The Japanese Society for Chitin and Chitosan

26th Chitin and Chitosan Symposium

Hokkaido University Conference Hall
Sapporo, Hokkaido, Japan
July 12 and 13, 2012

The Japanese Society for Chitin and Chitosan and the Organizing Committee cordially invite all scientists interested and involved in the various aspects of science and technology of chitin and chitosan to participate in the 26th Chitin and Chitosan Symposium. The Symposium will be held at Hokkaido University Conference Hall on July 12 and 13, 2012. The Conference Hall is located at seven minutes on foot from JR Sapporo station.

Symposium Chairperson: Prof. Makoto Demura
Faculty of Adv. Life Sci., Hokkaido University,
E-mail: demura@sci.hokudai.ac.jp

Travel

The HU Conference Hall is located at seven minutes on foot from JR Sapporo station.

Banquet will be held at Sapporo Aspen Hotel.

Access to Hokkaido Univ

HU CONFERENCE HALL
http://www.hokudai.ac.jp/bureau/map-e/map4-e.htm
google map
https://maps.google.co.jp/?ie=UTF8&ll=43.070753,141.347104&spn=0.086232,0.2005&z=17

Sapporo City Information (Map, Climate, Information Center etc.)
Registration

Registration fees from abroad are as follows:
Registration Fees: 4,000 JPY (2,000 JPY for student)
Banquet: 8,000 JPY (4,000 JPY for student)

For participations from abroad, registration fees will be paid at the reception desk of 26th Chitin and Chitosan Symposium. Reception desk will open 9 AM, 12 July.

Hokkaido University Conference Hall

Symposium Schedule

12, July
10:00-10:10 Opening Remarks [2F, Room A]
10:10-11:50 Special Sessions [2F, Room A]
11:50-13:30 LUNCH
13:30-14:30 Poster Session (Odd Number) [1F, Hall]
14:30-15:30 Poster Session (Even Number) [1F, Hall]
15:30-16:00 COFFEE BREAK
16:00-17:00 Special Sessions [2F, Room A]
18:15-20:15 Banquet

13, July
10:00-11:00 General Sessions [2F, Room A] & [1F, Room B]
11:00-11:15 COFFEE BREAK
11:15-12:00 General Sessions [2F, Room A] & [1F, Room B]
12:00-13:30 LUNCH
13:30-15:00 General Sessions [2F, Room A] & [1F, Room B]
15:00 Closing Remarks [1F, Room B]

Reception desk (1F, hall) will open 9 AM, 12 July.

Exhibition (1F, room no.1) 10 AM-18 PM, 12 July, 10 AM-15 PM, 13 July.

Resting station (1F, room no.1) is available.

Banquet (SAPPORO ASPEN HOTEL 5 min by walk from Conference Hall)
http://www.aspen-hotel.co.jp/english/
ORAL PRESENTATION GUIDELINES

Oral presentation time
Special Session Presentation: 15 min. Discussion 5 min.
General Session Presentation: 12 min. Discussion 3 min.

Preparing PowerPoint presentation
We will provide a computer with Windows XP and PowerPoint 2007 installed. It is known that PowerPoint 2007 is compatible for files saved in 2003, 2007 and 2010. However, “2010 format” including movie or animated cartoon is not safety. PC-preview room is available to make sure your presentation. Please ask at reception desk how to use PC-preview room.

Submitting your PowerPoint presentation?
For uploading your PowerPoint presentation, you should submit your presentation before your session at the conference reception. It is extremely important that you to bring your presentation on a USB memory stick or CD-ROM. In our experience, USB stick might be more reliable than CD-ROM.

Time schedule for submitting data file
The authors should submit your presentation according to the following time schedule.
[S-01 ~ S-05] Special Session (morning session, 12, July):
Submission: 9:00-9:30 am 12, July.
Please submit your data to PC-staff at 2F-Room A.

[S-06 ~ S-08] Special Session (afternoon session, 12, July):
Submission: 15:00-15:30 pm 12, July.
Please submit your data to PC-staff at 2F-Room A.

Submission: 17:00 pm 12, July (the day before presentation).
Please submit your data to Conference Reception Desk (1F).

POSTER PRESENTATION GUIDELINES

Preparing poster
The maximum poster size is A0, vertical (height 119cm x width 84cm). Please prepare your poster accordingly. (Display board: width 90 cm, height: 180 cm)

Presentation (Poster-Hall)
Poster session schedule
Display Start: 10 AM, 12 July Display Close: 15 PM, 13 July
Pushpin is available at Poster-Hall.

Presentation Core Time
Poster number, Odd: 13:30-14:30, 12, July
Poster number, Even: 14:30-15:30, 12, July
The authors are requested to stay by their posters during core time. The Society and Organizing Committee will give awards to several students presenting excellent posters. Each winner must be the principal author of the poster presentation.
26th Chitin and Chitosan Symposium

Program

12, July Special Sessions [2F, Room A]

10:10-10:30 S-01 Bone conduction of porous chitosan /HAp composite with rhBMP-2 on rat calvaria
Naoki Harada, Haruhiko Kashiwazaki, Toshiyuki Akazawa, Masaru Murata, Tomoyasu Aizawa, Makoto Demura, Junzo Tanaka, Tadashi Iizuka, Nobuo Inoue.

10:30-10:50 S-02 An experimental study of xenograft using a hybrid artificial nerve of chitosan nanofiber mesh tube and dental pulp.
Kazuhiro Matsushita, Wei Wang, Soichiro Itoh, Haruhiko Kashiwazaki, Yasunori Totsuka, Kanchu Kei

10:50-11:10 S-03 Characterization of peripherally injectable gadopentetic-acid-loaded chitosan nanoparticles for neutron-capture therapy of cancer
Hideki Ichikawa, Yousuke Katayama, Shinya Mitani, Tooru Andoh, Takuya Fujimoto, Minoru Suzuki, Yoshinori Sakurai, Yoshinobu Fukumori.

11:10-11:30 S-04 Development of non-covalently cross-linked chitosan nanoparticles as a coating agent for prolonged-release of depot-pharmaceuticals
Hideki Ichikawa, Eri Inoue, Yoshinobu Fukumori

11:13-11:50 S-05 DAC-70 - Biomedical Significance -
Akio Sugitachi, Kohei Kume, Hirokatsu Katagiri, Fumitaka Endo, Tetsuya Itabashi, Satoshi Nishizuka, Yusuke Kimura, Yoshimori Takamori, Minoru Fukuda, Go Wakabayashi.

11:50-13:30 LUNCH

13:30-14:30 Poster Session (Odd Number) [1F, Hall]

14:30-15:30 Poster Session (Even Number) [1F, Hall]

15:30-16:00 COFFEE BREAK

16:00-16:20 S-06 Effect of orally administered Ajuga decumbens extract on experimental cartilaginous injury and complementary effect with glucosamine
Yoko Sawada, Hiroshi Sugiyama, Yoshinori Iguchi, Masao Ogawa, Tomohiro Osaki, Saburo Minami

16:20-16:40 S-07 Effects of chitin nanofibrils on skin
Tomohiro OSAKI, Iuko Ito, Tomohiro IMAGAWA, Takeshi TSUKA, Yoshiharu OKAMOTO, Shinsuke IFUKU, Hiroyuki SAIMOTO, Saburo MINAMI

16:40-17:00 S-08 Anti-inflammatory effects of chitin nanofiber on ulcerative colitis mouse model
Kazuo AZUMA, Tomohiro OSAKI, Tomohiro IMAGAWA, Takeshi TSUKA, Yoshiharu OKAMOTO, Shinsuke IFUKU, Hiroyuki SAIMOTO, Saburo MINAMI
13, July  General Sessions [2F, Room A]

10:00-10:15  2A-01 Synergistic effect of CBM33s from *Streptomyces griseus* for enzymatic chitin degradation
Madoka Kudo, Yuko Nakagawa, Gustav Vaaaje-Kolstad, Vincent G. H. Eijsink, Kazuhide Totani,

10:15-10:30  2A-02 Efficient solubilization of mechanically pretreated chitin by the *Serratia marcescens* chitinolytic system.
Yuko Nakagawa, Gustav Vaaaje-Kolstad, Vincent G. H. Eijsink, Kazuhide Totani,

10:30-10:45  2A-03 Regulation of chitinase gene expression by incorporation of chitin degradation products and small RNA in *Serratia marcescens*
Kazushi Suzuki, Naomi Sasaki, Chisana Ogawa, Shinya Takano, Hayuki Sugimoto, Takeshi Watanabe

10:45-11:00  2A-04 Enzyme characterization and gene cloning of cold-adapted glycoside hydrolases from *Eisenia fetida*
Mitsuhiro Ueda, Masami Nakazawa, Kazutaka Miyatake, Minoru Sakaguchi, Kuniyo Inouye

11:00-11:15  COFFEE BREAK

11:15-11:30  2A-05 Directed evolution of a GH family 18 alkaline chitinase: establishment of high-throughput screening system and characterization of mutant enzymes

11:30-11:45  2A-06 A novel type of chitinases produced by the chitinolytic bacterium *Chitiniphilus shinanomensis*
Lanxiang Huang, Arisa Shizume, Masahiro Nagawa, Goro Taguchi, Makoto Shimosaka

11:45-12:00  2A-07 Enzyme chemistry of chitin oligosaccharide deacetylase from *Vibrios*
Takako Hirano, Kanako Sugiyama, Yuya Maebara, Yuta Sakaki, Rie Uehara, Wataru Hamakata, Sam-Yong Park, Toshiyuki Nishio

12:00-13:30  LUNCH

13:30-13:45  2A-08 Structure and function of a family GH19 chitinase, and its application for the synthesis of chitin oligosaccharides
Takayuki Ohnuma, Satoshi Dozen, Naoyuki Unemoto, Shoko Shinya, Toki Taira, Tomoyuki Numata, Tamo Fukamizo

13:45-14:00  2A-09 Structure and function of chitinase isozymes from the stomach of the silver croaker *Pennahia argentatus*
Mana Ikeda, Kouji Miyachi, Masahiro Matsumiya

14:00-14:15  2A-10 Regulation of gene expression of mammalian chitinases in mouse and human tissues
Fumitaka Oyama, Misa Ohno, Kyoko Tsuda, Masayoshi Sakaguchi, Yasusato Sugahara

14:15-14:30  2A-11 Mechanism of crystalline chitin hydrolysis by a unique enzyme, *Serratia marcescens* chitinase B
Akiko Fujinuma, Ryosuke Maruya, Hayuki Sugimoto, Keita Nakamura, Yoshio Hashizume, Kiyohiko Igarashi, Masahiro Samejima, Kazushi Suzuki, Takeshi Watanabe

14:30-14:45  2A-12 Highly thermostable chitinase from pineapple: Cloning, expression, and enzymatic properties.
Toki Taira, Shoko Onaga, Kouta Chineno, Susumu Ito

14:45-15:00  2A-13 Selective enzymatic synthesis of chitin hexa- to octa-saccharides and their self-assembly
Makoto Ogata, Kousuke Michishita, Takeshi Hattori, Taichi Usui
13, July

**General Sessions [1F, Room B]**

10:00-10:15  **2B-01** Saccharification of chitin by fermentation method using recombinant chitinase-secreting *Escherichia coli*

  Takamitsu Minamoto, Eriko Isaka, Takako Hirano, Wataru Hakamata, Toshiyuki Nishio

10:15-10:30  **2B-02** Antimicrobial activity of a hevein-like peptide Ac-AMP from *Amaranthus caudatus*

  Kiyohiko Seki, Aki Momoshima, Yuka Ohyama, Torao Suga, Toshihisa Ueda, Hiroaki Kodama, Masaru Mitsutomi

10:30-10:45  **2B-03** Preparation of highly regioselective chitosan derivatives via “click chemistry”

  Chisato Matsumoto, Masahiro Wada, Shinsuke Ifuku, Minoru Morimoto, Hiroyuki Saimoto

10:45-11:00  **2B-04** Graft copolymerization of acryl amide onto chitosan

  Yasusato Sugahara, Masayoshi Sakaguchi, Fumitaka Oyama

11:00-11:15  **COFFEE BREAK**

11:15-11:30  **2B-05** Synthesis and investigation of the inclusion property of 6-p-toluidinyl naphthalene-2-sulphonate with β-cyclodextrin linked chitosan linked chitosan

  W. Buranaboripan, E. Motomura, N. Sakairi

11:30-11:45  **2B-06** Microbial transformation of *N*-acetyl-D-mannosamine from *N*-acetyl-D-glucosamine

  Yasuyuki Takiguchi, Hiroyuki Abe, Takashi Shiozawa, Masahiro Sakai

11:45-12:00  **2B-07** Solubility of chitosan hydrogel toward organic acids and its applications

  Daiki Komoto, Tetsuya Furuike, Hiroshi Tamura

12:00-13:30  **LUNCH**

13:30-13:45  **2B-08** Lectin Recognizability of Maltose Binding Chitosans (MBCs)

  Saneyuki Inoue, Nobuo Sakairi

13:45-14:00  **2B-09** Synthesis of *N*-acetylglucosamine derivatives by subcritical water treatment

  Mitsumasa Osada, Kohei Yoshida, Kazuhide Totani, Makoto Ogata, Taichi Usui

14:00-14:15  **2B-10** Biomimetic preparation of chitosan/metal core-shell type microparticles

  Satoshi Tanimoto, Ayaka Satoh, Shohei Ida, Yoshitsugu Hirokawa

14:15-14:30  **2B-11** Development of microparticles with chitosan derivatives to improve gastrointestinal absorption of poorly absorbable drug

  Hiraku Onishi

14:30-14:45  **2B-12** The study on the K562 human leukemia cell surface receptor of Galα1-6GlcNH₂ (MelNH₂) disaccharide and its intracellular uptake

  Osamu Hosomi, Yuna Naraoka, Keiichi Ikeda, Takumi Ito

14:45-15:00  **2B-13** Comprehensive analysis of the effect of glucosamine on gene expression and *O*-N-acetylglucosamine modification in synovial cells

  Akimasa Someya, Mamoru Igarashi, Koji Sakamoto, Isao Nagaoka

15:00  **Closing Remarks**
Poster Sessions [1F, Hall]
12, July, 10 am - 13, July, 15 pm.

Presentation Core-Time:
Odd; 12, July 13:30-14:30
Even; 12, July 14:30-15:30

P-01 Analysis of interactions of allosamidins with chitinase/ chitinase-like proteins
Ippei Kuwata, Seiko Muraoka, Hiroshi Endo, Hiromasa Inoue, Hiromichi Nagasawa, Shohei Sakuda

P-02 Removal of naphthols though quinine oxidation by polyphenol oxidase and subsequent quinine adsorption on chitosan
Fumiyoshi Shinozaki, Ayumi Kashiwada, Kiyomi Matsuda, Kazunori Yamada,

P-03 GH20β-N-acetylhexosaminidase from Lentinula edodes (shiitake mushroom)
Naotake Konno, Yuichi Sakamoto

P-04 Expression of Listeria chitinases in Escherichia coli and characterization of their properties
Shotaro HONDA, Yasusato SUGAHARA, Fumitaka OYAMA, Masayoshi SAKAGUCHI

P-05 Chitin-binding ability of tachyplesin I, an antimicrobial peptide derived from horseshoe crab
Takahiro Kushibiki, Masakatsu Kamiya, Tomoyasu Aizawa, Katsuyoshi Sakai, Kazuhiro Ishikawa, Otohiko Azuma, Yasushiro Kumaki, Takashi Kikukawa, Makoto Demura, Shun-ichi Kawabata, Keiichi Kawano

P-06 Expression of human AMCase variants in Escherichia coli and analysis of their properties
Kazuaki Okawa, Akinori Kashimura, Masayoshi Sakaguchi, Yasusato Sugahara, Fumitaka Oyama

P-07 Regulation of gene expression profiling of mammalian chitinase
Misa Ohno, Kyoko Tsuda, Yuto Togashi, Masayoshi Sakaguchi, Yasusato Sugahara, Fumitaka Oyama

P-08 Production of acidic mammalian chitinase in Escherichia coli and characterization of its properties
Akinori Kashimura, Masayoshi Sakaguchi, Yasusato Sugahara, Fumitaka Oyama

P-09 Functional analysis of a novel Family GH-23 chitinase from Ralstonia sp. A-471

P-10 Some properties of chitinases from a moss (Physcomitrella patens).
Ryuusuke TANAKA, Saki INAMINE, Susumu ITO, Toki TAIORA

P-11 Structure and function of lysozyme in snail
Itomi Yoshimura, Tomofumi Nakajima, Tomohiro Araki

P-12 Chitinases from Paenibacillus sp. strain IK-5.
Hisashi Kimoto, Takafumi Itoh, Takao Hibi, Fumiko Suzuki, Akihito Fujiiwara, Yutaka Fujii, Toshikazu Iwasaki, Akira Taketo, Hideo Kusaoka
P-14 A novel chitosan-specific carbohydrate binding module of family GH-8 chitosanase from *Paenibacillus* sp. IK-5

Shoko SHINYA, Masaya MATSUMOTO, Hikaru TAKEUCHI, Takayuki OHNUMA, Hisashi KIMOTO, Hideo KUSAKE, Tamo FUKAMIZO

P-15 Microwave-assisted synthesis of chitosan derivatives

Tomoya Hirai, Hiroshi Hoden, Hiroshi Tamura, Tetsuya Furuike

P-16 Pretreatment and enzymatic degradation of squid pen and β-chitin

Kenichi Koseki, Yudai Higuchi, Yuko S. Nakagawa, Mitsumasa Osada, Mitsuaki Nakaida, Soichi Ishimura, Masao Tashiro, Kazuhide Totani

P-17 Production of low molecular weight chitosan from biomass of *A. spersgillus Niger* using enzymatic hydrolysis

JAVAD CHEHRI, Ali Mostafaie, Gavriol Androeevich

P-18 Preparation of chitin nanofibers reinforced chitosan film

Akiko Ikuta, Shinsuke Ifuku, Minoru Morimoto, Hiroyuki Saimoto

P-19 Use of chitosan for removal of bisphenol compounds through enzymatic quinine oxidation

Yuji Kimura, Ayumi Kashiwada, Kiyomi Matsuda, Kazunori Yamada,

P-20 Preparation of polysilsesquioxane films reinforced with chitin nanofibers

Nakata Kazuya, Akiko Ikuta, Shinsuke Ifuku, Minoru Morimoto, Hiroyuki Saimoto

P-21 Preparation and functional evaluation of nano-emulsified cosmetics using amphiphilic carboxylmethyl chitosan


P-22 Analysis of the novel proteins involved in the chitinolytic system of *Pseudoalteromonas piscicida* strain O-7

Katsushiro Miyamoto, Ryoma Onoue, Yuki Nakamura, Makiko Ozawa, Takahiro Tsuchiya, Hiroshi Tsujibo

P-23 Identification of origin of glucosamine by stable isotope ratio analysis

Yoshio Yamagishi, Xiaoshui Wang, Shiori Suguro and Makoto Ueki

P-24 Adsorption properties of heavy metal ions with water-soluble EDTA-Chitosan

Sayaka Fujita, Nobuo Sakairi

P-25 X-ray crystal structure analysis of lysozyme and new inhibitor : *N*-Acetyl chitooligosyl deoxyojirimycin (GNn-M) complex.

Naoyuki Umemoto, Makoto Ogata, Akari Suzuki, Takayuki Ohnuma, Tomoyuki Numata, Taichi Usui, Tamo Fukamizo

P-26 Antioxidant properties of PEGylated chitosans with different molecular weights

Makoto Anraku, Kumiko Higashi, Daisuke Iohara, Kaneto Uekama, Masayuki Kobayashi, Fumitoshi Hirayama

P-27 Application of *N*-carboxyacetylchitosan for drug delivery system

Shohei Suzuki, Masayoshi Sakaguchi, Fumitaka Oyama, Yasusato Sugahara

P-28 Preparation of gelatin/chitosan blend hollow fibers.

Kana Narita, Tetsuya Furuike, Hiroshi Tamura

P-29 Preparation of the gelatin non-woven fabric containing chitosan by the electrospinning

Kazuaki Kawahara, Tetsuya Furuike, Hiroshi Tamura

P-30 Preparation, water-absorbency, and enzyme-degradability of novel chitin- and cellulose/ chitin-based superabsorbent hydrogels
Hiroyuki Kono, Morito Zakimi,

P-31 Preparation, swelling characteristic, and BSA adsorption and release behaviors of the chitosan-based polyampholyte hydrogels
Hiroyuki Kono, Ikuo Oeda,

P-32 Modes of action of chitosanases on hetero-chitohexaose
Katsuaki HIRANO, Kiyohiko SEKI, Masaru MITSUTOMI

P-33 Facile synthesis of chitinoligosaccharide derivatives and its suppressive effects against the furylfuramidineuced SOS response
Makoto Ogata, Ryota Takeuchi, Akari Suzuki, Hirofumi Hirai, Taichi Usui

P-34 Comparative study of α-chitin nanofiber and β-chitin nanofiber on ulcerative colitis mouse model
Kazuo AZUMA, Saburo MINAMI, Tomohiro OSAKI, Tomohiro IMAGAWA, Takeshi TSUKA, Yoshiharu OKAMOTO, Shinsuke IFUKU, Hiroyuki SAIMOTO

P-35 Renoprotective and antioxidant activity of chitosan in nephrectomized rats
Ayumu HIRAGA, Makoto Anraku, Hisao Tomida, Toru Maruyama, Masaki Otagiri, Daisuke Iohara, Kaneto Uekama, Yuji Maezaki, Fumitoshi Hirayama

P-36 Suppressive activity of oligosaccharides (Galα1-6GlcNH₂ and GlcNH₂) against proliferation of the canine cancer cell
T. Ito, T. Mizuno, H. Hiraoka, Y. Naraoka, Y. Misawa, Y. Matarina, K. Ikeda, O. Hosomi

P-37 Preparation of chitosan hydrogel modified with silicate for the bone filling materials
Yuki Shirosaki, Yuri Nakamura, Satoshi Hayakawa, Eiji Fujii, Koji Kawabata, Akiyoshi Osaka