmold during the annually organised, international Starch Conventions. President Professor Dr. Ziro Nikuni and Vice-President Dr. Shigeo Suzuki invited Professor Kempf a second time to take part a two weeks lecture and visiting tour throughout Japan mainland. During the 1978 annual meeting in Tokyo he won the Society's renowned Award of Merit and became Honorary Life Member which was not only an extraordinary personal honour, but also an appreciation of his colleagues in today's Federal Centre for Cereal, Potato and Lipid Research in Detmold, Germany. Also, the insight provided by this second visiting tour through the Japanese starch industry and the respective research centres provided him with vivid impressions of the remarkable progress driven forward in a highly modernised industry and likewise in governmental and university research. Again he tried to recall his impressions and experiences in a lecture during the 30th Starch Convention 1979 and prepared a report rich in details and data and intended for publication in "Starch/Staerke" (Dynamic development of starch research and starch industry in Japan. Vol. 31 (1979), No. 12, pp. 397- 404). The comparison of progress going ahead in Japan documented well by informative tables and figures dealing with production and application of potato starch, cereal starches, saccharification products, starch research and machinery industry, and of potentials in his home country, which seemed to be small at that time, was occasionally reason to disillusion, in particular, shortages and limitations in public research.

Nevertheless, until his retirement in June 1990 the scientific career allowed Professor Kempf further interesting years of activity in Detmold including fruitful contacts to The Japanese Society of Applied Glycoscience and to Japanese colleagues, as well. These contacts found its expression not only in visits to the Institute for Starch and Potato Technology of the Federal Centre for Cereal, Potato and Lipid Research at Detmold and Münster, but also in the participation and in occasional presentation of

lectures during annual Starch Conventions organised by the Association for Cereal Research, Detmold, Germany.

Approximately ten years after retirement, on January 16, 2000 Professor Wolfgang Kempf passed away. Just a few years after retirement Professor Wolfgang Kempf was compelled to fight with all courage that he had and no doubt also with desperation against his malicious illness, a cancer disease. During the last 2 ½ years, all his expectations to overcome successfully his disease proved to be short-termed and at the end destroyed. His former colleagues all together would have wished him being in good condition for a much longer time.

For more than 35 years Professor Wolfgang Kempf worked successfully in various research areas of starch chemistry and technology. After finishing his studies on pharmacy at the Technische Hochschule Karlsruhe and on food chemistry at the Universität Münster/Westfalia he entered his professional career in Detmold, Germany, in January 1954 as scientific co-worker in the laboratory for cereal starches. After the sudden death of the laboratory head two years later he had to take charge of this laboratory. Almost at the time of becoming officer Professor Wolfgang Kempf was assigned to administer the section "Starch Production" and moved to the Berlin part of the centre for many years. In 1972, meanwhile appointed "Director and Professor", he became head of the just established Institute for Starch and Potato Technology for which he was responsible until retirement.

During many years of scientific services he and the managing director of the centre were successful in founding and establishing potato technology as new activity in Detmold. At last he also stood untiringly for research expansion with regard to renewable resources and in particular for extended utilisation of starch in chemical and technical fields. With respect to his manifold scientific activities just a few should be emphasised. For a long period studies in analytics dominated his activities resulting in intensive collaboration with national and international standardisation organisations which resulted also in divers honours. His fruitful contacts with a multitude of colleagues in science and practice allowed him for many years to organise with high efficiency the scientific program of the world-wide renowned Detmold Starch Convention. His scientific contacts played also a privileged role in preparation of his study tours and extension activities leading him to many countries in charge of national and international organisations, as there are FAO and UNIDO. By making use of these opportunities he always tried to transport knowledge and skills gained in Detmold to partner institutes. By all this he established many and intensive relations as well as long-lasting friendships to colleagues abroad. The scientific and cultural challenges never were a reason for surrender since interest and curiosity were dominant. Finally, also promoting the periodical "starch/stärke" was one of his particular interests. This made him for many years an integrated part of its Advisory Board. Past and present editors recall his valuable collaboration and advise with gratitude.

On the occasion of the celebration of the 50th anniversary of The Japanese Society of Applied Glycoscience, it is my sincere and privileged desire as successor of Professor Wolfgang Kempf in research activities to strengthen again the meanwhile weak relationship between the Federal Research Centre and the Association for Cereal Research, both at Detmold, and The Japanese Society of Applied Glycoscience. Mutual invitations and presentation of the progress in starch research by means of lectures during society conferences will be excellent future tools in reaching the requested aim of a revived relationship. On behalf of the head of department and the general manager of the Association for Cereal Research I like to express the best wishes and good luck for successful future activities.

Professor Dr. Wolfgang Bergthaller
Deputy head of department
Institute for Cereal, Potato, and Starch Technology
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July 23, 2002

Professor Hajime Taniguchi
President of The Japanese Society
Of Applied Glycoscience
Department of Bioscience and Biotechnology
Chubu University
Kasugai, Aichi 487-8501 Japan

Dear Professor Taniguchi:

Thank you for your kind letter of June 20th. I will be pleased to respond as follows:

I am most pleased to write in support of and to offer congratulations to celebrate the 50th anniversary of the Japanese Society of Applied Glycoscience.

Since receiving the award in 1985, I have been devoting my research efforts to developing new carbohydrate therapies for the treatment of type 2 diabetes and polycystic ovary disease in women, both of which are characterized by underlying insulin resistance. A Pharmaceutical company, Insmmed, Inc. has been founded based on our work which is responsible for both the clinical development and research progress. For your information and interest, Insmmed has a Japanese Pharmaceutical partner, Taisho, Inc. with whom Insmmed is collaborating.

The carbohydrates are the rare inositol, D-chiro-inositol and saccharides containing D-chiro-inositol. These are used to overcome a deficiency in the body tissues of these compounds in subjects with insulin resistance.

So you can see, I am deeply involved with research in novel carbohydrates and their therapeutic uses in disease. I am also involved in meetings with the Japanese company, Taisho, Inc. and with investigators in Japan, Drs. Suzuki and Shinri Tamura in Tohoku University in Sendai. I still follow the work of and consider as my close friends, a number of Japanese scientists with whom I have been associated including Drs. S. Hizukuri and Y. Takeda in Kagoshima, K. Kikuchi in Hokkaido and numerous others as well.

Your award to me in 1985 was an exciting moment in my life and I have always cherished the memory of it.

I send my heartfelt congratulations to you and the Japanese Society of Applied Glycoscience on their 50th anniversary. May you look forward to your 100th anniversary with future exciting scientific advances in carbohydrate research both theoretical and applied.

Sincerely,

Joseph Larner, M.D., Ph.D.

Professor Emeritus, University of Virginia

Principal Scientist, Insmmed Pharmaceuticals, Inc.

JL:sbl

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August 23, 2002

Professor Hajime Taniguchi, Ph.D.
Department of Bioscience and Biotechnology
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Kasugai, Aichi 487-8501
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Dear Dr. Taniguchi:

Congratulations to The Japanese Society of Applied Glycoscience (formerly the Japanese Society of Starch Science) on the occasion of its 50th anniversary. The Society and its members have made many memorable and highly significant contributions to the field of starch science. I look forward to each issue of the Journal of Applied Glycoscience with its excellent and interesting contributions to starch science.

Receiving the Award of Merit from the Society in 1985, was one of the most memorable events and high points of my life. It is an honor that I never anticipated receiving. The award and the memories that accompany it are treasured.

Attending meetings of the Society years ago were wonderful experiences. Friendships were renewed, new ones initiated, and many fine scientists were met for the first time. Excellent starch science, including enzymology, was presented and discussed. Those discussions were not always limited to science, for some of us managed to find time to discuss other favorite subjects, such as golf. The evening social events were filled with excellent fellowship and conversation. On one occasion, several of us managed to play a round of golf – a most enjoyable experience for me. My many friends and colleagues in Japan have been, and continue to be, an important part of my career and life.

I had the privilege of meeting Dr. Ziro Nikuni, and of chairing the AACC Alsberg-Schoch Award Committee when he received that award in 1980. We shared a most enjoyable luncheon that he hosted in Chicago. I first met Dr. Keiji Kainuma in the 1960's and we have shared many discussions and times together in Japan and the U.S., including when he received the Alsberg-Schoch Award. Brief associations with Drs. Iwao Maeda, Tetsuya Yamada, and Shoiichi Kobayashi at either Pennsylvania State University or North Carolina State University, have led to continued contact over the years. I wish it were possible to mention the names of all the Japanese starch scientists with whom friendship, experiences, and Society meetings have been shared and greatly enjoyed, but they are just too numerous to do so. Each year their cards and notes during the December holiday season are eagerly anticipated and greatly enjoyed.

There can be no doubt that the field of glycoscience (still centered on starch science for many of us old-timers), has been significantly advanced and defined by the contributions made by Dr. Nikuni, Dr. Kainuma, and many other Japanese starch scientists. In many ways, Japan has been the center of starch science for many years due to the contributions of its outstanding scientists and the Society.

I wish I could join you for the memorial meeting and celebration on September 17th in Tokyo. Unfortunately, this will not be possible. I hope you have a great celebration and wish the Society and its members continuing success over the next 50 years.

Sincerely,

David R. Lineback
Director

It is a great privilege to be associated with this Society on the occasion of the 50th Anniversary. Their journal - The Journal of the Japanese Society of Starch Science, and later, The Journal of Applied Glycoscience, has reported the great progress made by their members and guests during this period. Special mention must be made of Volume 17, No. 1, 1969, which was dedicated to Professor Ziro Nikuni, the leading Japanese starch chemist for so many years, which contained several reviews and papers which are still relevant today. This included the pioneering work of his colleagues Drs Kenji Doi and Akemi Doi on the purification of starch synthase from spinach chloroplasts, and conditions for the crystallisation of starch granules; this was of exceptional interest, and developments of this work now appear in the current literature.

The Society also hosts a regular series of meetings, at which the latest research findings are reported to their colleagues and friends from a wide range of laboratories. It is perhaps unfortunate that the distance between Japan and Europe does not allow as much participation by European carbohydrate chemists and biochemists as would be desirable. However, I recall with pleasure my own visits to Japan in 1989, when I was awarded Honorary Membership of the Society, and in 1990, when I met so many research workers who shared similar interests with me. On a personal note, I wish to record my thanks to Professors Akira Misaki, Hidetsugu Fuwa and Susumu Hizukuri for their helpful cooperation and friendship over many years.

I wish to send congratulations and good wishes for the future to all officers, editors and members of the Society.

A handwritten signature in cursive script that reads "David J. Manners".

Professor Emeritus of Biochemistry

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August 23, 2002

Professor Hajime Taniguchi
President of The Japanese Society
of Applied Glycoscience
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Dear Professor Taniguchi,

It is a great honor for me to commemorate The Japanese Society of Applied Glycoscience on its celebration of its 50th anniversary in 2002. My association with the esteemed members of the Society extends to the time when the Society was known as The Japanese Society of Starch Science. The expanding interest of the Society members justifies the new name however there are still many members of the Society that continue to contribute important new findings to starch structure, its synthesis and metabolism and developing new methodology for starch utilization.

The continual contribution of the Society members to Glycosciences is to be lauded and the eminent achievements of the Japanese starch scientists are highly regarded. The Society is to be congratulated for its support, inspiration and recognition of their scientists with high international repute.

It has also been with great happiness and enthusiasm that I have become colleagues and friends with many of the members of the The Japanese Society of Applied Glycoscience. To mention a few of those friendships, collaborations and discussions I have had and that I have cherished are those with Drs., Susumu Hizukuri, Yasuhito Takeda, the late Kichitaro Kawaguchi and Takehiko Yamamoto, Tadashi Baba, Toshio Fukui, Hidetsugu Fuwa, Keiji Kainuma, Hirokazu Matsui, Seiya Chiba, Kazumi Funane, Hachiro Ozaki, and of course, Takashi Kuriki. My visits to their laboratories were significant high lights of my professional career.

I congratulate your celebration of your 50th anniversary and may The Japanese Society of Applied Glycoscience have at least another wonderful and exciting 50 years!

The best wishes to you and the Society,

Jack Preiss
University Distinguished Professor

Laboratory of Carbohydrate Chemistry and Enzymology

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August 31, 2002

Professor Hajime Taniguchi
Chubu University
The Japanese Society of Applied Glycoscience
Japan

Dear President Taniguchi and members of The Japanese Society of Applied Glycoscience,

Congratulations to all of you as you celebrate the 50th Anniversary of your Society. Since 1953, you have greatly stimulated and supported the fields of carbohydrate chemistry and biochemistry by your annual meeting, publication of *Journal of Applied Glycoscience*, and the awards of merit that you have given to individuals over the years for their contributions to carbohydrate science.

Because of the contributions of your Society, Japan has become one of the leading nations in carbohydrate science.

In 1994, The Society honored me with the Award of Merit for my contributions up to that time. I would now like to take this opportunity to bring The Society up-to-date on some of the things that I have been doing since that award, by giving a list of the publications that have occurred and then to make some comments about them. I have listed them into specific categories.

I. Studies on the enzymatic and chemical modifications of starch

A. Kimura and J. F. Robyt, (1995) "Reaction of enzymes with starch granules: Kinetics and products of the reaction with glucoamylase", *Carbohydr. Res.* **277**: 87–107.

J. F. Robyt, J. Choe, R. S. Hahn, and E. B. Fuchs, (1996) "Acid modification of starch granules in alcohols: Effects of temperature, acid concentration, and starch concentration", *Carbohydr. Res.*, **281**: 203–218.

J. F. Robyt, J. Choe, J. D. Fox, R. S. Hahn, and E. B. Fuchs, (1996) "Acid modification of starch granules in alcohols: Reaction in mixtures of two alcohols combined in different ratios", *Carbohydr. Res.*, **283**: 141–150.

A. Kimura and J. F. Robyt, (1996) "Reaction of enzymes with starch granules: Reaction of isoamylase with native and gelatinized granules", *Carbohydr. Res.* **287**: 255–261.

A. Kimura and J. F. Robyt, (1996) "Reaction of enzymes with starch granules: Enhanced reaction of glucoamylase with gelatinized starch granules", *Carbohydr. Res.* **288**: 233–240.

Y. -K. Kim and J. F. Robyt, (1999) "Enzyme modification of starch granules: *in situ* reaction of glucoamylase to give complete retention of D-glucose inside the granule", *Carbohydr. Res.* **318**: 129–134.

Y. -K. Kim and J. F. Robyt, (2000) "Enzyme modification of starch granules: formation and retention of cyclomaltodextrins inside starch granules by reaction of cyclomaltodextrin glucanotransferase with solid granules", *Carbohydr. Res.* **328**: 509–515.

C. Yook and J. F. Robyt, (2002) "Reactions of alpha amylases with starch granules in aqueous suspension giving products in solution and in a minimum amount of water giving products inside the granule", *Carbohydr. Res.* **337**: 1113–1118.

Some of the significant aspects of these studies are (1) the development of new methods for producing new kinds of starch limit dextrins by acid hydrolysis of starch granules in different kinds of alcohols with a very wide range of average degrees of polymerization from 2,000 to 20; the avg. d.p.'s were specific for the different alcohols, the concentration of the acid, the concentration of the starch, and the temperature; the d.p. rapidly decreased and then became constant as a limit dextrin; and (2) the enzymatic (glucoamylase, α -amylase, and cyclomaltodextrin glucanyltransferase) modification of starch granules so that the products of the reaction are retained *inside* the granule to give the formation of new starch materials with new properties.

II. Studies on dextransucrase and dextransucrase producing organisms

D. Kim and J. F. Robyt, (1995) "Production, selection and characterization of mutants of *Leuconostoc mesenteroides* B-742 constitutive for dextransucrases", *Enzyme Microb. Technol.* **17**: 689–695.

J. F. Robyt, D. Kim, and L. Yu, (1995) "Mechanism of dextran activation of dextransucrase", *Carbohydr. Res.* **266**: 293–299.

J. F. Robyt, (1995) "Mechanism of Synthesis of glucan chain, branching, and acceptor- products by glucansucrases", *J Appl. Glycosci. (Oyo Toshitsu Kagaku)*, **42**: 53–67.

J. F. Robyt, (1995) "Mechanisms in the glucansucrase synthesis of polysaccharides and oligosaccharides from sucrose", *Adv. Carbohydr. Chem. Biochem.* **51**: 133–168.

J. F. Robyt, (1995) "Properties and uses of dextrans and related glucans", *Proc. Amer. Chem. Soc. Div. Polym. Materials: Sci. Engin.*, **72**: 139–140.

D. Kim and J. F. Robyt, (1995) "Dextransucrase constitutive mutants of *Leuconostoc mesenteroides* B-1299", *Enzyme Microbial Technol.* **17**: 1050–1056.

J. F. Robyt, (1995) "Mechanism and action of glucansucrases", in *Proceedings of the Symposium on Carbohydrate Related Enzymes*, Res. Cent. New Bio-Materials Agric., Seoul Natl. Univ., Seoul, Korea. pp. 1–27.

J. F. Robyt, (1995) "Mechanism and action of glucansucrases", in *Carbohydrate Bioengineering*, vol. 10, *Progress in Biotechnology*, (S. B. Petersen, B. Svensson, and S. Pedersen, Eds.), Elsevier Science B. V. pp. 295–312.

J. F. Robyt, (1996) "Mechanism and action of glucansucrases", in *Enzymes for Carbohydrate Engineering*, vol. 12, *Progress in Biotechnology*, (K-H. Park, J. F. Robyt, Y -D. Choi, eds.). pp. 1–22.

D. Kim and J. F. Robyt, (1996) "Properties and uses of dextransucrases elaborated by a new class of *Leuconostoc mesenteroides* mutants", in *Enzymes for Carbohydrate Engineering*, vol. 12, *Progress in Biotechnology*, (K-H. Park, J. F. Robyt, Y -D. Choi, eds.). pp. 125–144.

M. Kitaoka and J. F. Robyt, (1998) "Use of a micro titer plate screening method for obtaining *Leuconostoc mesenteroides* mutants constitutive for glucansucrases", *Enzyme Microb. Technol.*, **22**: 527–531.

M. Kitaoka and J. F. Robyt, (1998) "Large scale preparation of highly purified dextransucrase from a high-producing constitutive mutant of *Leuconostoc mesenteroides* B-512FMC", *Enzyme and Microbial Technol.*, **23**: 386–391.

D. Kim, K. H. Park, and J. F. Robyt, (1998) "Inhibition studies of dextran synthesis, acceptor-, and disproportionation-reactions of *Leuconostoc mesenteroides* B-512FMC Dextranase by acarbose", *J. Microbiol. Biotechnol.* **8**: 287-290.

L. Yu and J. F. Robyt, (1998) "Effects of water soluble constituents of clove on the activities of glucanases and the potential for the inhibition of dental plaque formation," *Carbohydr. Letters*, **3**: 9-16.

M. Kitaoka and J. F. Robyt, (1999) "Mechanism of the action of *Leuconostoc mesenteroides* B-512FMC dextranase: kinetics of the transfer of D-glucose to maltose and the effects of enzyme- and substrate-concentrations", *Carbohydr. Res.* **320**: 183-191.

H-J. Ryu, D. Kim, D-W. Kim, Y-Y. Moon, J. F. Robyt, (2000) "Cloning of a dextranase gene (*fmcms*) from a constitutive dextranase hyper-producing *Leuconostoc mesenteroides* B-512FMC developed using VUV", *Biotechnol. Lett.*, **22**: 421-425.

Some of the new things that we have done in the field of dextrans and dextranases are (1) the development of mutants for B-512F, B-742, and B-1299 that are constitutive for forming dextranases in media devoid of sucrose; (2) developed hyper-producing, constitutive mutants that produced 2500-times more enzyme than the wild types; (3) developed a method for the purification of dextranases on an industrial scale; (4) developed a micro titer plate screening method for obtaining mutants constitutive for glucanases; (5) showed that the dextran stimulation of dextranase was due to the binding of dextran at a noncatalytic, allosteric site; (6) studied the effects of enzyme- and substrate-concentrations on the kinetics of the transfer of D-glucose to maltose in the acceptor reaction; and (7) found that clove extract was an uncompetitive inhibitor for the synthesis of mutan and an activator for synthesis of dextran in dental plaque.

I am very pleased to present this up-date of my research activities since being given the Award of Merit by The Society and present it to you in celebration of your 50th Year Anniversary. May the next 50 years also see the advance in carbohydrate science that we have seen in the past 50 years.

Sincerely yours,

John F. Robyt

September 12, 2002

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Japanese Society of Applied Glycoscience
% Mr. Y. Yamamoto
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JAPAN

Dear Members of the Society:

On this the 50th anniversary of the founding of the Japanese Society of Applied Glycoscience, my hearty congratulations to the Society for outstanding service by its members to the carbohydrate community worldwide. The Society, which for 40 years was formerly the Japanese Society of Starch Science, has provided continually an international forum for scientists from government, industry and academia. At that forum discoveries of fundamental and applied research on carbohydrates have been presented. The exchange of information at meetings of the Society has been enormously beneficial to the public, considering just a few products, sweeteners, cyclodextrins and prebiotic oligosaccharides, all made by way of green chemistry. Because of the dedication of the Japanese people to tradition and diligence, the Society will continue to be productive beyond its golden anniversary. I feel highly honored to have received the 1993 Award or Merit at the 40th anniversary of the Society, and to have had my Award address published in the first issue of the *Japanese Journal of Applied Glycoscience*. To all my friends in the Society I extend my best wishes on this festive occasion.

Sincerely,

Paul A. Seib
Professor

CARLSBERG LABORATORY

Department of Chemistry

Prof. Hajime Taniguchi
President of The Japanese Society of Applied Glycoscience
Professor of Bioscience and Biotechnology
Chubu University
Kasugai
Aichi 487-8501 Japan

September 3rd, 2002

Dear Professor Hajime Taniguchi,

It gives great pleasure at the occasion of the 50th anniversary of The Japanese Society of Applied Glycoscience to contribute to your celebrations. Glycoscience in Japan belongs to the leading scientific communities worldwide. In my specific field of amylolytic enzymes Japanese scientists have been at the forefront and served as perfect models. It is impressive how many structures of amylolytic enzymes of different specificities were first solved determined in Japan. Notably by the group at the Institute of Protein Research in Osaka, but in recent years also elsewhere in Tsukuba, Tokyo, Yokohama, and Kyoto. The concept of subsite mapping and numerous mechanistic studies are likewise areas where Japan is leading. The new discipline of mutational analysis of structure/function relationships and protein engineering were early exploited in Japan from Kagoshima in south to Sapporo in north. The Japanese way of coupling high quality fundamental research very closely with application and industrial research and development provides an excellent example for others in the present time of commercial biotechnology.

The Japanese glycoscience community has an outstanding tradition for international interactions through travels, visits, post-doctoral studies abroad, and not least by invitations to bring key persons from the field to Japan as is also done to celebrate this anniversary. The very strong impact of your open and generous spirit that mixes tremendous hospitality and genuine curiosity, promotes progress through interactions across borders. Personally I am very grateful to the many Japanese hosts and friends who have enlightened me through almost two decades not only in glycoscience but also on the wonderful Japanese culture, nature, and daily life. A warm thanks to everyone for numerous scientific highlights and moments of great joy. Your recognition of our research by granting me The Award of Merit in 1998 has been most stimulating and it has become my ambition to pay back your support through continued interaction with Japanese scientists in the field - in Japan as well as in Denmark. To symbolise this dedication a short letter entitled "Impact on Substrate Specificity of Mutational Subsite Isozyme Mimicry in Barley α -Amylase 1" co-authored with Kristian Sass Bak-Jensen, Morten Tovborg Jensen and Haruhide Mori has been submitted to the Journal of Applied Glycoscience.

I wish The Japanese Society of Applied Glycoscience good luck in the future with many activities to benefit science and society during the next 50 years.

Sincerely Yours

Birte Svensson

William J. Whelan, D.Sc., F.R.S.
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Professor Hajime Taniguchi
President of The Japanese Society of Applied Glycoscience
Department of Bioscience and Biotechnology
Chubu University
Kasugai, Aichi 487-8501 Japan

Dear Professor Taniguchi:

I am pleased to respond to your kind invitation of June 20 to send you a letter as a contribution to the memorial issue of the Journal of Applied Glycoscience that will be published in connection with the Society's 50th anniversary.

My connection, of course, is one that I remember very well, when the Society was kind enough in 1975 to honor me with its Award of Merit. I gave a lecture that was published in 1976 and entitled "New Thoughts on the Structures of Starch and Glycogen".

Of course, I looked at this lecture again before writing this letter and was reminded of the many fascinating problems we were dealing with at that time, some of which are still unresolved and continue to intrigue me. Much of what I wrote about derived from experiments in which the debranching enzymes, pullulanase and isoamylase, were used to debranch amylopectin and glycogen, and molecules derived therefrom, which were then fractionated on molecular sieves and which provided the first insights into the detailed fine structures of these molecules. This allowed us to deduce a revised structure for glycogen which was subsequently verified independently by other workers, using different methods.

A particular feature of my lecture was devoted to the mechanism of action of Q-enzyme, which synthesizes amylopectin. The inspiration for our experiments was the brilliant concept of a double helical structure for amylose that Dexter French had first revealed in your journal when he received the Award of Merit in 1972. He was a superb investigator and a dear friend and the catalyst for several important advances that we made.

I thank you for the honor that you paid me in 1975, for the opportunity of publishing my thoughts, and I send the Society and my Japanese colleagues my warmest good wishes and congratulations. More than any other scientific community, I think of Japan where the prime importance of research in carbohydrate chemistry and biochemistry, and particularly in starch science, has been recognized. As a result many important basic and applied advances have resulted. I congratulate you on your leadership role as you reach this important milestone and wish you and the Society all success in the years ahead.

Yours sincerely,

A handwritten signature in black ink, appearing to read "W. J. Whelan".

William J. Whelan D.Sc. F.R.S.

PURDUE UNIVERSITY

**WHISTLER CENTER FOR
CARBOHYDRATE RESEARCH**

August 30, 2002

Hajime Taniguchi, Professor and Director President of The Japanese Society
of Applied Glycoscience
Department of bioscience and Biotechnology
Chubu University

Dear Professor Taniguchi,

Since the Japanese Society of Applied Glycoscience is celebrating its 50th anniversary this year, I wish to take the opportunity to offer my congratulations.

Throughout many years I have had the great pleasure of numerous outstanding Japanese chemists in my research group including in the early years the outstanding chemist and great educator Professor Zero Nikumi, who followed a series of fine chemists and dedicated Japanese people. Our scientific and personal friendships have been a pleasure and have lead to some fine research papers.

It is with pleasure of their fine remembrances that I send my best regards.

Sincerely,

A handwritten signature in cursive script, reading "Roy L. Whistler".

Roy L. Whistler
Hillenbrand Distinguished Professor