第 40 回生理学研究所国際シンポジウム

「合同国際シンポジウム：アニオン輸送生理学と細胞容積調節 (PAT-CVR)」

今回のシンポジウムは，今これまで世界各国で別々に開かれていた International Symposium for Cell Volume Regulation（CVR：細胞容積調節国際シンポジウム）と International Symposium for Physiology of Anion Transport（PAT：陰イオン輸送国際シンポジウム）を，第 40 回生理学研究所国際シンポジウムとして岡崎で合同開催した。オーガナイザーは岡田泰伸（生理研），鍋倉淳一（生理研），富永真琴（生理研・統合バイオ），相馬義郎（慶応大），内田信一（東医歯大），福田敦夫（浜松医大），酒井秀紀（富山大）の7名であり，最終的な参加人数は 207 名で，そのうち 91 名が海外 21 カ国からの外国人研究者という盛大な国際シンポジウムとなった。本シンポジウムでは，1．PAT および CVR 分野で最も重要かつ最近急速な展開がみられた共通課題に関して，著名研究者による特別講演7題（海外5名，国内2名），2．PAT および CVR 研究で最先端の各6つの領域に関して4-6名によるセッション（60 題），3．若手研究者による討論重視のポスター発表（37 題）を実施し，活発な討議を行った。具体的には，特別講演として岡田泰伸所長の他に，Kai Kaila 先生，富永真琴先生，Else K Hoffmann 先生，Thomas J Jentsch 先生，John R Riordan 先生，Bernd Nilius 先生にそれぞれの専門分野に関して最新の知見を講演していただいた。また PAT シンポジウムでは，1．CFTR：分子構造から細胞生理学および嚢胞性繊維症治療へ，2．CLC クロライドチャネル，3．リガンド作動性アニオンチャネル，4．クロライドチャネル研究の新展開，5．SLC と有機アニオントランスポータ，6．アニオンチャネルとトランスポータの分子相関と分子進化と題した6セッションを，CVR シンポジウムでは，1．細胞容積調節とアニオンチャネル／トランスポータ，2．細胞容積調節とカチオンチャネル／トランスポータ，3．細胞容積調節と有機溶質輸送，4．細胞容積調節と細胞内シグナル，5．細胞容積調節と細胞機能，6．細胞容積調節と細胞死と題した6セッションを実施した。これらの各講演では，最新の大変興味深い知見が発表され，討論が活発になされた。さらには合同ポスター発表においても，討論時間が3日間で約4時間と長めであったことから，活発な議論が交わされ，若手研究者同士の交流もはかることが出来た。

これまでに別々に行われていた PAT シンポジウムと CVR シンポジウムであったが，その研究領域の共通性から発案された今回の合同開催は大成功に終わった。両シンポジウムを合同開催することで，比較的近い領域の国際的な研究者が一堂に会し，討論することが可能となったため，これまでの視野をさらに広げることが出来たことが大きなメリットであった。

The 40th NIPS International Symposium:

International Joint Symposium:

Physiology of Anion Transport and Cell Volume Regulation (PAT-CVR)

August 3-6, 2009
National Institutes for Physiological Sciences
Okazaki Conference Center, Okazaki, Japan
< http://www.nips.ac.jp/patcvr/index.html >

August 3

Registration & Get-Together

August 4

Opening Remark

Yasunobu Okada　Director-General of NIPS

PAT-CVR Lectures

1. Yasunobu Okada (NIPS, Japan)　Chairperson: Else K Hoffmann
   Roles of anion channels and disordered cell volume regulation in apoptotic and necrotic cell death
2. Kai Kaila (Univ. Helsinki, Finland)　Chairperson: Junichi Nabekura
   Neuronal chloride regulation and epilepsy

PAT Symposium

PAT-I: CFTR: From Molecular Structure to Tissue Physiology and Therapy for CF

Chaired by David N Sheppard and Yoshiro Soma

3. Paul M. Quinton (University of California, USA)
   Does Mucus need HCO_3^-?
4. Christine E Bear (SickKids Hospital, Canada)
   Biochemical studies of the enzymatic activity of full length CFTR and catalytic site mutants
5. David N Sheppard (University of Bristol, UK)
   Direct sensing of intracellular pH by the CFTR Cl^- channel
6. Hsiao Chang Chan (The Chinese University of Hong Kong, Hong Kong)
   Involvement of CFTR in oviductal bicarbonate transport and embryo development
7. John W Hanrahan (McGill Univ., Canada)
   Enhanced calcium entry in cells that express ΔF508 CFTR: crosstalk between mature CFTR, ORAI1, and the ER-resident protein STIM1

PAT-II: CLC Chloride Channel

Chaired by Shinichi Uchida and Thomas Jentsch

8. Thomas J Jentsch (FMP and MDC, Germany)
   ClCK/barttin Cl channels － role in the kidney and the inner ear
9. Francisco V Sepúlveda (CECS and CIN, Chile)
   Titration of specific residues account for complex gating of a ClC chloride channel by extracellular protons
10. Alessio Accardi (University of Iowa, USA)
    Anion binding and selectivity in the CLC family of channels and transporters
11. Shinichi Uchida (Tokyo Medical and Dental University, Japan)
    Molecular pathogenesis of Bartter syndrome caused by R8L barttin mutation
12. Jorge Arreola (University of San Luis Potosi, Mexico)
    Proton and chloride ions alter ClC-2 gating by interfering with closing of protopore gate

PAT-III: Ligand-gated Anion Channel

Chaired by Junichi Nabekura and Atsuo Fukuda

13. Andrew J Moorhouse (The University of New South Wales, Australia)
    Molecular determinants and biophysical mechanisms of anion selectivity in glycine receptor-channels
14. Heiko J Luhmann (Johannes Gutenberg University, Germany)
    Function of ligand-gated chloride channels in the newborn rodent cerebral cortex
15. Claudio Rivera (University of Helsinki, Helsinki, Finland)
    Mechanisms of KCC2 gene regulation in immature neurons
16. Rustem Khazipov (INMED-INSERM U901, France)
    Actions of GABA on the immature cortical neurons in vitro and in vivo
17. Atsuo Fukuda (Hamamatsu University School of Medicine, Japan)
    Endogenous taurine tonically activates $GABA_A$ receptors in embryonic mouse neocortex

CVR Symposium

CVR-I: CVR & Anion Channel/Transporter

Chaired by Andrés Stutzin and Hideki Sakai

18. Clive M Baumgarten (Virginia Commonwealth University, USA)
    Reactive oxygen species produced by NADPH oxidase and mitochondria regulate volume-sensitive Cl^- channels: A common theme for multiple pathways
19. Joseph R Hume (University of Nevada School of Medicine, USA)
    Cardiac-specific manipulation of ClC-3 gene alters native volume-sensitive outwardly rectifying anion channels (VSOACs) and heart function in transgenic mice
20. Takahiro Shimizu (Toyama University, Japan)
    Volume-sensitive Cl^- channel as a regulator of acquired cisplatin resistance
21. Shintaro Yamamoto (Fukuoka University, Japan)
    Cell-volume regulation in mammalian heart
22. Diego Varela (Universidad de Chile, Chile)
    Calcium entry modulates the time course for VSOR Cl^- current onset in rat hepatoma cells

CVR-II: CVR & Cation Channel/Transporters

Chaired by Frank Wehner and Francisco J Alvarez-Leefmans

23. Frank Wehner (Max-Planck-Institute of Molecular Physiology, Germany)
    The hypertonicity-induced cation channel (HICC) in human hepatocytes: Role in proliferation vs. apoptosis and molecular characterization
24. Francisco Javier Alvarez-Leefmans (Wright State University, USA)
    Role of NKCC1 in isosmotic volume control studied in rodent dorsal root ganglion neurons
25. Rainer Hedrich (University of Würzburg, Germany)
    Guard cell volume is controlled by anion channels via draught stress signaling kinase and phosphatase
26. Miguel A Valverde (University Pompeu Fabra, Spain)
    Regulation and pathophysiological relevance of the TRPV4 channel
27. Dandan Sun (Univ. of Wisconsin School of Medicine and Public Health, USA)
    ER Ca^{2+} dysregulation and ER stress following in vitro neuronal ischemia: role of Na^+-K^+-Cl^- cotransporter

CVR-III: CVR & Organic Solute Transport

Chaired by Alexander A Mongin and Ravshan Z. Sabirov

28. Kishio Furuya (Nagoya University, Japan)
    ATP-releases via multiple pathways in mammary epithelial cells revealed by ATP imaging
29. Ryszard Grygorczy (University of Montreal, Canada)
    Volume-sensitive nucleotide release from epithelial cells

30. Alexander A Mongin (Albany Medical College, USA)
    Redox-regulation of volume-sensitive organic osmolyte release in the brain: mechanisms and (patho)physiological significance
31. Harold K Kimelberg (Ordway Research Institute, USA)
    Pros and cons of glutamate transport through cell volume regulated (CVR) anion channels in astrocytes: are there therapeutic implications?"
32. Ravshan Z Sabirov (Institute of Physiology and Biophysics, Uzb. Acad. Sci., Uzbekistan)
    Transport of organic solutes through the maxi-anion channel

August 5

PAT-CVR Lectures

33. Makoto Tominaga (NIPS, Japan) Chairperson: Bernd Nilius
    Physiological significance of the thermosensitive TRP channels
34. Else K Hoffmann (University of Copenhagen, Denmark) Chairperson: Hideki Sakai
    Regulation of cell volume, proliferation and programmed cell death: Role of ion channels and aquaporins
35. Thomas J Jentsch (FMP and MDC, Germany) Chairperson: Shinichi Uchida
    CLC Cl channels and transporters － biophysics, physiology and pathology

August 6

PAT-CVR Lectures

36. John R Riordan (University of North Carolina, USA) *Chairperson:* Yoshiro Sohma
    "CFTR at 20: evolving perspectives
37. Bernd Nilius (Katholieke Universiteit Leuven, Belgium) *Chairperson:* Makoto Tominaga
    Mechano-sensitive TRP channels: facts and fictions

PAT Symposium

PAT-IV: New Directions in Cl^- Channel Research

Chaired by Michael A Gray and Criss Hartzell

38. J Kevin Foskett (University of Pennsylvania, USA)
    Molecular mechanisms of cholinergic- and VIP-stimulated Ca^{2+}-dependent fluid secretion by porcine lung submucosal gland serous cells
39. Nael A McCarty (Emory University, USA)
    Novel peptide toxin inhibitors of the CFTR and ClC-2 chloride channels
40. Criss Hartzell (Emory University School of Medicine, USA)
    Bestrophins and Anoctamins as Molecular Candidates for Ca-activated Cl Channels
41. Luis JV Galietta (Gaslini Institute, Italy)
    Functional and molecular analysis of TMEM16 proteins as plasma membrane chloride channels
42. Rebecca A Falin (Vanderbilt University Medical Center, USA)
    Identification of Ste20 kinase regulatory phosphorylation sites in a cell cycle and cell volume sensitive ClC anion channel

PAT-V: SLC & Organic Anion Transporters

Chaired by Hiroshi Ishiguro and Seth L. Alper

43. Min Goo LEE (Yonsei University College of Medicine, Korea)
    Regulation of CFTR and SLC26 transporters by $[Cl]_i$-sensitive protein kinases
44. Yoshikatsu Kanai (Osaka University, Japan)
    Novel organic anion transporters and new aspects of organic anion transport in renal proximal tubules
45. Seth L Alper (Harvard Medical School, USA)
    SLC4 and SLC26 anion transporters in flux
46. Joseph Casey (University of Alberta, Canada)

An update on Bicarbonate Transport Metabolons

47. Hiroshi Ishiguro (Nagoya University Graduate School of Medicine, Japan)
    Functional interaction between SLC26A6 Cl^--HCO_3^- exchange and CFTR in pancreatic ducts
48. Shigeru BH Ko (Nagoya University Graduate School of Medicine, Japan)
    Pancreatic ductal HCO_3^- secretion in a disease-implication for the role of ion channels and transporters

PAT-VI: Molecular Relation between Anion Channel and Transporter: Evolutional Insight of Anion Channel/Transporter Molecules

Chaired by Tzyh-Chang Hwang and Tsung-Yu Chen

49. Merritt C Maduke (Stanford University School of Medicine, USA)
    Substrate-driven conformational changes in ClC-ec1 observed by fluorine NMR
50. David C Gadsby (Rockefeller University, USA)
    Controlling the gates of CFTR, a chloride channel evolved from an ABC transporter
51. Tzyh-Chang Hwang (University of Missouri-Columbia, USA)
    Kinetic role of CFTR's first nucleotide binding domain and its pharmacological implications
52. Joseph A Mindell (National Institute of Neurological Disorders and Stroke, NIH, USA)
    Ins and outs of the lysosomal chloride conductance: biophysics and biology of an organellar anion transporter
53. Uhtaek Oh (Seoul National University, Korea)
    Anoctamin-1, a cloned Ca^{2+}-activated chloride channel and it sphysiological implication

CVR Symposium

CVR-IV: CVR & Cell Signals 10:00-12:30

Chaired by Stine Falsig Pedersen and Yoshinori Marunaka

54. Ben CTilly (Erasmus University Medical Center, The Netherlands)
    Cell volume regulation in intestinal epithelial cells: a role for chloride channel recruitment?
55. Stine Falsig Pedersen (University of Copenhagen, Denmark)
    Osmotic shrinkage regulates $p90^{RSK}$, Msk1, and transcription factors CREB and SRF: effectors in shrinkage-induced modulation of death/survival balance?
56. Naomi Niisato (Kyoto Prefectural University of Medicine, Japan)
    Dephosphorylation of ERK by MKP-1 stimulates beta- and gamma-ENaC mRNA expression of renal A6 cells in hypotonic stress
57. Ian Henry Lambert (University of Copenhagen, Denmark)
    Reactive oxygen species modulate the taurine homeostasis in NIH3T3 mouse fibroblasts
58. Hideki Sakai (University of Toyama, Japan)
    Osmotic regulation of cell differentiation via aquaporin-5 in human gastric cancer

CVR-V: CVR & Cell Functions

Chaired by Markus Ritter and Vladimir Strbak

59. Anke Fabian (University of Muenster, Germany)
    Do TRPC1 channels modulate mechanosensitive signalling during cell migration?
60. Markus Ritter (Paracelsus Medical University, Austria)
    The functional role of the non-gastric H^+/K^+-ATPase ATP12A (ATP1AL1) as anti-apoptotic ion transporter
61. Ursula Seidler (Hannover Medical School, Germany)
    Coupling of nutrient and electrolyte transporters in the small intestine
62. Vladimir Strbak (Slovak Medical University, Slovakia)
    Cell swelling-induced peptide secretion; possible pathophysiological implications

CVR-VI: CVR & Cell Death

Chaired by Florian Lang and John A Cidlowski

63. Florian Lang (Eberhard-Karls-University of Tuebingen, Germany)
    The functional significance of the cell volume regulated kinase SGK1

64. Carl D Bortner (National Institute of Environmental Health Sciences, NIH, USA)
    A lymphoid cell model designed to evaluate the role of RVI and RVD in apoptosis (Part A)
65. John A Cidlowski (National Institute of Environmental Health Sciences, NIH, USA)
    A lymphoid cell model designed to evaluate the role of RVI and RVD in apoptosis (Part B)
66. Tomohiro Numata (Kyoto University, Japan)
    Cation channel activity determines cell death in human epithelial cells
67. Sergei N Orlov (University of Montreal Hospital Research Center, Canada)
    Oncosis in cardiotonic steroids-treated cells: evidence for Na^{+}_{i}, K^{+}_{i}-independent α1S-Na^{+}, K^{+}-ATPase- and p38-mediated signaling

Closing Remark

Junichi Nabekura (NIPS, Japan)

生理研セミナー

研究者が国外からの訪日研究者や国内の研究者を招いて実施するセミナー

	研究課題名	氏　　名	開催日
1	Color-Related Signals in the Primate Superior Colliculus	Brian J. White（クイーンズ大学）	2009. 4. 6
2	ヒト聴覚野における雑音下の音信号処理(Auditory processing under noisy environments in the human auditory cortex)	岡本　秀彦（ドイツ　ミュンスター大学　生体磁気研究室）	2009. 4.13
3	単一細胞転写産物解析を用いたマーカー遺伝子の検索法	児玉　貴史（Salk 研究所）	2009. 4.13
4	生後脳の発達を促す Otx2 の作用	杉山　清佳（Harvard Medical School）	2009. 4.16
5	脊髄における痛みの抑制メカニズムースライスパッチ法と in vivo パッチクランプ法から得られた結果の解釈の相違について	古江　秀昌（神経シグナル研究部門）	2009. 4.23
6	フィンランド神経科学セミナー(Seminar by Finnish NEURO team)	Finnish NEURO team	2009. 5.27
7	触覚による物体の認識は，ヒトの脳でどのように処理されているのか？	北田　亮（心理生理研究部門）	2009. 5.27
8	(1) Septal neurons in barrel cortex derive their receptive field input from the lemniscal pathway（バレル皮質中隔領域に存在するニューロンは毛帯経路 から受容野の情報を受け取る） (2) 大脳基底核で見落としているものの検索	(1) 古田　貴寛（京都大学医学研究科高次脳形態学教室） (2) 藤山　文乃（京都大学医学研究科高次脳形態学教室）	2009. 5.28
9	Experience dictates stem cell fate in the adult hippocampus	Alex Dranovsky (Clinical Psychiatry Division of Integrative Neuroscience Columbia University)	2009. 6. 4
10	Excitatory / inhibitory balance and rhythmicity in the cortical network	Maria V. Sanchez-Vives (Instituto de Neurociencias (INA) Barcelona, Spain)	2009. 6. 5
11	クライオ電子顕微鏡法によるバイオモレキュラーイメージング(Biomolecular imaging by cryo-electron microscopy)	Kazuyoshi Murata (Department of biochemistry and molecular biology, Baylor College of Medicine, Houston, Texas, USA)	2009. 6.10
12	Towards an integrated model of Basal Ganglia	V. Srinivasa Chakravarthy (Department of Biotechnology, Indian Institute of Technology, Madras, India) (Amari Unit, RIKEN Brain Science Institute)	2009. 6.11
13	大脳皮質視覚野における特異的神経結合とその発達	吉村　由美子（神経分化研究部門）	2009. 6.26
14	Zernike Phase Contrast Cryo-EM at Subnanometer Resolution	Wah Chiu (National Center for Macromolecular Imaging, Baylor College of Medicine)	2009. 7. 6
15	IBRO の活動に関する紹介と脳内時計に関するお話	Marina Bentivoglio (University of Verona, Verona Italy; IBRO)	2009. 7.10
16	合同セミナー	Takuma Mori and Edward Callaway, Nelson Spruston, Dan Nicholson, Yael Katz, Vilas Menon, Jason Hardie, Jackie Schiller, Masanori Murayama	2009. 7.22

17	視床下部―交感神経系による糖代謝調節機構～神経ペプチド・オレキシンによる作用を中心に～	志内　哲也（生殖・内分泌系発達機構）	2009. 7.24
18	質感の知覚と可視化 (Envisioning the material world)	James A. Ferwerd (Munsell Color Science Laboratory, Center for Imaging Science, Rochester Institute of Technology)	2009. 7.24
19	Reinforcement mechanisms in the basal ganglia	Peter Redgrave（Sheffield 大学，英国）	2009. 7.24
20	K_2P CHANNEL AND ASSOCIATED PROTEINS: — MOLECULAR AND FUNCTIONAL PROPERTIES —	Florian Lesage (Institut de Pharmacologie Moléculaire et Cellulaire - CNRS, Sophia Antipolis, 06560 Valbonne, France)	2009. 8. 7
21	クライオ電子顕微鏡法による生体分子イメージング	村田　和義 (Baylor College of Medicine, USA)	2009. 9. 3
22	電子顕微鏡による生体高分子の立体構造解析	平井　照久（理化学研究所　播磨研究所　放射光科学総合研究センター　構造生理学研究グループ　三次元顕微鏡法研究チーム）	2009. 9. 3
23	極性輸送の細胞，組織，個体における役割	原田　彰宏（大阪大学大学院医学系研究科・細胞生物学教室（群馬大学・生体調節研究所・生体情報部門細胞構造分野)）	2009. 9.11
24	Theta oscillations provide temporal windows for local circuit computation in the entorhinal-hippocampal loop	水関　健司（ラトガース大学）	2009. 9.14
25	Retinotopic Mapping and Binocular Matching:Functional Studies of Visual System Development in Mice	Jianhua Cang (Department of Neurobiology and Physiology; Northwestern University)	2009. 9.14
26	Reactivation of Hippocampal Cell Assemblies Following Spatial Learning	Jozsef Csicsvari (MRC Anatomical Neuropharmacology Unit, Oxford)	2009. 9.15
27	Intracortical circuitry mechanism underlying self-initiation of voluntary movements	礒村　宜和（理研 BSI）	2009. 9.15
28	Single-particle reconstruction of a membrane protein in a membrane: cryo-EM structure of the BK potassium channel	Frederick Sigworth (Yale University)	2009. 9.18
29	Waking Up the Brain	Donald W. Pfaff (The Rockefeller University)	2009. 9.18
30	(1)Second Harmonic Generation（イメージングを用いた神経細胞細部での定量的膜電位計測） (2)蛍光タンパク質を巧妙に用いた生理機能・動態の可視化	(1)塗谷　睦生（慶應義塾大学医学部薬理学教室） (2)永井　健治（北海道大学電子科学研究所ナノシステム生理学研究分野）	2009. 9.25
31	Switching gears: new perspectives on movement control from the zebrafish	David McLean (Northwestern University)	2009. 9.25
32	本能機能を司る視床下部ペプチド神経の研究	山中　章弘（細胞生理研究部門）	2009. 9.28
33	「魅力的に科学を伝えるための ABC」“イケてる研究者”になりませんか？	橋本　裕子，三ツ橋　知沙（日本科学未来館科学コミュニケーション推進室）	2009.10.6
34	自閉症スペクトラム障害における自己認知機能	守田　知代（感覚運動調節）	2009.10.26
35	Cholinesterase contributions to body- to-brain signaling in health and disease	Hermona Soreq (The Hebrew University of Jerusalem, Department of Biological Chemistry)	2009.11. 9
36	A behavioral neurophysiologist's attempt at creating a laterally-inhibitory accumulating reticular model	Brian Coe（カナダ・クイーンズ大学）	2009.11.17

37	A molecular correlate of ocular dominance (OD) columns in the developing mammalian visual cortex: a discovery of a molecule specific for ipsilateral OD columns	冨田　江一（生理学研究所　行動・代謝分子解析センター）	2009.11.27
38	視覚グルーピングと頭頂間溝皮質ニューロンの活動	横井　功（生理学研究所　生体情報研究系　感覚認知情報部門）	2009.12.18
39	非線形光学現象を用いたバイオフォトニクス：超短パルスレーザを用いた応用と研究展望	山岡　禎久（京都府立医科大学，大学院医学研究科，細胞分子機能病理学，医学研究法システム学）	2010. 1.19
40	In vivo imaginag and reverse genetic analysis of oligodendrocyte development in zebrafish	高田　智夫 (University of Colorado Denver Health Sciences Center)	2010. 1.19
41	1分子観察でみえてきた細胞膜ラフトが働くしくみ	鈴木　健一（京都大学　物質―細胞統合システム拠点）	2010. 1.19
42	バゾプレッシン産生ニューロンにおける電気生理学的検討	大淵　豊明（産業医科大学　医学部　第 1 生理学）	2010. 1.25
43	Frontiers of Science by Dr Barbara Jasny, Science magazine/AAAS	Barbara R. Jasny (Commentary, Scence/AAAS)	2010. 2. 2
44	視床下部と大脳皮質による睡眠覚醒調節	Thomas S Kilduff（SRI インターナショナル，スタンフォード大学）	2010. 2. 2
45	アデノ随伴ウイルス (AAV) ベクター：基礎から応用まで	水上　浩明（自治医科大学分子病態治療研究センター）	2010. 2. 3
46	How Schwann cells assemble nodes of Ranvier	Elior Peles (Hanna Hertz Professorial Chair for Multiple Sclerosis and Neuroscience, Department of Molecular Cell Biology, The Weizmann Institute of Science)	2010. 2. 4
47	Human neural stem cell-based gene therapy in neurological diseases	Seung U. Kim (Department of Neurology, UBC Hospital, University of British Columbia Vancouver, Canada)	2010. 2. 4
48	代謝型グルタミン酸受容体の多様なシグナル伝達およびその制御様式	立山　充博（神経機能素子研究部門）	2010. 2.19
49	*in vivo* 2光子イメージングとパッチクランプ法	喜多村　和郎（東京大学医学研究科　科学技術振興機構　さきがけ研究者「脳情報の解読と制御」領域）	2010. 2.23
50	A three-dimensional spatio-temporal model of MT neurons that predicts responses to natural movies Decoding visual experiences from brain activity evoked by natural movies	西本　伸志（カリフォルニア大学バークレー校 Jack Gallan 研究室）	2010. 2.24
51	The Enteric Nervous System and enteric disorders induced by inflammation and ischemia	John B Furness (Department of Anatomy and Cell Biology and Centre for Neuroscience, University of Melbourne, Australia)	2010. 2.26
52	脳の複雑ネットワークとクラスター型プロトカドヘリン	八木　健（大阪大学　大学院生命機能研究科）	2010. 3. 2
53	Propagating waves of local field potentials in motor cortex and their relations to unit spiking activities and motor behavior	高橋　和貴（シカゴ大学）	2010. 3.16
54	前頭皮質 V 層錐体細胞の投射先に依存した局所回路	森島　美絵子（大脳神経回路論）	2010. 3.31