Program for STENSEN III

20 October Friday

CITIZEN FORUM

17:00-17:15 Opening Ceremony

Opening Masataka Murakami
Welcome Noboru Mizuno, President of National Institute for Physiological Sciences
Messages from
Japan Salivary Gland Society
Yasunobu Okada, President of Physiological Society of Japan
Angelo Volpi, Science & Technology Attache of Embassy of Italy in Tokyo
Masaru Ishikawa, Dupty Mayor of Okazaki City

17:15-17:40 Opening Lecture: <chair and translation, Konosuke Kumakura>
Alessandro Riva (Cagliari) The work of Fabricius ab Aquapendente (Harvey's Teacher) in the light of the recently restored Tabulae Pictae: its influence in the development of modern anatomy in Europe and in Japan.

17:40-18:40 Lute Concert (sponsored by Institute of Italian Culture, Tokyo)
Terrell Stone (Music Conservatory of Vicenza and Padova, Italy) Lute music from the court of Francis I and Padovan lute music.

18:40-20:00 Get Together and Welcome (Kanpai)

21 October Saturday

SCIENCE SESSION

O. Opening of Science Session <chair, Shohei Yamashina>

9:00-9:15 Talk-O1
Alessandro Riva (Cagliari) Stensen and early history of glands and exocrine secretion.

A. Diagnostics using saliva and Proteomics of Saliva I. <chair, Massimo Castagnola>

9:15-9:30 Talk-A1 and for Poster-A5
Masataka Murakami (Okazaki), Naoki Shinozuka (Sapporo) Clinical examination using
saliva: Influence of fluid secretion on the concentration of substrate in saliva: How to overcome the problem for in vivo application.

9:30-10:00 Talk-A2

Anders Bennick (Toronto) Extraoral functions of salivary proteins.

10:00-10:30 Talk-A3

Josie A. Beeley (Glasgow) Human salivary proteins- A fascinating complex of polymorphic and polyfunctional proteins.

10:30-10:50 short talks for 5-min (w/o discussion) for Poster A1, A2, A3, A4, (A5)

Poster-A1: Tiziana Cabras (Cagliari) A proteomic study of saliva from celiac patients.

Poster-A2: Rosanna Inzitari (Rome) Salivary acidic proline-rich proteins in preterm newborns.


Poster-A4: Marco Piludu (Cagliari) A preliminary study on salivary protein expression in diabetic patients.


10:50-11:15 Coffee Break and Poster viewing

A. Diagnostics using saliva and Proteomics of Saliva II. <chair, Irene Messana>

11:15-11:25 Short explanation for the session

Massimo Castagnola (Rome) How the technique works and how the researcher can take a profit from the MS strategies.

11:25-11:45 Talk-A4


11:45-12:05 Talk-A5

Irene Messana (Cagliari) Salivary peptides as potential substrates of type2 transglutaminase.

12:05-12:25 Talk-A6

Massimo Castagnola (Rome) Pre-secretory Post-translational modifications common to different families of human salivary proteins.

12:25-12:45 Talk-A7

Chenjuan Yao (Tokushima) Tissue kallikrein mK13 is a candidate of the processing
enzyme for pro-IL-1β in the mouse submandibular gland.

12:45-13:10 short talks for 5-min (w/o discussion) for Poster A6-A10

**Poster-A6:** Rui Vitorino (Aveiro) Protein content comparison of mouse submandibular and parotid salivary glands.

**Poster-A7:** Chiara Fanali (Rome) Characterization of different proline-rich peptides from pig parotid glands.

**Poster-A8:** Joanna Anton Monteiro, Massimo Castagnola (Rome) Tyrosine sulfation of Histatin 1. A post-translational modification specific of submandibular glands.

**Poster-A9:** Hiroko Inoue (Kita-Kyushu) Different roles of salivary mucins in viscosity and spinnbarkeit of human saliva.

**Poster-A10:** Takahiro Hayasaka, Mitsutoshi Setoh (Okazaki) MALDI based Mass Imaging revealed abnormal distribution of phospholipids in cancer.

13:10-14:00 Lunch and Poster viewing

B. Therapeutics by modulation of salivary gland. <chair, Masaki Shimono>

14:00-14:20 Video-B1 presented by use of DVD

Bruce Baum (Bethesda) Clinical applications of gene transfer to salivary glands.

14:20-14:40 Talk-B2

Takayoshi Sakai (Osaka), Kenneth M Yamada (Bethesda) Morphogenesis and cleft formation of salivary gland epithelia: Exploration of new functional regulators.

14:40-15:05 short talks for 5-min (w/o discussion) for Poster B1, B2, B3, B4, B5

**Poster-B1:** Naozumi Ishimaru (Tokushima) A novel role of RbAp48 for tissue-specific apoptosis in the salivary glands depending on estrogen deficiency.

**Poster-B2:** Masatake Asano (Tokyo) Ionomycin inhibit the soluble protein transport between ER and Golgi.

**Poster-B3:** Wei Muxin (Nanjing) Investigation on the influences of Chinese herbs on salivary secretion in rat submandibular gland.

**Poster-B4:** Hideaki Kagami (Tokyo) Possible involvement of clusterin in the regeneration process of rat submandibular gland.

**Poster-B5:** Wei Muxin (Nanjing) Effect of Dan Di Qiong Yu granule on salivary gland of Sjogren syndrome mice.

15:05-15:15 Satellite poster talks for E1, E2

**Poster-E1:** Tomoko Nashida (Niigata) Relation of proteoglycan to soating amylase into secretory
granules/vesicles.

Poster-E2: Hiromi Shimomura (Niigata) Activation of cAMP-dependent protein kinase by cGMP in the rat parotid acinar cells.

15:15-15:40 Coffee Break

C. Neural control of salivary secretion in response to environmental change I.

15:40-16:00 Talk-C1
Kiyotoshi Inenaga (Kokura) Pilocarpine induces salivary secretion and thirst in rats.

16:00-16:20 Talk-C2
Ryuji Matsuo (Okayama) Electrophysiological analysis of the afferent activity from the submandibular salivary gland in the rat.

16:20-16:40 Talk-C3
Xuefei Li (Tokushima) Effects of autonomic denervation and administration of SNI-2011 on the expression of AQPs in the rat salivary gland.

16:40-17:00 Talk-C4
Jörgen Eckström (Göteborg) Neural- and hormonal-induced protein synthesis and mitotic activity and the dependence on NO-generation.

17:00-17:10 short talks for 5-min (w/o discussion) for Poster C1, C2

Poster-C1: Kentaro Ono (Kita-Kyushu) Relationship of chewing-stimulated whole saliva flow rate and salivary gland size in humans.

Poster-C2: Ken’ichi Ishizuka (Niigata) Cardiac-related activity in superior salivatory nucleus neurons in anaesthetized rats.

17:10-17:20 just Break

C. Neural control of salivary secretion in response to environmental change II.

17:20-17:40 Talk-C5
Yoshihiro Mitoh (Okayama) Electrophysiological study on the descending excitatory synaptic inputs to the superior salivatory nucleus in the rat.

17:40-18:00 Talk-C6
David K Ann (Los Angeles) Functions, regulation and mechanisms of action of SUMOylation in salivary cells.
18:00-18:20 Talk-C7
   Carleton Phillips (Lubbok, Texas) Deciphering the biological roles of salivary glands: comparative cell biology, molecular genetics, and evolution.

18:20-18:45 short talks for 5-min (w/o discussion) for Poster C3, C4, C5, C6, C7 and C8.
Poster-C3: Akihito Fujii (Okayama) Electrophysiological study of the inhibitory inputs from the forebrain and brainstem to the superior salivatory nucleus in rats.
Poster-C4: Miyuki Kobashi (Okayama) Role of the feeding center for submandibular salivary secretion during feeding behavior in the rat.
Poster-C6: Hülay Çevik Aras (Göteborg) Melatonin-evoked protein secretion from the rat parotid gland in vivo.
Poster-C7: Hajime Ishibashi (Matsudo) Induction of general anesthesia with propofol increases salivary flow.
Poster-C8: Minoru Matsui (Tokyo) Salivary secretion by MR3-KO mice.

18:45-20:30 Dinner - Japanesque
   Display of “Soba” preparation by Japan-No 1 Soba Master, and Tasting.
   Display of “Sushi” Cooking and Tasting.
   Sake-Tasting

22 October Sunday
D. Structural differentiation and functional expression of salivary gland I.
   <chair, Matthew Hoffman>

9:00-9:20 Talk-D1
   Yohki Hieda (Osaka) Regulation of epithelial tube formation in developing mouse submandibular gland.

9:20-9:40 Talk-D2
   Matthew Hoffman (Bethesda) FGF10 regulates branching morphogenesis during salivary gland development.

9:40-10:00 Talk-D3
   Tetsuya Akamatsu (Tokushima) Involvement of a subtilisin-like proprotein convertase, PACE4, in branching morphogenesis and AQP5 expression in the rat embryonic submandibular gland.
10:00-10:30 short talks for 5-min (w/o discussion) for Poster D1 – D6

**Poster-D1:** Kenichiro Kikuchi (Tokyo) Freeze fracture studies of tight junctions in mouse salivary glands and cultured salivary cell lines.

**Poster-D2:** Masanori Kashimata (Gifu) Shared or non-overlapping intracellular signaling pathways activated by EGFR or FGFR differentially regulate branching morphogenesis in fetal mouse submandibular glands.

**Poster-D3:** Yuuichi Kadoya (Sagamihara) Cellular aspect of salivary gland branching morphogenesis.

**Poster-D4:** Nunuk Purwanti (Tokushima) The expression of cellular markers of duct/acini and side population dynamics in the duct-ligated mouse submandibular gland.

**Poster-D5:** Shinya Yamamoto, Satoshi Fukumoto (Fukuoka) Role of PDGF in salivary gland morphogenesis.

**Poster-D6:** Wataru Masuda (Kita-Kyushu) The change of the subcellular localization of CD38 in the rat sublingual gland during saliva secretion.

10:30-11:00 Coffee Break and Poster Viewing

D. Structural differentiation and functional expression of salivary gland II.

<chair, Alessandro Riva>

11:00-11:20 Talk-D4

Arthur Hand (Farmington) Submandibular and sublingual glands in Nkx2-3 mutant mice.

11:20-11:40 Talk-D5

Shoichi Iseki (Kanazawa) A novel mouse protein differentially regulated by androgens in the submandibular and lacrimal glands.

11:40-12:00 Talk-D6

Kenjji Mishima (Yokohama) Identification and therapeutic potential of salivary gland side population cells.

12:00-12:25 short talks for 5-min (w/o discussion) for Poster D7- D11

**Poster-D7:** Osamu Amano (Sakado, Saitama) Heat shock protein 27kDa (Hsp27) regulates differentiation and regeneration of acinar cells of the rat submandibular gland.

**Poster-D8:** Sachiko Matsuura (Shiojiri, Nagano) Temporary accumulation of glycogen in the epithelial cells during developmental differentiation of the mouse submandibular gland revealed
by the high-pressure freezing/freeze substitution-TEM.

**Poster-D9:** Miwako Matsuki (Matsudo) Effects of actin-related drugs on exocytosis in parotid acinar cells.

**Poster-D10:** Sadamitsu Hashimoto (Chiba) Control of paracellular transport and its morphological evidence in perfused rat submandibular gland.

**Poster-D11:** Atsuko Sato (Fukuoka) Localization of G proteins in the main excretory duct of the rat submandibular gland with special reference to the MED tuft cell and the taste bud type II cell.

12:25-14:00 Group Photograph, Lunch and Poster Viewing

Demonstration of serving Japanese Tea (Ai-ya, Nishio)

E. Functional morphology of secretory granules I. <chair, Hiroshi Sugiya>

14:00-14:20 Talk-E1

Bernard Tandler (Cleveland) Ultrastructure of the ovine parotid gland.

14:20-14:40 Talk-E2

Alessandro Riva (Cagliari) A morphometric study by HRSEM of the secretory responses of human salivary glands stimulated in vitro by various secretagogues.

14:40-15:00 Talk-E3

Hiroshi Sugiya, Miwako Matsuki (Matsudo) Expression and function of aquaporin-6 in the rat salivary glands.

15:00-15:20 Talk-E4

David Giovannucci (Tredo, Ohio) Analysis of secretory dynamics in mouse parotid acinar cells reveals multiple pathways for secretory granule fusion.

15:20-15:30 Break

15:30-16:10 short talks for 5-min (w/o discussion) for Poster E3-E10

**Poster-E3:** Akane Imai (Niigata) Roles of Rab27 and its effectors in isoproterenol-induced amylase release from rat parotid acinar cells.

**Poster-E4:** Matthew J. Betzenhauser (Rochester) Subtype-specific regulation of inositol (1,4,5)-trisphosphate receptors by protein kinase A

**Poster-E5:** Tomomi Nemoto (Okazaki) Exocytosis and fluid secretion in exocrine glands studied by two-photon microscopy.

**Poster-E6:** Akiko Shitara (Ishikari-Tobetsu) Multi-photon imaging of cellular heterogeneity in the
sensitivity of Ca$^{2+}$ responses in rat parotid ducts.

**Poster-E7:** Raffaella Isola (Cagliari) Morphological changes induced by histatins in *Candida albicans*: A microscopic and submicroscopic comparison.

**Poster-E8:** Hideaki Tamaki (Sagamihara) Sequential appearance of Golgi proteins during *de novo* formation of the Golgi apparatus in parotid acinar cell.

**Poster-E9:** Yosuke Tojyo (Ishikari-Tobetsu) Comparison of cluster formation of GFP-IP3 receptors in HSY, a human salivary cell line, and COS-7 cells.

**Poster-E10:** Konosuke Kumakura (Tokyo) Possible Involvement of Myosin-ATPase in the spatio-temporal regulation of exocytosis in adrenal chromaffin cells.

16:10-17:00   Coffee break and Poster Viewing Session

**F. Control for fluid/electrolyte transport via trans-/paracellular routes I.**

*chair, Kazuo Hosoi*

17:00-17:20 **Talk-F1**

James Melvin (Rochester) The ion and fluid secretion mechanism.

17:20-17:40 **Talk-F2**

R. James Turner (Bethesda) Structural and functional significance of the dimerization of the secretory Na-K-2Cl cotransporter (NKCC1).

17:40-18:00 **Talk-F3**

Jun Yamazaki (Fukuoka) Localization and function of CLCA in rat submandibular glands.

18:00-18:25 short talks for 5 min on Poster F1-F5

**Poster-F1:** Yusuke Imai (Otsu) Bond graph expression on an epithelial transport system.

**Poster-F2:** Martin C Steward (Manchester) A modular approach to computational modelling of epithelial electrolyte transport.

**Poster-F3:** Varga Gabor (Budapest) Bicarbonate secretion by cultured salivary gland cells

**Poster-F4:** Chikara Hirono (Hiroshima) Regulation of Cl secretion by muscarinic cholinergic and adrenergic stimulation in acinar cells of rat salivary gland.

**Poster-F5:** Yoshiro Sohma (Takatsuki) Voltage-dependent transient activity of Na$^+$/H$^+$ exchanger.

18:25-20:30   Dinner

19:30-20:00   Ryukyu (Okinawa) music with dance “Ei-sah”
23 October Monday

F. Control for fluid/electrolyte transport via trans-/paracellular routes II.

<chair, Martin C Steward>

9:00-9:20 Talk-F4


Supplemental Poster is located between Poster F2 and F3.

9:20-9:40 Talk-F5

Anil G Menon (Cincinnati) Evidence for interaction between transcellular and paracellular water transport pathways: signaling between Aquaporin-5 and the tight junction complex in mouse salivary glands.

9:40-10:00 Talk-F6

Junko Yoshigaki (Matsudo) Change of claudin expression in primary cultured parotid acinar cells.

10:00-10:25 short talks for Poster F6 – F10

Poster-F6: Christine Delporte (Brussels) Impaired aquaporin-5 distribution in salivary glands from a Sjögren’s syndrome mouse model.

Poster-F7: Mileva R. Karabasil (Tokushima) Molecular and cellular analyses of mutant AQP5 which occurred naturally in Sprague-Dawley rats

Poster-F8: Retsu Mitsui (Matsudo) Regulation of intercellular junctions in polarized salivary cells.

Poster-F9: Tetsuji Nakamoto (Rochester) The use of gene disruptions and isolated, perfused glands to examine mouse submandibular function.

Poster-F10: Yoshiteru Seo (Mibu, Tochigi) Water permeability as measured by NMR in salivary gland cells.

10:25-10:40 Coffee Break

G. Stimulus-Secretion Coupling for starting electrolyte transport I. <chair, Min-Goo Lee>

10:40-11:00 Talk-G1

James Putney (Research Triangle Park) Calcium signaling mechanisms in salivary gland cells and other epithelial cells.

11:00-11:20 Talk-G2

Akihiko Tanimura (Ishikari-Tobetsu) Monitoring IP₃ and Ca²⁺ dynamics in salivary and
other cell lines.

11:20-11:40 Talk-G3
David I Yule (Rochester) Intracellular calcium signaling: mechanistic insight from analysis of distinct signals in parotid and pancreas.

11:40-12:00 Talk-G4
Jason Bruce (Manchester) Regulation of the plasma membrane Ca^{2+}-ATPase in parotid acinar cells.

12:00-12:15 short talks for Poster-G1, G2, G3
Poster-G1: Philip Poronnik (St Lucia, Queensland) Muscarinic receptor mobilization of plasma membrane Ca^{2+}-ATPase in epithelial cells: Role of the NHERF2 PDZ scaffold.
Poster-G2: Jenny Ekberg (St Lucia, Queensland) Regulation of KCNQ2/3 by the ubiquitin ligase Nedd4-2.
Poster-G3: Keitaro Satoh (Matsudo) Secretagogues stimulate phosphorylation of MARCKS in parotid acinar cell.

12:15-13:15 Chainsaw Curving (Parking Area) to Wake up the audience !
12:30-14:00 Lunch and Poster Viewing

G. Stimulus-Secretion Coupling for starting electrolyte transport II.
<chair, James W Putney Jr>

14:00-14:20 Talk-G6
Shumuel Muallem (Dallas) Regulation of TRPC channels by STIM1.

14:20-14:40 Talk-G7
Min-Goo Lee (Seoul) Shank2 as a key regulator of epithelial transport in apical membrane.

14:40-15:00 Talk-G8
David I Cook (Sydney) The regulation of the epithelial Na^{+} channels by UTP.

15:00-15:20 Talk-G9
Anuwat Dinudom (Sydney) Signaling pathways regulating Na^{+} transport in salivary ducts.

15:20-15:40 short talks for Poster-G4, G5, G6
Poster-G4: Hideyo Yoshida (Takatsuki) Ca^{2+} influx induced by ionomycin under a high [K^{+}], in rat submandibular acinar cells.
Poster-G5: Il-Ha Lee (Sydney) Regulation of the epithelial sodium channel by caveolin.

Poster-G6: Xibao Liu (Bethesda) The role of TRP channel in the salivary gland fluid secretion.

15:40-17:00 Poster Viewing and Removing.

17:00-20:00 Poster Awards, Closing and Farewell Party
24 October Tuesday
8:50-20:00 Excursion

8:20- Buses pick up you at South Bus Terminal of Higashi-Okazaki Station and New Grand Hotel
8:40- Start from New Grand Hotel for Toyota Kaikan
9:30-11:30 visit Toyota Facory
12:00-13:00 Taki-san-ji (lunch box) and 1st drop at station for returners
13:00-14:00 Miso Factory
14:30-15:30 Dai-ju-ji Temple or Iga-Hachiman shrine
15:30-17:30 Okazaki Art Museum
17:30-19:30 Final food and drink
19:45 return to Hotel
19:47 train for Toyohashi, 20:19 Toyohashi-Tokyo 21:43