Lectures and Poster Contributions

Plenary Lectures

P1 Bert Sakmann, Heidelberg (Roger-Eckert-Lecture)  
*Cortical microcircuits and their plasticity*

P2 Jens Frahm, Göttingen  
*Magnetic resonance neuroimaging: From anatomy to function*

P3 Michael Hagner, Berlin  
*Enchanted looms. On brains and the scientists in the 19th and 20th centuries*

P4 Dietmar Kuhl, Hamburg  
*Learning about activity-dependent genes*

P5 Nils Brose, Göttingen  
*Presynaptic plasticity: Dynamic regulation of neurotransmitter release at active zones*

P6 Eckart O. Altenmüller, Hannover (Otto-Creutzfeldt-Lecture)  
*From Laetoli to Carnegie: Musician's brains and Neuroplasticity*

P7 Fernando Nottebohm, New York, NY, USA (Ernst-Florey-Lecture)  
*Neuronal replacement in adult brain*

P8 Silke Sachse, Berlin and New York, NY, USA  
*Odor processing in the honeybee antennal lobe*

P9 Andreas Nieder, Cambridge, MA, USA and Tübingen  
*Of neurons and numbers: How the primate cortex encodes numerical information*

Symposium: Adaptation: the psychophysicist's microelectrode

1 J. Zanker, Egham (UK)  
*Adaptation and contrast enhancement as universal coding strategies in the human visual system*

2 M. Fahle, Bremen  
*Orientation bandwidth of perceptual learning*

3 M. Bach and J. P. Maurer, Freiburg  
*Uncovering veridical human motion detectors in the EEG using “double adaptation”*

4 M. W. Greenlee, Oldenburg  
*Gain control in visual cortex: Evidence from psychophysics and fMRI*

5 D. A. Leopold, I. Bondar and N. K. Logothetis, Tübingen  
*Aftereffects with faces: Evidence for prototype referenced encoding of identity*
N. F. Troje and H. Geyer, Bochum
*High-level aftereffects in biological motion perception*

A. Werner, Tübingen
*Stereo disparity and chromatic adaptation*

**Symposium: Juvenile hormone as a mediator of behavioural plasticity in adult insects**

P. Teal and Y. Gomez-Simuta
*Juvenile hormone regulation of reproductive maturity and sexual signaling in tephritid fruit flies*

C. Gadenne, Villenave d'Ornon (France)
*Effect of juvenile hormone on olfactory guided behaviour and on central nervous processing of odours in a moth*

J. F. Stout, Berrien Springs, MI (USA)
*Juvenile hormone III influences phonotactic behavior by female crickets through regulation of the response properties of identified auditory interneurons*

U. Rose, Ulm
*Morphological and functional maturation in the adult locust neuro-muscular system regulated by juvenile hormone*

M. Cayre, S. Scotto-Lomassese and C. A. A. Strambi, Marseille (France)
*Juvenile hormone, neurogenesis and behaviour in the adult cricket*

G. Bloch, Jerusalem (Israel)
*Juvenile hormone and task-related plasticity in circadian rhythms in the honey bee*

Y. Gaubard, C. Gadenne, G. D. Prestwich, C. Löfstedt and J.-F. Picimbon, Lund (Sweden), Villenave Ornon (France) and Salt Lake City, UT (USA)
*Juvenile hormone binding proteins and neuronal plasticity*

R. Spieß and U. Rose, Ulm
*Effects of juvenile hormone on the abdominal motor system of adult Locusta migratoria*

S. Anton and R. Ignell, Alnarp (Sweden)
*Olfactory-guided aggregation behaviour and olfactory processing in desert locusts are regulated by juvenile hormone*

**Symposium: Cytokines as mediators of neuroglial interactions**

S. Wiese and M. Sendtner, Würzburg
*Neuroprotective effects of neurotrophic factors: Basics and clinical application*

H. W. Müller, Düsseldorf
*SDF-1 chemokines in the mammalian nervous system: Expression, regulation and function*
19 H. Siebert and W. Brück, Göttingen
*Cytokines and proteases that influence sciatic nerve degeneration*

20 G. Raivich, London (UK)
*Cytotoxic potential of inflammation-associated cytokines in neuronal degeneration: Role of TNF-α and TGF-β1*

21 C. Sommer, A. George and M. Schäfers, Würzburg
*Expression and transport of tumor necrosis factor-α in peripheral nerve injury*

22 J. Mey, K. Schrage and N. Jeliaznik, Aachen
*Retinoic acid as a regulator of cytokine signaling in peripheral nerve regeneration*

23 N. Jeliaznik and J. Mey, Aachen
*Activation of retinoic acid signaling after sciatic nerve injury: Upregulation of cellular retinoid binding proteins*

24 K. Schrage, V. Johann and J. Mey, Aachen
*Cytokine expression in schwann cell primary cultures after retinoic acid treatment*

25 H. Siebert and W. Brück, Göttingen
*The influence of different cytokines and proteases on sciatic nerve degeneration - a study in different knockout mice*

26 S. J. Haas, A. Ahrens, O. Schmitt and A. Wree, Rostock
*Quinolinic acid lesions of the caudate putamen in the rat lead to an increase of Ciliary Neurotrophic Factor*

**Symposium: Transgenic animal models for neurodegenerative diseases**

27 P. Kahle, München
*Transgenic mouse models of α-synucleinopathies*

28 H. Puccio
*Mouse models of Friedreich’s ataxia-models for oxidative stress*

29 B. De Strooper, Leuven (Belgium)
*Integral membrane proteolysis mediated by the presenilin/γ-secretase complex*

30 F. L. Heppner and A. Aguzzi, Zurich (Switzerland)
*Transgenic mouse models of prion disorders*

31 R. Baumeister, München
*Parkinson’s and Alzheimer’s disease in C. Elegans*

32 U. Ueberham, E. Ueberham, R. Gebhardt and T. Arendt, Leipzig
*Inducible neuronal expression of TGF-β1 in transgenic mice*

33 E. Ramminger, U. Ueberham, A. G. Beck-Sickinger, R. Heumann and T. Arendt, Leipzig and Bochum
*Altered expression of plasticity-related genes in syn-ras transgenic mice*
34 S. Cambridge, B. Cürten and T. Bonhoeffer
A caged doxycycline analog for photoactivated gene expression with high spatiotemporal resolution

Symposium: Signal integration in dendrites

35 A. D. Reyes, New York, NY (USA)
Integration of Synaptic inputs: Summation in the subthreshold and suprathreshold ranges

36 J. Magee, New Orleans, LA (USA)
Regulation of local dendritic spike initiation and propagation in CA1 pyramidal neurons

37 M. Larkum, Heidelberg
Dendritic interactions in layer 2/3 neocortical pyramidal neurons

38 M. Häusser, London (UK)
Interactions of action potentials with somatic and dendritic ipsp s

39 T. Berger, Bern (Switzerland)
Electrotonic separation of two spike initiation zones in layer 5 pyramidal cells of the somatosensory cortex: Role of the hyperpolarization-activated current $I_h$

40 G. Stuart and B. Kampa, Freiburg
Dendritic mechanisms involved in spike-timing dependent plasticity

41 N. Benhassine and T. Berger, Bern (Switzerland)
Biophysical properties and distribution of large-conductance calcium-dependent potassium channels in neocortical layer 5 pyramidal neurons

42 W. Senn, H.-R. Lüscher and M. E. Larkum, Bern (Switzerland) and Heidelberg
The gain of L5 pyramidal neurons is larger for distal than for somatic input

43 B. M. Kampa and G. J. Stuart, Freiburg
Dendritic mechanisms involved in spike-timing dependent plasticity

44 E. H. van den Burg, J. Bacelo, L. Gómez, J. Engelmann and K. Grant, Gif sur Yvette (France)
Inhibition of back-propagating spikes in a cerebellum-like sensory structure in the weakly electric fish Gnathonemus petersii, by a general anaesthetic

Symposium: Neuronal death and neuroprotection: The role of glial cells

45 C. Steinhäuser and G. Seifert, Bonn
Functional and molecular changes in astrocytes of human epileptic hippocampus: Relevance to seizure generation

46 J. A. Gorter, E. Hendriksen, E. van Vliet, F. Lopes da Silva and E. Aronica, Heemstede (The Netherlands) and Amsterdam (The Netherlands)
Molecular and immunocytochemical changes in macro- and microglia in a rat model of mesial temporal lobe epilepsy
47 P. Kofuji, Minneapolis, MN (USA)
Dystrophins, syntrophins and glial cell function in retina

48 D. Vivien and A. Buisson, Caen (France)
Can glial cells modulate excitotoxic neuronal injury?

49 A. Reichenbach and M. Francke, Leipzig
Muller cells protect neurons by transfer of glutathione, and by control of extracellular glutamate

50 T. Möller, Seattle, WA (USA)
Microglia: Friend or foe?

51 A. Wallraff, K. Hüttmann and C. Steinhäuser, Bonn
Complete lack of gap junctional coupling in a subpopulation of astrocytes, termed GluR cells, in the hippocampus

Functional NMDA receptors in post-ischemia astrocytes - a possible synaptic target?

Kir channels in the hippocampus: Different expression in distinct types of astrocytes and alterations under pathophysiological conditions

54 S. Walter, S. Kühl, Y. Liu, F. Mühlhäuser, K. Beyreuther and K. Faßbender, Göttingen
Alzheimer's disease. Beta-amyloid induces neuroinflammation via lipopolysaccharide receptor (CD14)

55 A. El Emmam Dief, C. Redecker, G. Metz, A. Aschoff, O. Witte, K. El Sabah and G. Jirikowski, Jena and Alexandria (Egypt)
Histochemical monitoring of apoptosis after cerebral ischemia and reperfusion in rat brain

56 M. Francke, I. Goczalik, D. Schwarze, M. Raap and A. Reichenbach, Leipzig
Neuronal glutathione supply by Müller cells during oxidative stress

57 T. Pannicke, B. Biedermann, O. Uckermann, M. Weick, A. Bringmann, S. Wolf, P. Wiedemann, E. Buse and A. Reichenbach, Leipzig and Münster
Physiological properties of retinal Müller glial cells from the monkey Macaca fascicularis – comparison to human Müller cells

Symposium: Drug addiction: Mechanisms and therapy

58 V. Höltt and S. Ammon, Magdeburg
Gene expression profile in rat brain after chronic morphine treatment

59 A. M. Zimmer, Bonn
Interactions between the opioid and cannabinoid systems
Symposium: Precise timing in the brain: Linking neuronal activity and behaviour

64 M. Abeles, Jerusalem (Israel)
Scales for computational elements in the cortex

65 C. Mehring, M. Nawrot, J. Rickert, A. Riehle, S. Cardoso de Oliveira, E. Vaadia, A. Aertsen and S. Rotter, Freiburg, Marseille (France) and Jerusalem (Israel)
Decoding neuronal population activity associated with arm movements

66 J. Keating, Philadelphia, PA (USA)
Directional information flow in sensorimotor cortex during reaching as revealed by the gravitational transformation

67 P. Thier, P. W. Dicke, R. Haas, S. Barash and N. Catz, Tübingen and Rehovot (Israel)
Encoding of movement time by populations of cerebellar Purkinje cells

68 I. Hore, London, Ontario (Canada)
Precision and timing of motor output

69 V. Braitenberg, Tübingen
Spatio-temporal activity patterns as a key to cerebellar function

70 H. R. Dinse and I. van der Berg, Bochum
What is simultaneous? Tactile coactivation in human subjects reveals requirement for millisecond precision for induction of plastic changes

71 K. H. Kreikemeier, I. van den Berg and H. R. Dinse, Bochum
Effects of timing: Switching cortical map reorganization and perceptual learning

72 C. Oreja-Guevara, R. Gobbélé, F. Darvas, A. Dieckhofer, H. Buchner and K. P. Hoffmann, Bochum, Aachen and Recklinghausen
Electrical source activity and interregional coherences of the human brain during visuomotor tasks

73 P. Ragert, B. Pleger, M. Tegenthoff, A.-F. Foerster, V. Nicolas and H. R. Dinse, Bochum
rTMS elicits tactile discrimination improvement and parallel plastic reorganization in human SI
B. Pleger, P. Ragert, A.-F. Förster, H. Dinse, V. Nicolas and M. Tegenthoff, Bochum

*Functional magnetic resonance imaging of the human brain: Cortical reorganization controls somatosensory short-term learning*

B. Hedwig, Cambridge (UK)

*Coding of pattern recognition*

D. Suchanek, F. Kuemmel, A. Aertsen and D. Heck, Freiburg

*Investigating cortical network dynamics with combined intracellular and multi-electrode extracellular recordings*

F. Sultan and D. Heck, Tübingen and Freiburg

*Detection of sequences in the cerebellar cortex: Numerical estimate of the possible number of sequences represented*

F. Sultan and S. Rotter, Tübingen and Freiburg

*Simulating the cerebellar tidal-wave – variability in axonal conduction velocity constrains noisy inputs*

**Symposium: Ontogenetic cell death in the nervous system**

G. Haase, C. Raoul, D. W. Cleveland, S. Corby, E. Buhler, C. E. Henderson and B. Pettmann, Marseill (France) and San Diego, CA (USA)

*Motoneuron death through the Fas/NO pathway*

A. Martin-Villalba, D. Demjen, S. Kleber, C. Zuliani and P. H. Krammer, Heidelberg

*The role of CD95-Ligand in the nervous system*

D. James, P. Parone, S. Montessuit, X. Roucou and J.-C. Martinou

*Aptoptosis: Confusing the mitochondria*

A. I. Valenciano, R. Mayordomo, C. Segundo, F. Hallböök, F. De Pablo and E. J. De la Rosa, Madrid (Spain)

*Regulation of programmed cell death during early neural development*

K. Krieglstein

*TGF-β is a key regulator in ontogenetic neuron death*

N. Dünker and N. Schuster, Göttingen and Homburg

*TGF-β modulated programmed cell death in the developing retina*

E. Aden, Hamburg

*Apoptosis determines the ontogenetic regression of the cave fish eye*

J. Dorszewska and Z. Goncerzewicz, Poznan (Poland)

*The oxidative DNA damage and repair (p53) in rat brain aging*
Symposium: Arthropod neural and motor systems: From development to function and mechanics

87 M. Bate, Cambridge (UK)
*Neural networks and behaviour in the* Drosophila *embryo*

88 C. Consoulas, Athens (Greece)
*A steroid-regulated gene is required for dendritic growth of motoneurons during metamorphosis of* Drosophila *melanogaster*

89 C. Duch and T. Mentel, Berlin
*Stage-specific activity patterns affect motoneuron structure during* Manduca *metamorphosis*

90 R. Strauß, Würzburg
*Control of* Drosophila *walking and orientation behavior by functional subunits localized in different neuropils of the central brain*

91 H. Pflüger, T. Mentel, C. Duch, G. Wegener, H. Stypa and U. Müller, Berlin and Mainz
*Fuel selection in locust flight muscle by the activity of neuromodulatory neurons*

92 F.-O. Lehmann, Ulm
*The control of vorticity in flying drosophila*

93 S. Schönknecht, C. Duch, M. Scholz, J.-F. Evers and K. Obermayer
*Multi compartment model of developmental changes in dendritic shape during postembryonic motoneuron development*

94 P. Burkert and C. Duch, Berlin
*Changes in CaM kinase II activity and localization correlate with distinct phases of motoneuron dendritic growth during Manduca metamorphosis*

95 J. F. Evers, D. Münch and C. Duch, Berlin
*Metric analysis of growth-cones during dendritic remodeling of an identified flight motoneuron in* Manduca *sexta*

*Postembryonic growth of a first order interneuron in a developing sensory-motor circuit - A morphometric analysis*

97 E. Heidel and H.-J. Pflüger, Berlin
*Transient potassium currents in identified subtypes of octopaminergic dorsal unpaired median (DUM-) neurons isolated from locust thoracic ganglia*

98 S. Schmitt, J. F. Evers, M. Scholz, K. Obermayer and C. Duch, Berlin
*From voxels to model: Automatic reconstruction of neurons from confocal images*

99 M. C. Göpfert, H. Stocker and D. Robert, Bristol (UK) and Zurich (Switzerland)
*Genetically linked formations of sensory and accessory components in the auditory system of Drosophila*
100  M. C. Göpfert and D. Robert, Bristol (UK)
Mechanical activity of Drosophila mechanosensory neurons

101  A. Prokop, G. M. Technau, B. Küppers, R. Löhr, K. Lüer, M. Mende and
N. Sánchez-Soriano, Mainz
From the NMJ into the CNS – Synapse and circuit formation in fruitflies

102  S. Pick and R. Strauss, Würzburg
Towards the neuronal substrates underlying insect climbing behavior –
a high-speed 3D-video analysis of normal and mutant fruit flies

Symposium: Adult neurogenesis

103  G. Kempermann, Berlin
From progenitor cells to new neurons in the adult brain: Possible functions for
adult hippocampal neurogenesis

104  H. G. Kuhn, Regensburg
Adult neurogenesis: A balance of proliferation and cell death

105  J. Priller, Berlin
Engraftment of bone marrow-derived cells in the murine CNS

106  O. D. Wiestler, Bonn
Evidence for neurogenesis in human temporal lobe epilepsy

107  M. H. Höhn
How to track neurogenesis and stem cell activity in the adult brain

108  N. Braun, J. Sévigny, S. K. Mishra, S. C. Robson, S. W. Barth, R. Gerstberger,
K. Hammer and H. Zimmermann, Frankfurt am Main, Sainte-Foy, Quebec
(Canada), Boston, MA (USA), Karlsruhe and Gießen
The ecto-ATPase NTPDase2 is expressed in the germinial zones of the developing
and adult rat brain

Symposium: Invasive recording from the human brain: Linking
clinical applications with neurobiological research

and V. Sturm, Hamburg, Jülich, Bonn and Köln
Microelectrode recordings from the human basal ganglia

110  P. Brown, M. Cassidy and D. Williams, London (UK)
Task-related coherence in Parkinson’s disease

111  G. Fernandez, J. Fell, P. Klaver and C. E. Elger
Rhinal-hippocampal coupling during human memory formation

112  J.-P. Lachaux
Increase of high-frequency (>150 Hz) intracranial EEG activity during face
perception in humans
I. Fried, Los Angeles, CA (USA)
Dynamics of single neurons in the human medial temporal lobe during perception and memory tasks

Symposium: Longterm potentiation and longterm depression of nociceptive CNS processing

T. Bliss, London (UK)
Long-term potentiation after 30 years - where do we stand?

A. J. Artola, Antwerp (Belgium)
Use-dependent synaptic plasticities in hippocampus and visual cortex

W. Ziegglänsberger, München
Extinction of aversive memory - a role for endocannabinoids?

J. Sandkühler, Vienna (Austria)
Synaptic LTP and LTD in spinal pathways

W. Magerl, Mainz
LTP- and LTD like plasticity of human pain perception

U. Ziemann, Frankfurt am Main
LTP-like plasticity in intact human motor cortex. Investigations with transcranial magnetic stimulation

A. J. Artola, Antwerp (Belgium)
Use-dependent synaptic plasticities in hippocampus and visual cortex

U. Ziemann, Frankfurt am Main
LTP-like plasticity in intact human motor cortex. Investigations with transcranial magnetic stimulation

A. Tappe, D. Hirlinger, J. Benrath and R. Kuner, Heidelberg
Selective induction of Homer1a in spinal neurons during pathological pain states via activation of NMDA receptors and Erk1/2

E. P. Kostyuk, Kiev (Ukraine)
Changes in neuronal calcium signalling during diabetic pathology

Symposium: Towards a molecular understanding of behavior

R. Harris-Warrick, Ithaca, NY (USA)
Potassium channels and the control of a rhythmic behavior

D. Parker and S. Bevan, Cambridge (UK)
Cellular and synaptic effects contributing to long-term neuropeptide-mediated modulation of a spinal cord locomotor network
R. Heinrich, Göttingen
Selection and control of behavior by intracellular signaling pathways in the insect brain

U. Müller, Berlin
Second messenger cascades: Major mediators of memory formation

E. A. Kravitz, S. Chen and A. Y. Lee, Boston, MA (USA)
Fighting Fruit Flies: A model system for the study of aggression

L. J. Young, Atlanta, GA (USA)
Vasopressin and social attachment in a monogamous mammal

K. Hoffmann, B. Wenzel, C. Günther, N. Elsner and R. Heinrich, Göttingen
The potency of acetylcholine to activate muscarinic receptors in the brain of grasshoppers

B. Wenzel, C. Günther, R. Lakes-Harlan, N. Elsner and R. Heinrich, Göttingen
Grasshopper acoustic communication behavior is inhibited by activation of the NO-/cGMP- signaling pathway in the brain

H. Rolf and M. Hoerner, Göttingen and Hong Kong SAR (China)
Fight or flight? Octopamine effects on the cricket escape pathway

M. Seifert, M. Gewecke and T. Roeder, Hamburg and Würzburg
The tyramine receptor of Caenorhabditis elegans

V. Dyakonova, A. Kruschinski and D. Sakharov, Moscow (Russian Federation)
To mate or to fight? Effects of flight on male-female relationships in cricket Gryllus bimaculatus

U. Werner, K. Volkmann and H. Scholz, Würzburg
Functional dissection of the octopaminergic neurotransmitter system in ethanol tolerance in Drosophila

Symposium: Peptide co-transmitters in identified neurons

H. Dircksen, Bonn
Differential distributions and functions of orcokinins and orcomytotropin, novel partially co-localized peptides, in crayfish sensory, motor, interneuronal and neurosecretory cells

V. Fénelon, Y. Lefeuvre and P. Meyrand, Talence (France)
Ontogeny of modulatory systems

P. Skiebe, Berlin
Multiple members of a peptide family are present in single identified neurons

S. Kreissl, Konstanz
Antagonistic modulation of muscle contraction by two co-localised peptides
W. Stein, Ulm

Convergence and divergence of peptide cotransmitter actions: Functional consequences in a multifunctional network

A. A. Prinz, Waltham, MA (USA)

Dissecting and modeling the actions of neuromodulatory peptides on multiple targets in a network of identified neurons

V. Fenelon, Y. Lefevre and P. Meyrand, Talence (France)

Ontogeny of modulatory systems

Symposium: Early environmental programming: Molecular, neuroanatomical, neuroendocrine and behavioural effects

J. R. Seckel, Edinburgh (UK)

Prenatal glucocorticoid programming of adult brain and body


Effects of parental separation on the maturation of limbic circuits

P. M. Plotsky, Atlanta, GA (USA)

Adaptive neuroplasticity to perinatal stressors: Morphology, neurobiology and behavior

M. Schmidt, M. Oitzl, F. Ohl, M. Mueller, W. Wurst, S. Levine, F. Holsboer and R. De Kloet, Leiden (The Netherlands), Munich and Davis, CA (USA)

Molecular and neuroendocrine effects of maternal deprivation in mice lacking the CRH receptor type 1

I. D. Neumann, Regensburg

Effects of early life stress: Dependency on gender and the genetic predisposition to high and low anxiety


Setting apart the affected: The use of behavioral criteria in animal models of Acute Stress Response and Post Traumatic Stress Disorder

W. Ovtscharoff jr and A. K. Braun, Magdeburg

Quantitative analysis and 3D-reconstruction of neuronal and synaptic structures from serial sections

M. Gruss and K. Braun, Magdeburg

Consequences of maternal separation during different stages of early development on HPA axis activity in three week old rats

L.-T. Boenke, J. Bock and A. K. Braun, Magdeburg

Early traumatic experience alters metabolic brain activity in thalamic, hypothalamic and prefrontal cortical brain areas of Octodon degus
Symposium: New forms of cerebellar signaling

153 A. Marty, M. Diana and C. Levenes, Paris (France)
Mechanisms of retrograde synaptic modulation at interneurone-Purkinje cell synapses

Retrograde modulation of synapses by endocannabinoids

155 M. Kano, T. Maejima, T. Yoshida, M. Yamasaki and K. Hashimoto, Kanazawa (Japan)
Endocannabinoid-mediated retrograde signaling triggered by activation of postsynaptic metabotropic glutamate receptors in cerebellar Purkinje cells

156 I. Liano, A. Marty, R. Conti and Y. P. Tan, Paris (France) and Istambul (Turkey)
Probing the role of intracellular calcium stores in presynaptic calcium signalling

157 J. Hartmann and A. Konnerth, München
BDNF-mediated rapid signaling in cerebellar Purkinje cells

158 M. Häusser, London (UK)
Dendritic integration in cerebellar Purkinje cells

159 H. Heuer and C. A. Mason, New York, NY (USA)
Role of thyroid hormone in Purkinje cell dendritic development

160 J. Chavas and A. Marty, Paris (France)
Mixed excitatory/inhibitory effect of GABA_A synapses in the cerebellum

Symposium: Complex sensory processing in the vertebrate midbrain

161 O. Güntürkün and B. Hellmann, Bochum
From retinotopy to functionotopy: Structural organization of parallel information processing within the tectofugal visual system of pigeons

162 H. Luksch, Aachen
Complex sensory processing in projection neurons of the chick optic tectum: Anatomy, physiology and connectivity

163 M. Schmidt, Bochum
Local inhibitory mechanisms control information flow in the mammalian superior colliculus

Role of neural synchrony for response selection in the superior colliculus

165 A. King, R. Campbell, T. Doubell, F. Nodal, O. Kacelnik and J. Schnupp, Oxford (UK)
Computing a neural representation of auditory space in the mammalian superior colliculus

166 B. H. Gaese, Frankfurt am Main
Cognitive influences on auditory processing in the vertebrate midbrain
167 B. Mönig and H. Luksch, Aachen
*Primary Culture of Cells from the optic tectum of the Chick: Establishment and characterisation*

168 H. Luksch, Aachen
*Neuronal computation in the avian optic tectum: A compilation of neuron types, their connections and transmitters*

169 H. Luksch and R. Wessel, Aachen and Saint Louis, MO (USA)
*Synaptic depression in motion-sensitive SGC-neurons of the chick optic tectum: Physiological data and modelling*

170 M. Manns, B. Hellmann and O. Güntürkün, Bochum
*Separation of ascending and descending tectal projections within the tectofugal pathway of the pigeon*

171 S. Moeller and B. H. Gaese, Aachen
*Auditory attention and spatial selection behaviour effect the neuronal activity in the superior colliculus in rats*

**Symposium: Function and dysfunction of the amygdala: Fear and epilepsy**

172 D. M. Yilmazer-Hanke, I. Blümcke, H. Faber-Zuschratter, A. F. Aliashkevich and H. Schwegler, Magdeburg, Erlangen and Bonn
*Cellular and structural alterations leading to increased excitability of the amygdala in human temporal lobe epilepsy*

173 P. Shinnick-Gallagher, Galveston, TX (USA)
*The amygdala in the maintenance of learned fear*

174 D. Albrecht, O. von Bohlen und Halbach and M. Schubert, Berlin and Heidelberg
*Effects of amygdaloid kindling on post-ictal plasticity in the lateral nucleus of the amygdala*

175 K. Majak and A. S. Pitkänen, Kuopio (Finland)
*Amygdalo-hippocampal connectivity and its activation during fear conditioning*

176 E. S. Asan and M. Eliava, Würzburg
*Monoaminergic afferents and their targets in the rat amygdala: Implications for stress and fear responses*

177 R.-L. Gal, R. M. Vouimba, D. Yaniv and D. Diamond, Haifa (Israel) and Tampa, AZ (USA)
*Emotional modulation of memory - Stress modulation of plasticity in the hippocampus and amygdala*

178 O. Stork and H.-C. Pape, Magdeburg
*Molecular mechanisms of fear memory: Gene expression and transgenic approaches*
Functional and molecular characterization of neurons in the human lateral amygdala

Potentiation of amygdaloid and hippocampal auditory evoked potentials in a discriminatory fear-conditioning task as a function of context and tone pattern

181  P. G. Kostyuk, V. M. Shkryl and E. A. Lukyanetz, Kiev (Ukraine)  
Selective blocking of n-type calcium channels of hippocampal neurons by antiepileptic drug levetiracetam

182  R. Laxmi, T. Seidenbecher, R. Linke, O. Stork and H.-C. Pape, Magdeburg  
Synchronization of amygdalar and hippocampal θ oscillations during retrieval of Pavlovian fear memory

183  S. Meis, L. Sosulina and H.-C. Pape, Magdeburg  
Characterization of somatostatin effects in the rat lateral amygdala

184  K. Kamprath and C. T. Wotjak, München  
Short- and long-term adaptation to aversive situations in C57BL/6JOLAHzd mice

185  E. S. Asan and A. Schmitt, Würzburg  
Comparative immunolabeling for corticotropin-releasing factor (CRF) and monoaminergic afferents in mouse and rat amygdaloid complex

Symposium: Transsynaptic signalling at central glutamatergic synapses

186  T. Bonhoeffer  
Activity dependent plasticity: Neurotrophins and morphological changes at the synaptic level

187  V. Leßmann, Mainz  
Synaptic targeting and secretion of neurotrophins

188  A. Konnerth, München  
Regulation of glutamatergic transmission through BDNF-evoked dendritic depolarization

189  R. Klein  
Ephrins and Eph receptors in neuronal development and synaptic plasticity

190  K. Jüngling, R. Moore, R. Kemler and K. Gottmann, Bochum and Freiburg  
Regulation of presynaptic function by synaptic adhesion molecules: Role of N-cadherin

191  C. Göritz, R. Thiebaut, D. Mauch and F. W. Pfrüger, Strasbourg (France)  
Role of cholesterol in synapse development

192  A. Konnerth, München  
Regulation of glutamatergic transmission through BDNF-evoked dendritic depolarization
Symposium: Molecular basis of axonal damage in inflammatory and degenerative CNS diseases

193 J. Götz, Zürich (Switzerland)
Linking β-amyloid plaques to neurofibrillary tangle formation in an Alzheimer's disease mouse model

194 H. Perry, Southampton (UK)
Inflammation in the CNS and its potential to trigger an axon "self destruct" programme

195 M. Kerschensteiner, Zurich (Switzerland)
Early aspects of axonal damage in spinal cord injury

196 W. Brück, Göttingen
Axonal pathology in multiple sclerosis

197 K.-A. Nave, Göttingen
Role of oligodendrocytes in axonal support and myelination

198 O. Brüstle, Bonn
Stem cell-based therapy of demyelinating diseases

199 R. Diem, M. Hobom, K. Maier, R. Weissett, M. K. Storch, R. Meyer and M. Bähr, Göttingen, Tübingen, Graz (Austria) and Regensburg
Methyprednisolone increases neuronal apoptosis during chronic inflammatory disease of the CNS by inhibition of an endogenous neuroprotective pathway

200 M. Hobom, R. Weissett, M. K. Storch, K. Maier, A. Radhakrishnan, B. Kramer, M. Bähr and R. Diem, Göttingen, Tübingen and Graz (Austria)
Mechanisms and time course of neuronal and axonal pathology in experimental autoimmune encephalomyelitis

201 E. A. Lukyanetz, R. I. Stanika, L. M. Koval, E. N. Yavorskaya, O. V. Kravchuk and P. G. Kostyuk, Kiev (Ukraine)
Hypoxia-induced increase of intracellular calcium concentration in DRG neurons

202 S. Michalak and Z. Goncerzewicz, Poznan (Poland)
Heat shock protein 70 (Hsp 70) expression in cerebellum in relation to ATP-ases activities in Morris hepatoma bearing rats

Symposium: Neurotrauma: A trigger for schizophrenia

203 D. Malaspina
Neurotrauma and schizophrenia: Epidemiology

204 A.-L. Siren and H. Ehrenreich, Göttingen
Late consequences of neurotrauma

205 J. Price, M. Ilia, A.-L. Sirén and H. Ehrenreich, London (UK) and Göttingen
Oct-6, neural damage, and schizophrenia
206  J. Giedd and P. Thompson, Bethesda, MD (USA) and Los Angeles, CA (USA)  
*Cortical gray-matter deficits in schizophrenia*

207  P. Falkai  
*The neuropathological basis pointing at a progressive illness in schizophrenia*

208  T. Pollmächer, Munich  
*The involvement of cytokines in the pathophysiology of schizophrenia*

**Symposium: German-Israeli cooperation in neuroscience**

209  A. Grinvald, Rehovot (Israel)  
*Imaging spatio-temporal dynamics of surround inhibition in the barrels somatosensory cortex*

210  H. Bergman, Jerusalem (Israel)  
*Role of neural dynamics in Parkinson's disease – comparative physiological studies in the primate basal ganglia*

211  Y. Yaari and H. Beck  
*Plasticity of intrinsic neuronal excitability in hippocampal principal neurons following status epilepticus*

212  F. Zipp, O. Aktas, V. Osmanova, S. Brocke and R. Nitsch, Berlin and Jerusalem (Israel)  
*Regulation of neuronal apoptotic cell death in autoimmune inflammatory disorders of the central nervous system*

213  F. Bronfman, M. Tcherpakov, S. Hanz, E. Perlson, T. Jovin and M. Fainzilber  
*Retrograde signaling in healthy and injured neurons*

214  Y. Yarom, N. Sagiv and M. Belenky, Jerusalem (Israel)  
*GABA, chloride and circadian rhythm*

*Encephalitogenic T cells induce neuronal cell death in autoimmune encephalomyelitis via TRAIL*

216  O. Zhang, G. Oleschko and F. Nürnberg, Frankfurt  
*Diurnal reactivity patterns of glutamic-acid decarboxylase in the suprachiasmatic nucleus of the golden hamster*

217  G. Oleschko, O. Zhang and F. Nürnberg, Frankfurt  
*The suprachiasmatic GABA neuron: Relation of input and output factors with the day-night cycle*

*CNS Recruitment of Pathogenic T Lymphocytes by CXCL12 expressed at the apical brain endothelium*
S. Franitza, V. Osmanova, V. Grabovsky, M. Ratner, F. Zipp, A. Peled, R. Alon and S. Brocke, Jerusalem (Israel)
*Differential regulation of vla-4 on encephalitogenic cd4+ and cd8+ t cells by the lymphoid chemokines ccl19 and slc (ccl21)*

P. S. Cherkas, M. Weick, W. Härtig, A. Bringmann, M. Tal, A. Reichenbach, M. Hanani and T. Pannicke, Jerusalem (Israel) and Leipzig
*P2 receptors in satellite glial cells in trigeminal ganglia of mice*

G. Zündorf, M. Tulapurkar, V. Nahum, B. Fischer and G. Reiser, Magdeburg
*Novel adenosine 5'-O-(1-boranotriphosphate) derivatives induce subtype specific internalization of P2Y receptors*

F. Burchert, N. Friedmann and R. De Bleser, Potsdam
*Agreement morphology does not help comprehension in agrammatism: A study of German and Hebrew*

I. Wartenburger
*Processing sentences with and without movement of phrasal constituents – an event related fMRI study*

E. Ofek and H. Pratt, Haifa (Israel)
*The effect of emotionally loaded distracters on neural activity ERP study of a cued attention task with verbal distracters*

**Symposium: Attention on vision: Attentional modulation of sensory information processing in man and monkey**

H. Deubel, München
*Attention and awareness in goal-directed eye and hand movements*

S. Treue, Göttingen
*The physiology of attention in the “where” pathway: Location, features and objects*

P. Fries, Nijmegen (The Netherlands)
*The physiology of attention in the “what” pathway: Oscillatory neuronal synchronization and firing rates*

S. Kastner, Princeton, NJ (USA)
*Mechanisms of visual attention in the human brain*

J. Braun, Plymouth (UK)
*Attention as a bottom-up process*

A. Gieselmann, W. Kruse, S. Dannenberg and K.-P. Hoffmann, Bochum
*The role of the primate area mt in manual tracking tasks*

S. Katzner, F. Pieper and S. Treue, Göttingen
*Attentional and sensory influences on visual motion detection and discrimination thresholds*
L. Busse and M. G. Woldorff, Göttingen and Durham, NC (USA)
Visual spatial attention modulates ERP brain responses to mislocated task-irrelevant tones in the ventriloquism illusion

J. C. Martínez-Trujillo, A. Rotenstein, J. K. Tsotsos, S. Treue and H. R. Wilson, Toronto, Ontario (Canada) and Göttingen
Spike frequency adaptation may explain attentional effects in visual neurons

O. Gruber, S. Karch and T. Goschke, Ulm
Neural mechanisms of conflict-triggered inhibition of distracting perceptual dimensions during task-switching

Mechanoreception and somatosensory systems

V. Dürr, M. Gebhardt and J. Schmitz, Bielefeld and Garching
Components of an antennal mechanosensory pathway in the stick insect

M. Klar and K.-P. Hoffmann, Bochum
How are the rainbow trout's pretectal direction-selective neurons involved in the optokinetic reflex?

B. Schönebeck, X. Zhu, H. Lübbert and C. Stichel, Bochum and Leverkusen
Serum and glucocorticoid-regulated kinase: A differentially expressed gene in a MPTP-model of Parkinson's disease

F. Yildiz and M. Gebhardt, Garching
Complex innervation of the second antennal segment of crickets

E. Tousson and R. Hustert, Göttingen
Innervation, distribution and central projections of the paraproctal sense organs in the female desert locust

E. Gingl and A. S. French, Halifax, Nova Scotia (Canada)
Conduction of receptor current through the sensory dendrite of a spider mechanoreceptor neuron

U. Höger and A. S. French, Halifax, Nova Scotia (Canada)
Extracellular pH modulates receptor current in a spider mechanoreceptor

C. Vahle-Hinz, C. Hackner, M. Siemens and O. Detsch, Hamburg and München
How addition of nitrous oxide to isoflurane anesthesia affects sensory processing in rats

R. Zimmermann and E. Scharein
Motor task reduces pain evoked cortical activity: A combined EEG-MEG study

K. Schoch, P. A. Stevenson and K. Schildberger, Leipzig
Three-dimensional neurochemical architecture of a novel mechanosensory neuropil in the cricket brain

K. Draslar and A. Skorjanc, Ljubljana (Slovenia)
Functional properties of trichobotria in the bug Pyrrhocoris apterus
<table>
<thead>
<tr>
<th>Page</th>
<th>Authors and Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>246</td>
<td>P. A. Gargiulo, M. Acerbo, I. Krug and J. D. Delius, Mendoza (Argentina) and Konstanz</td>
</tr>
<tr>
<td></td>
<td><em>Action of metabotropic group ii/iii glutamatergic blockade in the nucleus accumbens septi in pigeons in a visual discrimination task</em></td>
</tr>
<tr>
<td></td>
<td><em>Effects of increasing doses of cycloleucine injected into the nucleus accumbens in the plus maze test in rats</em></td>
</tr>
<tr>
<td></td>
<td><em>Effects of increasing doses of dizocilpine injected into the nucleus accumbens in the plus maze test in rats</em></td>
</tr>
<tr>
<td>249</td>
<td>G. Baiardi, M. I. Acerbo, E. Flores, G. W. Martínez, A. I. Landa and P. A. Gargiulo, Mendoza (Argentina)</td>
</tr>
<tr>
<td></td>
<td><em>Effects of selective glutamatergic ionotropic blockades in the nucleus accumbens in a working memory test</em></td>
</tr>
<tr>
<td>250</td>
<td>H. Schuppe and P. Newland, Southampton (UK)</td>
</tr>
<tr>
<td></td>
<td><em>Presynaptic afferent depolarization in crayfish mechanosensory afferents is modulated by nitric oxide</em></td>
</tr>
<tr>
<td>251</td>
<td>P. Newland, E. Hunt and C. Jackson, Southampton (UK)</td>
</tr>
<tr>
<td></td>
<td><em>Can cockroaches detect electric fields?</em></td>
</tr>
<tr>
<td>252</td>
<td>E. Tousson, Tanta (Egypt)</td>
</tr>
<tr>
<td></td>
<td><em>Innervation, distribution and central projections of the paraproctal sense organs and their role during oviposition and mating behaviors in the female desert locust (Schistocerca gregaria)</em></td>
</tr>
<tr>
<td>253</td>
<td>S. Sommer and R. Wehner, Zürich (Switzerland)</td>
</tr>
<tr>
<td></td>
<td><em>How does the precision of the ant's odometer depend on the distances travelled?</em></td>
</tr>
</tbody>
</table>

**Muscle, motor and sensorimotor systems**

<table>
<thead>
<tr>
<th>Page</th>
<th>Authors and Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>254</td>
<td>J. Zakotnik, T. Matheson and V. Dürr, Bielefeld and Cambridge (UK)</td>
</tr>
<tr>
<td></td>
<td><em>Self-adapting model-based motion capture system for the analysis of insect movements</em></td>
</tr>
<tr>
<td>255</td>
<td>A. Krause and V. Dürr, Bielefeld</td>
</tr>
<tr>
<td></td>
<td><em>Efficient movement strategies for insect antennae: A modelling study on active tactile sensors</em></td>
</tr>
<tr>
<td>256</td>
<td>B. Blaesing and H. Cruse, Bielefeld</td>
</tr>
<tr>
<td></td>
<td><em>Stick insect locomotion in a complex environment: Climbing over large gaps</em></td>
</tr>
<tr>
<td>257</td>
<td>W. Lindner and K.-P. Hoffmann, Bochum</td>
</tr>
<tr>
<td></td>
<td><em>Different arm-movement vectors during an eye-hand-task affect the activity of single saccadic neurons in the superior colliculus of a macaque monkey</em></td>
</tr>
</tbody>
</table>
C. Bonato, F. Tecchio, P. Pasqualetti, F. Zappasodi, C. Miniussi and P. Rossini, Brescia (Italy), Roma (Italy) and Rome (Italy)
Spontaneous modulation of human motor cortex excitability: Noise or rhythm?

K. L. Page and T. Matheson, Cambridge (UK)
Sensory inputs and the control of aimed leg movements in the locust

J. S. Young, L. S. Peck and T. Matheson, Cambridge (UK)
Temperature sensitivity of motor behaviour and its neurophysiological control in marine crustaceans from different thermal environments

G. Wannemacher and L. T. Wasserthal, Erlangen
Contribution of the maxillary muscles to proboscis movement in hawkmoths (Lepidoptera: Sphingidae) - an electrophysiological study

F. Funke and R. Hustert, Göttingen
Cooperation and leg motor control of the graviceptive interneuron pair in the cricket CNS

Melatonin: A candidate compound for neuroprotection in amyotrophic lateral sclerosis (ALS)

A. G. Fleischer and K. Beckert, Hamburg
Anticipation of dynamic targets during eye-hand-coordination

L. Komissarow, K. Krampfl, B. Mohammadi, R. Dengler and J. Bufler, Hannover
Mirror movements, mirrored EMG activity and ipsilateral MEPs in ALS patients

R. Drori, Jerusalem (Israel)
Directional tuning of motor cortical neurons during continuous and reaching movements

M. Göritz and J. Schmidt, Köln
Intersegmental effects of a leg joint receptor on leg motoneurons in the stick insect

J. P. Gabriel, H. Scharstein and J. Schmidt, Köln
Recruitment of flexor tibiae motoneurons during walking-like movements of the stick insect

Z. P. Shuranova and Y. M. Burmistrov, Moscow (Russian Federation)
Behavioral and ventilatory reactions to illumination in free moving crayfish, procambarus cubensis

N. Lehnen, S. Glasauer and U. Büttner, München
Eye-head coordination: Challenging the system by increasing head inertia

A. C. Eberhorn, A. K. E. Horn, A. Messoudi and J. A. Büttner-Ennever, München
Twitch and non-twitch motoneurons of extraocular muscles have different histochemical properties

O. Bayer, T. Eggert, Y. F. Guan and U. Büttner, München
Do saccades to stationary targets differ from those to moving targets?
Comparison between monophasic and biphasic transcranial magnetic stimulation of the human motor cortex

Effects of transient transcranial direct currents over the human hand motor area

276 C. R. Smarandache and W. Stein, Ulm
A sensory neuron in a positive feedback loop and its influence on a central pattern generator

277 E. Horn, L. Gualandris-Parisot, C. Dournon and S. Böser, Ulm, Toulouse (France) and Vandoeuvres-les-Nancy (France)
Does gravity deprivation modify the development of the Xenopus laevis vestibuloocular and spinal motor system in a correlated manner?

278 B. Sybille, C. Dournon, L. Gualandris-Parisot and E. Horn, Ulm, Vandoeuvre-les-Nancy (France) and Toulouse (France)
The effect of altered gravity on the locomotor pattern during the early development of tadpoles (Xenopus laevis)

279 S. N. Fry, R. Sayaman and M. H. Dickinson, Zürich (Switzerland) and Pasadena, CA (USA)
Biomechanics of free flight control in Drosophila

Rhythmogenesis and motor pattern generation

280 A. Schneider, H. Cruse and J. Schmitz, Bielefeld
Using local positive feedback for compliant motion in a multi-joint limb

281 M. Gruhn and R. M. Harris-Warrick, Ithaca, NY (USA)
Properties of delayed rectifier-type currents in cells of the pyloric circuit of the STG in the spiny lobster, Panulirus interruptus

282 A. Krause and A. Büschges, Cologne
Contribution of intra- and intersegmental signals to the generation of fin motoneuron activity in the lamprey spinal locomotor network

283 A. Büschges, B. Ludwar, R. A. DiCaprio, D. Bucher and J. Schmidt, Cologne and Athens, OH (USA)
Generation of alternating motoneuron activity in the deafferented stick insect walking system

284 A. Borgmann, H. Scharstein and A. Büschges, Köln
Intersegmental coordination of walking in the stick insect Carausius morosus: The influences of a single walking leg on the motoneurons of the other segments

285 B. C. Ludwar and A. Büschges, Köln
Intersegmental influences on motoneurons and interneurons for the coordination of walking movements
Audition, vibration and communication in invertebrates

R. M. Hennig, Berlin
Acoustic pattern recognition in crickets: A template matching mechanism?

T. Gollisch and A. V. M. Herz, Berlin
The What and How of temporal integration in an insect auditory system

S. Watzl, A. Rokem, T. Gollisch and A. V. Herz, Berlin
Coding capacities of auditory receptor cells under different stimulus conditions

S. Wohlgemuth, C. Machens and B. Ronacher
Discrimination of natural grasshopper songs by auditory interneurons

R. Schaette, T. Gollisch and A. V. M. Herz, Berlin
Variability in spike trains of locust auditory receptor neurons under constant and dynamic stimulation

A. Franz and B. Ronacher
The effects of stimulus rise time on temporal modulation transfer functions

J. F. Stout, J. Jeffery, L. Hartwig, M. Mapoma and G. Atkins, Berrien Springs, MI (USA)
Processing by prothoracic auditory interneurons – a basis for changes in calling song responsiveness of female crickets: A comparison of three species

J. F. Stout, J. Jeffery, E. Dashner, M. Johnson, M. Chung and G. Atkins, Berrien Springs, MI (USA)
Short term changes in calling song recognition and its underlying neuronal processing: A comparison of three cricket species

G. I. Atkins, B. Navia, M. Sickler and J. Stout, Berrien Springs, MI (USA) and Loma Linda, CA (USA)
Short term changes in calling song recognition of crickets and its underlying neuronal processing: Pharmacological evaluation

J. Molina and A. Stumpner, Göttingen
The effect of single cell killing in the auditory network of a bushcricket, Ancistusra nigrovittata (Orthoptera: Phaneropterae)

M. Hartbauer and H. Römer, Graz (Austria)
A method for correlating neuronal responses to sound signals in complex habitat noise

I. Peharz, M. Hartbauer and H. Römer, Graz (Austria)
The contribution of different auditory receptor cell groups to acoustic startle responses in the locust flight
300 J. Strauss and R. Lakes-Harlan, Göttingen
*Development of the auditory system of Mecopoda elongata (Orthoptera)*

301 R. Lakes-Harlan, Göttingen
*Fungal control of sexual behaviour*

302 A. Fölsch and R. Lakes-Harlan, Göttingen
*Habituation of the startle response of Gryllus bimaculatus (Orthoptera)*

303 T. De Vries, H. Stölting, A. Stumpner and R. Lakes-Harlan, Göttingen
*Is the auditory sense of male Emblemasoma auditrix (Diptera) useless?*

304 T. De Vries and R. Lakes-Harlan, Göttingen
*Phonotaxis of E. Auditrix using discontinuous signals*

305 A. Stumpner, Göttingen
*Processing of sounds by sensory cells and interneurons: The insect as a model for vertebrates?*

306 T. Fregin and K. A. Wiese, Hamburg
*Does Krill use bioluminescence for communication?*

307 J. Rillich, P. A. Stevenson and K. Schildberger, Leipzig
*Intruder resident aggression in crickets - first insights into underlying mechanisms*

308 J. Rillich, P. A. Stevenson and K. Schildberger, Leipzig
*Opponent assessment in aggressive encounters between crickets*

309 N. Stritih, A. Stumpner and A. Cokl, Ljubljana (Slovenia) and Göttingen
*Vibration sensitive interneurones of the primitive ensiferan (Troglophilus neglectus, Rhaphidophoridae) and their homology to acoustic interneurones of Ensifera*

310 M. Zorovic, M. Virant-Doberlet and A. Cokl, Ljubljana (Slovenia)
*The vibratory interneurons in the central ganglion of the southern green stinkbug Nezara viridula (L.) (Heteroptera: Pentatomidae)*

311 T. Weber, M. C. Goepfert, H. Winter, U. Zimmermann, D. Robert, H. Kohler, A. Meier, O. Hendrich, K. Rohbock and M. Knipper, Tübingen, Bristol (UK) and Zurich (Switzerland)
*Homologues of the motor protein prestin in lower vertebrates and insects*

**Audition and vocalization in lower vertebrates**

312 M. Knirsch, J. Engel and A. Rusch, Tübingen
*Electrophysiological Characterisation of Hair Cells from the Hearing Organ of the Zebrafish (Danio rerio) reveals two different Types of Potassium Currents*

313 D. T. Plachta and A. N. Popper, Aachen and College Park, MD (USA)
*Neuronal encoding of ultrasonic stimulation in a fish*
G. A. Manley and D. L. Kirk, Garching and Nedlands (Australia)
*Effects of BAPTA in Scala media on the spectra of lizard spontaneous otoacoustic emissions*

H. Endepols, J. Schul, H. C. Gerhardt and W. Walkowiak, Köln and Columbia, MO (USA)
*6-OH-Dopamine lesions in anuran amphibians*

J. Christensen-Dalsgaard
*Directional characteristics of auditory nerve fibers in the gray tree frog, Hyla versicolor.*

C. Brandt and J. Christensen-Dalsgaard, Odense M (Denmark)
*The origin of directional sensitivity in low frequency auditory nerve fibers in the grass frog, Rana temporaria*

**Audition and vocalization in birds and mammals: Periphery**

M. W. Holderied, D. von Helversen and O. von Helversen, Erlangen and Seewiesen
*Echoes of bat-pollinated bell-shaped flowers: Conspicuous for nectar-feeding bats?*

M. W. Holderied and O. von Helversen, Erlangen
*Echolocation range and wing beat period match in aerial hawking bats*

D. von Helversen, R. Simon and O. von Helversen, Starnberg and Erlangen
*Discrimination of rotary hollow forms by echolocation in the nectar-feeding bat Glossophaga soricina*

J. Tillein, A. Kral, R. Hartmann and R. Klinke, Frankfurt
*Temporal response patterns of cat single auditory nerve fibers with simultaneous electric and acoustic stimulation (EAS)*

C. Abel, W. Plaßmann and M. Kössl
*Comparison of auditory threshold curves measured with otoacoustic emissions and evoked cochlear potentials in the gerbil*

A. Wittekindt, M. Drexel and M. Kössl
*Cochlear sensitivity in the lesser spear-nosed bat, Phyllostomus discolor*

U. W. Biebel, J. Gonzalez, N. Menger and J. W. T. Smolders, Frankfurt am Main
*Noise trauma in the 129/s4 mouse, a strain with tough ears*

C. Köppl, A. Achenbach and T. Sagmeister, Garching
*Late maturation of hair-cell bundle morphology in the auditory papilla of the barn owl*

*Implication of FGFs during induction and morphogenesis of the inner ear*
Audition and vocalization in birds and mammals: Central areas and perception

H. Wagner, B. Sandra, R. Kempter and C. E. Carr, Aachen
Signal analysis of neurophonic responses in the owl's nucleus laminaris

M. von Campenhausen and H. Wagner, Aachen
Motion sensitivity in the barn owl’s auditory midbrain

M. Ochse and G. Langner, Darmstadt
Modulation tuning in the auditory midbrain of gerbils: Band passes are formed by inhibition

K. Meuer, E. Wallhäusser-Franke and G. Langner, Darmstadt
Projections from inferior colliculus to the lateral lemniscus studied in a slice preparation with anterograde tracers

C. Mahlke, G. Langner and E. Wallhäusser-Franke, Darmstadt
Experimental tinnitus induction and acoustic stimulation led to distinct patterns of arg3.1/arc and c-fos expression in the auditory and limbic system of the gerbil

G. Langner, C. Simonis and S. Braun, Darmstadt
Periodotopic organization of the ventral nucleus of the lateral lemniscus in the gerbil

M. Kössl, M. Vater, E. Foeller, E. Mora, F. Coro and I. J. Russell
Prewired for echolocation? - Auditory cortex responses in young mustached bats

F. Pieper and U. Jürgens, Göttingen
A possible vocal-audio interface in the squirrel monkey's brainstem

S. Hannig and U. Juergens, Göttingen
Efferent projections of the ventral paralemniscal area in squirrel monkeys (Saimiri sciureus)

R. Tammer, L. Ehrenreich and U. Juergens, Göttingen
Neuronal activity in the external nucleus of the inferior colliculus and bordering tegmentum telemetrically recorded during vocal communication in squirrel monkeys (Saimiri sciureus)

E. Dujardin and U. Jürgens, Göttingen
Vocalization-related afferents to the midbrain periaqueductal grey in squirrel monkeys (Saimiri sciureus)
S. R. Hage and U. Jürgens, Göttingen
*Telemetric recording of vocalization-correlated single-unit activity in the ventrolateral pontine brainstem of freely-moving squirrel monkeys* (Saimiri sciureus)

S. R. Hage and G. Ehret, Göttingen and Ulm
*Topographic representation of frequency-sweep direction in the inferior colliculus of the mouse* (Mus domesticus)

S. Siebert and U. Jürgens, Göttingen
*The effect of periaqueductal grey blockade on vocalization elicited from the lower brainstem in the squirrel monkey* (Saimiri sciureus)

K. Simonyan and U. Jürgens, Göttingen
*Subcortical projections of the motorcortical larynx area in the rhesus monkey* (Macaca mulatta)

S. Siebert and U. Juergens, Göttingen
*The effect of periaqueductal grey blockade on vocalization elicited from the lower brainstem in the squirrel monkey*

A. Koehl, H. G. Nothwang and E. Friauf, Kaiserslautern
*Establishment of a catalogue of expressed genes in the rat auditory brainstem by SAGE*

M. Becker, H. G. Nothwang and E. Friauf, Kaiserslautern
*Protein identification in the rat auditory brainstem by 2D-gel electrophoresis and mass spectrometry*

V. Balakrishnan, E. Friauf and S. Löhke, Kaiserslautern
*Regulation of intracellular chloride concentration in neonatal lateral superior olive neurons of the mouse*

G. Srinivasan, E. Friauf and S. Löhke, Kaiserslautern
*Novel inputs to the superior olivary complex of the rat revealed by optical recordings with voltage-sensitive dyes*

S. Kurt, H. Schulze, J. M. Crook and H. Scheich, Magdeburg
*The effect of bicuculline on temporal processing in the auditory cortex of the unanaesthetized mongolian gerbil*

M. Deliano, F. W. Ohl and H. Scheich, Magdeburg
*Relating spatiotemporal patterns in the ongoing cortical activity to the interpretation of intracortical microstimulation*

P. Heil and H. Neubauer, Magdeburg
*A unifying basis of physiological and perceptual detection thresholds in hearing*

H. Schulze, S. Kurt, H. Scheich and R. Zatorre, Magdeburg and Montreal, Quebec (Canada)
*Spectral and virtual pitch processing are lateralized differently in human auditory cortex*
F. W. Ohl, M. Deliano, H. Scheich and W. J. Freeman, Magdeburg and Berkeley, CA (USA)

*Early and late electrocorticogram patterns in primary auditory cortex of trained animals*

E. Selezneva, E. Oshurkova, H. Scheich and M. Brosch, Magdeburg

*Comparison of the primary and the caudomedial field of monkey’s auditory cortex*

S. Sugimoto, A. Hess, Y. Horiguchi, Y. Yamaguchi, I. Horikawa, I. Taniguchi and H. Scheich, Magdeburg, Erlangen, Wako (Japan), Toyohashi (Japan) and Tokyo (Japan)

*A neural network model of the guinea pig auditory cortex for detecting a frequency-modulated sound*

U. Koch and B. Grothe, Martinsried

*Differential expression of Ih in inferior colliculus neurons*

A. H. Seidl and B. Grothe, Martinsried

*Acoustic experience is necessary for natural development of sound localization mechanisms*

R. H. R. Hahnloser, A. Kozhevnikov and M. Fee, Murray Hill, NJ (USA)

*Dynamics of neural sequences in premotor areas of the songbird*

S. Schörnich, J.-E. Grunwald and L. Wiegrebe, München

*Classification of stochastic impulse responses in echolocation*

L. Wiegrebe and R. Meddis, München and Colchester (UK)

*Processing of periodicity by chopping units in the ventral cochlear nucleus*

M. Schuchmann, M. Hübner and L. Wiegrebe, München

*Spatial echo suppression in echolocation*

T. P. Zahn, B. Grothe and H.-M. Gross, Martinsried and Ilmenau

*An auditory model for echo suppression based upon dynamic recordings in the gerbil’s DNLL*

K. B. Klink, G. Bendig and G. M. Klump, Oldenburg

*Methods for mouse psychoacoustics*

G. M. Klump, S. B. Hofer, B. Blohm and U. Langemann, Oldenburg and Garching

*Auditory grouping and CMR: Psychophysics and physiology*

M. A. Bee and G. M. Klump, Oldenburg

*Neural correlates of auditory stream segregation in the avian forebrain*

L. Rüttiger and M. Knipper, Tübingen

*The pitch of an induced Tinnitus sensation*

A. Schaub and H. U. Schnitzler, Tübingen

*Echolocation behavior of Vespertilio murinus foraging in open and edge space*

B. A. Müller and G. Ehret, Ulm

*Neural activation in auditory cortical fields of the mouse under anesthetics*
Lateral line systems; Vestibular systems

A. Elepfandt, S. Lebrecht and K. Schroedter, Berlin and Konstanz
*Discrimination and localization of overlapping water surface waves in the clawed frog*, Xenopus laevis laevis

B. P. Chagnaud, I. Nauroth, J. Engelmann and H. Bleckmann, Bonn
*Selectively loss of Calretinin-immunopositive bipolar neurons in Scarpa’s ganglion of vestibular mutant mice*

I. Nauroth, J. Engelmann, H. Bleckmann and J. Mogdans, Bonn
*Coding of lateral-line stimuli in the goldfish midbrain in still- and running water*

B. P. Chagnaud, J. Engelmann and H. Bleckmann, Bonn
*Neural responses of goldfish lateral line fibres to vortex-ring stimuli*

I. Nauroth, J. Engelmann, H. Bleckmann and J. Mogdans, Bonn
*Responses of lateral line brainstem units to moving objects of different size*

K. Vonderschen, J. Engelmann, H. Bleckmann and J. Mogdans, Bonn
*Responses of superficial and canal neuromasts to moving objects of different size*

J.-M. P. Franosch, M. C. Sobotka, A. Elepfandt and J. L. van Hemmen, Garching and Berlin
*Minimal model of prey localization through the lateral-line system*

E. Kipiani, Y. Guan, J. F. Kleine and U. Büttner, München
*The compensatory role of fastigial vestibular neurons during trunk displacement relative to head position*

R. H. Anken and R. Hilbig, Stuttgart
*Does diminished gravity or exclusively zero gravity induce motion sickness in fish?! – A drop-tower experiment –*

E. Edelmann, R. H. Anken and H. Rahmann, Stuttgart
*Effects of vestibular nerve transection on the swimming behaviour and calcium incorporation into inner ear otoliths of fish*

M. Ibsch, R. H. Anken and H. Rahmann, Stuttgart
*Energy filtering transmission electron microscopy (EFTEM) discloses the site of calcium supply of fish inner ear otoliths*

M. Beier, R. H. Anken and H. Rahmann, Stuttgart
*Carbonic anhydrase reactivity in inner ear maculae of fish during development under hypergravity*
M. Beier, R. H. Anken and H. Rahmann, Stuttgart
*Otolithic calcium uptake in developing fish as visualized by laser scanning microscopy*

J. Kempf, R. H. Anken and H. Rahmann, Stuttgart
*Does altered gravity influence the succinate dehydrogenase reactivity in fish vestibular ganglia?*

J. Schönleber and R. H. Anken, Stuttgart
*Differentiation of the inner ear of cichlid fish under administration of the ototoxic aminoglycoside gentamicin*

R. Krahe, I. L. House, N. Lüdtke, I. Chen and M. E. Nelson, Urbana, IL (USA)
The natural background noise of electroreception

**Chemosensory and thermosensory systems**

M. Schmidt, N. Kirchberger, R. Neussert, C. Romberg and M. Sibbe, Atlanta, GA (USA), Hamburg and Köln
*Cellular characterization of neurons constituting the central olfactory pathway of the desert locust Schistocerca gregaria by whole-cell soma recordings in an isolated brain*

S. S. Haupt and J. Erber, Berlin
*Antennal sucrose perception in the honey bee*

A. F. Silbering, S. Sachse, B. Eiserman and G. Galizia, Berlin
*Odor induced activity patterns in the antennal lobe of Drosophila melanogaster*

M. Ditzen and G. Galizia, Berlin and Riverside, CA (USA)
*Olfactory responses database of functional calcium imaging data recorded from the antennal lobe of the honeybee Apis mellifera*

T. C. Franke, Berlin
*A deeper insight: in vivo imaging olfactory glomeruli deep inside the antennal lobe of the honeybee using 2-photon scanning microscopy*

D. Pelz, C. C. Roeske and C. G. Galizia, Berlin and Riverside, CA (USA)
*Functional response spectrum of genetically identified olfactory sensory neurons in the fruit fly Drosophila melanogaster*

R. Finke, S. Grün and F. Schaupp, Berlin
*Multichannel recordings in the antennal lobe of the honeybee suggest mechanisms of olfactory coding via neuronal ensembles*

R. F. Galán, S. Sachse, C. G. Galizia and A. V. Herz, Berlin
*Odor-driven neural dynamics in the antennal lobe of honeybee: A hypothesis about the olfactory code*

*A gustatory receptor in carbon dioxide sensitive olfactory neurons of Drosophila*
I. Paul, M. Spehr, H. Hatt and C. H. Wetzel
*P2X-receptor expression in cultured rat trigeminal neurons*

E. Weiler, Bochum
*Differential expression of odorant receptor mRNA in rat tissues*

V. Egger, K. Svoboda and Z. F. Mainen, Cold Spring Harbor, NY (USA)
*Efficiency and modulation of spike-evoked calcium influx into olfactory bulb granule cells*

C. J. Habermann and R. W. Friedrich, Heidelberg
*Voltage-sensitive dye imaging of odor-evoked oscillatory activity in the zebrafish olfactory bulb*

I. Manzini and D. Schild, Göttingen
*cAMP-independent and cAMP-dependent transduction in olfactory receptor neurons of Xenopus laevis tadpoles*

I. Manzini, W. Rössler and D. Schild, Göttingen
*cAMP-independent responses of olfactory neurons in Xenopus laevis tadpoles and their projection onto olfactory bulb neurons*

D. Czesnik, W. Rössler, F. Kirchner, A. Gennerich and D. Schild, Göttingen
*Neuronal representation of odourants in the olfactory bulb of Xenopus laevis tadpoles*

L. Nezlin, S. Heerman, D. Schild and W. Rössler, Göttingen and Würzburg
*Organization of glomeruli in the olfactory bulb of Xenopus laevis tadpoles*

C. R. Malz and A. G. Jadhao, Göttingen
*Symmetrical nervus terminalis innervation of the retina in asymmetrical fish (Pleuronectiformes)*

R. Tabor and R. W. Friedrich, Heidelberg
*Mixture interactions in the zebrafish olfactory bulb*

H. Spors, M. Wachowiak, L. Cohen and R. Friedrich, Heidelberg and New Haven, Zimbabwe (USA)
*Spatio-temporal dynamics of receptor neuron input to the mammalian olfactory bulb*

R. W. Friedrich, C. Habermann and G. Laurent, Heidelberg and Pasadena, CA (USA)
*Different odor information conveyed by synchronous and asynchronous mitral cell firing patterns*

M. Wachowiak and R. W. Friedrich, Boston, MA (USA) and Heidelberg
*Functional organization of input to the mouse olfactory bulb glomerulus visualized with 2-photon calcium imaging*

N. Agarwal, S. Offermanns and R. Kuner, Heidelberg
*Cre-loxP-mediated conditional gene expression in pain pathways*

*Binary mixture interactions in odor-evoked patterns of afferent glomerular activity of zebrafish*

412 R. Niehage and F. Weth, Jena

*Lamination of odorant receptor expression along the basal/apical axis of the zebrafish olfactory epithelium*

413 P. Kloppenburg, Köln

*Modulation of presynaptic Ca^{2+} accumulation in insect antennal lobe projection neurons at the calyces of the mushroom body*

414 C. Pouzat and P. Kloppenburg, Paris (France) and Köln

*Neuronal population responses to single odorant compounds and their binary mixtures in the antennal lobe of the cockroach, Periplaneta americana*

415 A. Schütz, I. Ito, O. A. Rosso and A. Figliola, La Jolla (USA), Sapporo (Japan) and Buenos Aires (Argentina)

*Dynamics of slow components regulating spiky local field potential waves of the slug (Limax) brain: Application of wavelet tools*

416 A. Schütz, Lübeck

*Odor-aroused state of the Helix brain as characterized by local filed potentials: Dynamics of the procerebropedal system*

417 A. Schütz and I. Ito, La Jolla, CA (USA) and Sapporo (Japan)

*Spiky local field potential waves of the Limax olfactory center (procerebrum) are regulated by slow fluctuations: The effect of ethanol*

418 M. Ekerholm and E. Hallberg, Lund (Sweden)

*Dominance-dependent sex-pheromone response in the shore crab*

419 S. Jansen, D. Abraham, C. Löfstedt and J. F. Picimbon, Lund (Sweden) and Charlottesville, VA (USA)

*Microdiversity of Grp1 and Grp2 pheromone binding proteins in insects: Structural properties and specific function*


*Drosophila odorant receptors in noctuid moths*

421 B. Gavillet, D. Abraham, C. Löfstedt and J.-F. Picimbon, Lund (Sweden)

*Molecular evolution of odorant-binding protein genes in moths*

422 E. Haubruche, G. Jacquemin, M. Dannaou, C. Löfstedt, L. Arnaud and J.-F. Picimbon, Gembloux (Belgium) and Lund (Sweden)

*Chemosensory protein diversity among the insect orders as indicated by a CSP-related protein of the flour beetle Tribolium freemani (Coleoptera)*

423 F. L. P. Bender, M. Mederos y Schnitzler, Y. Li, T. Gudermann, E. Weihe and M. K.-H. Schafer, Marburg

*The TRPV2 channel (VRL-1) is constitutively expressed in the primary sensory cell line F-11: Molecular and functional characterization*
C. Flecke, J. Dolzer and M. Stengl, Marburg  
*Effects of cyclic nucleotides on cultured olfactory receptor neurons and on olfactory sensilla of the hawkmoth* Manduca sexta

P. Newland and I. Gaaboub, Southampton (UK)  
*Receptor sensitivity underlies the behavioural effectiveness of chemosensory avoidance movements of the legs of locusts*

J. Strotmann, M. Weber and H. Breer, Stuttgart  
*An olfactory receptor expressed in ganglia of the autonomic nervous system*

J. Kaluza, O. Levai, H. Breer and J. Strotmann, Stuttgart  
*Olfactory receptors in the mouse septal organ*

R. Hoppe, M. Weimer, A. Beck, H. Breer and J. Strotmann, Stuttgart  
*OR37-receptors: A unique subfamily of olfactory receptors*

O. Levai, H. Breer and J. Strotmann, Stuttgart  
*Subzonal organization of olfactory sensory neurons projecting to distinct glomeruli*

T. D. Lambert, R. Hoppe, J. Strotmann and H. Breer, Stuttgart  
*Evolution of the OR37 subfamily of olfactory receptors: A cross-species comparison*

J. Fleischer, E. Klussmann, V. Henn and H. Breer, Stuttgart and Berlin  
*Molecular assembly of cAMP-mediated olfactory signaling pathways via scaffolding proteins*

K. Schwarzenbacher, S. Conzelmann and H. Breer, Stuttgart  
*Olfactory receptors in nonsense neurons*

S. Conzelmann, L. von Buchholtz, A. Elischer, P. Widmayer, E. Tareilus, C. Kaiser and H. Breer, Stuttgart, AC Vlaardingen (The Netherlands) and Heidelberg  
*Identification of novel taste-specific genes using differential screening approaches*

L. von Buchholtz, A. Elischer, E. Tareilus, R. Gouka, C. Kaiser, H. Breer and S. Conzelmann, Stuttgart, AC Vlaardingen (The Netherlands) and Heidelberg  
*RGS21 is a novel regulator of G protein signaling selectively expressed in subpopulations of taste cells*

J. Krieger, O. Klink, C. Mohl, K. Raming and H. Breer, Stuttgart and Monheim  
*A candidate olfactory receptor subtype highly conserved across different insect orders*

J. Krieger, K. Raming, Y. M. E. Dewer, S. Bette, S. Conzelmann and H. Breer, Stuttgart and Monheim  
*A divergent family of candidate olfactory receptors in the moth* Heliotis virescens

J.-C. Sandoz, Toulouse (France)  
*Calcium responses to queen pheromones, social pheromones and plant odours in the antennal lobe of the honey bee drone* Apis mellifera L
438 R. Apfelbach, D. Schmid-Bielenberg, S. Deutsch and N. Vasilieva, Tübingen and Moscow (Russian Federation)
Chirality and odor perception

439 E. Weiler and R. Apfelbach, Bochum and Tübingen
TRIS-buffer decreases rat's sensitivity to odorants

440 A. Brockmann, J. Spaethe, C. Harbig and J. Tautz, Würzburg
Micro- and macrosmat workers in Bombus terrestris: Allometry in an olfactory system and its consequences for olfactory sensitivity

441 C. J. Kleineidam, N. J. Vickers and C. E. Linn, Würzburg, Salt Lake City, UT (USA) and Geneva, NY (USA)
Lateral inhibition in the insect antennal lobe

Optical imaging of odorant representations in the Drosophila brain using cameleon

Visual systems of invertebrates: Periphery

443 R. Kern, C. Michaelis, J. P. Lindemann, J. H. van Hateren and M. Egelhaaf, Bielefeld, Berlin and AG Groningen (The Netherlands)
Representation of behaviourally generated optic flow by blowfly neurons thought to be involved in optomotor course control

444 F. Oddos, R. Kern, N. Boeddeker and M. Egelhaaf, Bielefeld
Flight performance modified by environmental changes in the blowfly Lucilia

445 J. P. Lindemann, R. Kern and M. Egelhaaf, Bielefeld
Processing of behaviourally generated optic flow: Model simulations

446 M. Vorobyev, N. Hempel de Ibarra and O. Ganeshina, Brisbane (Australia) and Berlin
Behavioural resolution of the honeybee eye is limited by the optical resolution of border detectors

447 J. E. Niven, M. Vahasoyrinki, M. Juusola, M. Weckstrom and R. C. Hardie, Cambridge (UK) and Oulu (Finland)
Robustness and fragility of information in Drosophila photoreceptors

448 S. B. Laughlin, J. C. Anderson and J. E. Niven, Cambridge (UK) and Brighton (UK)
The metabolic efficiency of signalling in fly photoreceptors

449 V. Wolfram, J. E. Niven and M. Juusola
Experience-dependent plasticity, gain control and information capacity in Drosophila photoreceptors

Munc13 proteins in the retina: Synaptic expression and function
E. Claes, M. Seeliger, M. Biel, P. Humphries and S. Haerkamp, Frankfurt, Tübingen, München and Dublin (Ireland)
*Morphological alterations in the retina of CNG3<sup>-/-</sup> / Rho<sup>-/-</sup> double mutant mice*

G. Leitinger, M. A. Pabst, F. C. Rind and P. J. Simmons, Graz (Austria) and Newcastle upon Tyne (UK)
*Immunocytochemistry reveals the molecular composition of first and second order visual synapses in the locust*

M. Juusola, J. E. Niven and A. S. French, Cambridge (UK) and Halifax, Nova Scotia (Canada)
*Nonlinear analysis of normal and shaker K<sup>+</sup> channel knockout Drosophila photoreceptors stimulated by white noise and natural light signals*

K. Hartmann, C. Franz, J. Bentrop, A. Huber and R. Paulsen, Karlsruhe
*Analysis of fly phototransduction proteins by MALDI-TOF mass spectrometry*

A. Schmitt, C. Kelke, R. Paulsen and A. Huber, Karlsruhe
*Characterization of Drosophila mutants with defects in photoreceptor cell patterning*

J. Bentrop, G. Wessels, M. Schillo, G. Belusic and R. Paulsen, Karlsruhe and Ljubljana (Slovenia)
*Visual differences: The function of rhodopsin phosphorylation in Drosophila photoreceptors*

C. Franz, R. Paulsen and A. Huber, Karlsruhe
*The INAD signaling complex of Drosophila photoreceptors: Assembly and characterization in a cell culture system*

N. Meyer, R. Paulsen and A. Huber, Karlsruhe
*Light-regulated ion channel relocation in photoreceptor cells of Drosophila melanogaster – a TRPL-eGFP reporter gene study*

G. Belusic, Ljubljana (Slovenia)
*A double role for arrestin 1?*

A. Balkenius and A. Kelber, Lund (Sweden)
*The relative importance of olfaction and vision in a diurnal and a nocturnal hawkmoth*

M. Dacke, D.-E. Nilsson, C. C. Scholtz and E. J. Warrant, Lund (Sweden)
*First evidence of orientation to the polarisation of the moon-lit sky*

B. Greiner, W. A. Ribi and E. J. Warrant, Lund (Sweden) and Canberra ACT (Australia)
*Spatial summation in the visual system of a remarkable group of nocturnal bees*

U. Wolfrum, G. Belusic and K. Draslar
*Structures supporting light – dark adaptation in the compound eye of Ascalaphus (Libelloides macaronius)*
464 M. Weckström, K. Heimonen, M. Kauranen and M. Vähäsöyrinki, Oulun Yliopisto (Finland)
Role of the microvillar membrane in electrical properties of insect photoreceptors

465 M. Vähäsöyrinki, M. Weckström, M. Juusola and J. Niven, Oulu (Finland)
Information processing during light adaptation in blowfly photoreceptors

466 G. Groeger and R. Williamson, Plymouth (UK)
Some factors affecting the electroretinogram of the cuttlefish

467 O. Baumann and K. Führer, Potsdam
A light-microscopical probe for rhabdomere twisting in the Drosophila compound eye

468 T. Labhart and F. Baumann
Evidence for a polarization compass in monarch butterflies

Visual systems of invertebrates: Central areas and perception

469 R. F. van der Willigen and H. Wagner
How owls structure visual information

470 D. C. OCarroll, A. D. Straw and P. A. Shoemaker, Adelaide (Australia) and Pasadena, CA (USA)
Adaptive gain control in insect motion detection

471 R. DuBois, D. OCarroll and P. Shoemaker, Adelaide (Australia) and Pasadena, CA (USA)
Spatio-temporal tuning for small targets from a simulated array of elementary motion detectors

472 K. Maronde, S. Wohlgemuth, B. Ronacher and R. Wehner
Ground instead of walking distances determine the direction of home vector in 3-D path integration of desert ants

473 A. Flügge, C. Niggebrügge, M. Vorobyev and N. Hempel de Ibarra, Berlin and Brisbane (Australia)
Colour detection by bumblebees: Effects of target grouping

474 N. Hempel de Ibarra, I. Voss, R. Woltmann, P. Knoll and R. Menzel, Berlin
Colour evaluation in concentric patterns by bees: Biological learning or sensorial constraint?

475 S. Holtze, C. Bäucker and N. Hempel de Ibarra, Berlin
Spatial distribution of colour can affect concentric pattern recognition in honeybees

476 C. Niggebrügge, N. Hempel de Ibarra, C. Maercker, M. Strube and M. Vorobyev, Berlin and Brisbane (Australia)
The role of L-receptor contrast in detection and discrimination of large-sized targets by honeybees
477  N. Boeddeker and M. Egelhaaf, Bielefeld
Chasing behaviour of the blowfly Lucilia: A smooth pursuit tracking system generates saccades

478  K. Karmeier, H. G. Krapp and M. Egelhaaf, Bielefeld and Cambridge (UK)
Population coding in the visual system of the blowfly: An experimental and modeling approach

479  R. Kurtz, G. Rapp and M. Egelhaaf, Bielefeld and Hamburg
In vivo manipulation of Ca²⁺ regulation in visual motion-sensitive neurons of the fly by flash photolysis of caged Ca²⁺ chelators

480  K. Meyer, J. Grewe, M. Egelhaaf and A.-K. Warzecha, Bielefeld
Does the signal form of blowfly motion-sensitive neurons depend on recording quality?

481  J. Grewe, J. Kretzberg, A. K. Warzecha and M. Egelhaaf, Bielefeld and La Jolla, CA (USA)
Impact of photon-noise on the reliability of a motion sensitive neuron in the visual system of the blowfly Lucilia

482  I. Kalb, Bielefeld
High resolution imaging of presynaptic calcium with two-photon-microscopy

483  S. J. Huston and H. G. Krapp, Cambridge (UK)
The visual receptive field of a fly neck motor neuron

484  T. Matheson, H. G. Krapp and S. M. Rogers, Cambridge (UK)
Adaptation to lifestyle in the visual system of solitary and gregarious locusts

485  J. Lampel, A. D. Briscoe and L. T. Wasserthal, Erlangen and Irvine, CA (USA)
Localization and characterization of an extraretinal photoreceptor in the brain, retrocerebral complex, and frontal ganglion of sphingid moths (Lepidoptera: Sphingidae)

486  A. Döhrn and K. Kral, Graz (Austria)
3D representation of the landing approach of Libellula depressa in a study of navigation mechanisms in natural surroundings

487  W. Stefan and R. Hustert, Göttingen
Neurons at different levels of the locust optic lobe detect looming objects

488  E. M. Pyza, J. Gorska-Andrzejak, P. M. Salvaterra and I. A. Meinertzhagen, Krakow (Poland), Duarte, CA (USA) and Halifax, Nova Scotia (Canada)
Identification of cells showing cyclical expression of Na⁺/K⁺-ATPase in the visual system of Drosophila melanogaster

489  T. Reischig and M. Stengl, Marburg
Pigment-dispersing hormone (PDH)-immunoreactive neurons form direct coupling pathways between the bilaterally symmetric circadian pacemakers of the cockroach Leucophaea maderae
490  J. Fischer and M. Stengl, Marburg
    Immunocytochemical localization of the presumptive clock protein PERIOD in the cockroach  Leucophaea maderae

491  M. Mappes and U. Homberg, Marburg
    Behavioral evidence of polarization vision in the locust  Schistocerca gregaria

492  K. Pfeiffer and U. Homberg, Marburg
    Neurons of the anterior optic tubercle of the locust  Schistocerca gregaria are sensitive to the plane of polarized light

493  K. Farrow, J. Haag and A. Borst, Martinsried
    Dissecting the neural network of the fly lobula plate

494  J. Haag and A. Borst, Martinsried
    Network interactions between lobula plate tangential cells of the blowfly

495  H. Cuntz, J. Haag and A. Borst, Martinsried
    Neural image processing by dendritic networks

496  G. Schramm, H. Marquardt, L. Biller, M. Gewecke and T. Roeder, Hamburg and Würzburg
    Transcriptome studies in the visual system of the fruitfly

497  M. Mronz and R. Strauss, Würzburg
    New insight into the landmark orientation behavior of freely walking fruit flies: Both object distance and azimuth position matter

498  M. Kinoshita, Y. Takeuchi and K. Arikawa, Yokohama (Japan)
    The minimum angle for the color discrimination in the butterfly

499  D. M. Andel and R. Wehner, Zurich (Switzerland)
    Path integration in desert ants, Cataglyphis: Redirecting global vectors

500  P. Bregy and R. Wehner, Zürich (Switzerland)
    Beacon versus vector navigation in homing ants, Cataglyphis fortis

Visual systems of vertebrates: Periphery

501  N. V. Pfau, M. Altwein, K. Bumsted OBrien, M. Kneussel and J. H. Brandstätter, Frankfurt and Hamburg
    Involvement of NMDA receptors in normal retinal development

502  B. J. OBrien, O. N. Dumitrescu, D. A. Protti and H. Wässle, Frankfurt am Main
    Dendritic field size correlates with glutamate receptor expression in amacrine cells of mouse retina

503  L. Peichl, P. Nemec and H. Burda, Frankfurt, Prague (Czech Republic) and Essen
    Dominance of short-wave sensitive cones in the retinæ of subterranean African mole-rats (Rodentia, Bathyergidae)
504 J. H. Brandstaetter, K. Reim and N. Brose, Frankfurt am Main and Göttingen
Selective synaptic expression of complexin I/II in the mouse retina

505 G. Twig, H. Levy and I. Perlman, Haifa (Israel)
Color contribution to spatial information processing and to contrast detection
during background illumination in the turtle retina

506 S. E. Hausselt and C. Mora-Ferrer, Heidelberg and Mainz
Blockade of retinal nicotinic but not muscarinic receptors impairs whole field
motion perception in goldfish

507 J. Duebel, T. Kuner and T. Euler, Heidelberg
2-Photon-imaging of chloride transients in ON-type bipolar cells in a transgenic
mouse retina expressing 'Clomeleon'

508 T. Wennekers, Leipzig
Separation of spatio-temporal receptive fields into sums of amplitude modulated
Gaussian components

The morpho-functional organization of the retina of the elephantfish
(Gnathonemus petersi)

510 A. Gislen, M. Dacke, R. H. Kröger, D.-E. Nilsson and E. J. Warrant, Lund
(Sweden)
Improved underwater vision in humans

511 C. Mora-Ferrer and K. Behrend, Mainz
The influence of dopamine on temporal transfer properties in the goldfish retina
examined with the ERG

Molecular analysis of the supramolecular Usher 1 protein complex in the neuronal
retina

513 E. Maximova, A. Vabishchevich, A. Denisenko, P. Maximov, O. Orlov and
V. Maximov, Moscow (Russian Federation)
Directionally selective units in the goldfish retina: A colour-blind mechanism
driven by two spectral classes of cones

514 F. H. Schütte, U. Janssen-Bienhold and R. Weiler, Oldenburg
Identification and characterization of retinoic acid-binding proteins in the carp
retina

515 A. Thiel, M. Greschner, C. W. Eurich and J. Ammermüller, Oldenburg and
Bremen
Stimulus velocity reconstructed from retinal ganglion cell activity using Bayes'
method

516 M. Pottek and R. Weiler, Oldenburg
Light-dependent properties of retinal horizontal cells in wild type and rhodopsin
knockout mice
Localization of connexin36 to the outer plexiform layer of the mouse retina

Cellular expression of connexin45 in the mouse retina

Caldendrin, a novel Ca$^{2+}$-binding protein, involved in synaptic plasticity in the fish retina?

520 J. Ammermueller, Oldenburg
Evaluation of the mouse „dark ‐ flash“ electroretinogram (ERG) for further characterization of wild-type and knock-out mice

521 M. Greschner, A. Thiel and J. Ammermüller, Oldenburg
Temporal structure of retinal ganglion light responses improves stimulus estimation

522 R. Gabriel, A. Gross, K. Rábl and T. Bánvölgyi, Pécs (Hungary)
Acute effect of reserpine on physiological responses of retinal neurons in turtle

523 M. H. Hennig and F. Wörgötter, Stirling (UK)
The role of the eye-microtremor in vision: Hyperacuity and signal detection

524 O. Biehlmaier, J. von Lintig and K. Kohler, Tübingen and Freiburg
Zebrafish morpholino knockdowns with altered retinal morphology

525 M. W. Seeliger, S. Saszik, H. Mayser, L. Frishman, S. Hormuzdi, M. Biel, P. Humphries, K. Willecke, H. Monyer and R. Weiler, Tübingen, Houston, TX (USA), Heidelberg, München, Dublin (Ireland), Bonn and Oldenburg
Connexin36-dependent retinal function in mice with specific rod or cone photoreceptor input

526 D. M. Hartmann, Tübingen
Effects of adenosine triphosphate (ATP) on the electroretinogram (ERG) of the chicken retina in vitro

Visual systems of vertebrates: Central areas and perception

527 R. Sistermann, R. F. van der Willigen and H. Wagner, Aachen
How owls learn to see depth: Motion parallax inducing head movements as a function of age

528 N. Dambeck, K. Stock, J. Weidemann, I. G. Meister, H. Fohtys and B. Boroojerdi, Aachen
Investigating phosphene elicitation with the paired-pulse paradigm
A. D. Straw and D. C. OCarroll, Adelaide (Australia)
Ghosting and aliasing artifacts in apparent motion displays eliminated with motion blur

P. Berkes and L. Wiskott, Berlin
Slow feature analysis yields a rich repertoire of complex-cell properties

J. M. Young, W. J. Waleszczyk, C. Wang, M. B. Calford, W. Burke and B. Dreher
Receptive field plasticity in area 17 outside the projection zone of a circumscribed monocular retinal lesion

K. Folta, B. Diekamp and O. Güntürkün, Bochum
Lateralized neuronal processing of visual information in pulvinar inferior

M. Volgushev and U. T. Eysel, Bochum
Gamma-frequency fluctuations of the membrane potential and response selectivity in cat visual cortical neurons

P. K. Behrens and U. Dicke, Bremen
The features of visual stimuli influence the orienting behavior in the frogs Bombina orientalis and Discoglossus pictus

D. Wegener, W. A. Freiwald and A. K. Kreiter, Bremen and Delmenhorst
Pulling at both ends: Attentional modulation of stimulus selectivity in macaque area MT

H. Stemmann, A. Wannig, E. Schulzke, C. W. Eurich and W. A. Freiwald, Bremen and Delmenhorst
Population analysis of stimulus representation in rat primary visual cortex

N. Strüber, S. Moeller, D. Wegener and A. K. Kreiter, Bremen
Modulation of striate cortex neurons by attention in a motion tracking task

K. Taylor, S. Mandon, W. A. Freiwald and A. K. Kreiter, Bremen and Delmenhorst
Attention modulates synchronous activity in monkey area V4 in a shape tracking task

W. A. Freiwald, D. Wegener and A. K. Kreiter, Delmenhorst and Bremen
Influence of attention on synchronized activity in macaque area MT

M. Schnabel, M. Kaschube, S. Loewel, H. R. Dinse and F. Wolf, Göttingen, Magdeburg and Bochum
The ticklish spots of cortical orientation maps

T. Schmidt and J. Trommershäuser, Göttingen and New York, NY (USA)
Attention controls spatial distortions in visual short-term memory

K. Boelmans, H.-J. Heinze, S. J. Luck and J.-M. Hopf, Magdeburg and Iowa City, IA (USA)
Neural mechanisms underlying the attenuation of target-distractor interference in visual search: Evidence from electromagnetic brain responses in humans
K. F. Schmidt and S. Löwel, Magdeburg and San Francisco, CA (USA)
Strabismus does not enhance the segregation of ocular dominance domains in cat area 18

J. Poralla and C. Neumeyer, Mainz
Categorical colour coding in goldfish

K. Wyzisk and C. Neumeyer, Mainz
Experiments on visual perception in goldfish (Carassius auratus): What is more important - color or shape?

M. Gehres, C. Neumeyer, H. Schönthaler and S. Neuhauss, Mainz and Zürich (Switzerland)
Contrast-dependent motion detection in the zebrafish (Danio rerio): A comparison of the mutant "Fading Vision" with the wild type

R. Eckhorn, F. Michler, H. J. Brincksmeyer and A. Gail, Marburg
Spatial frequency channels in striate cortex of awake monkey: Receptive field properties and mutual signal couplings

C. Konen, R. Kleiser, F. Bremmer and R. Seitz, Marburg and Düsseldorf
The encoding of saccadic eye movements within posterior parietal cortex

F. Bremmer, M. Kubischik, K.-P. Hoffmann and B. Krekelberg, Bochum
Neural dynamics of saccadic suppression

M. Wilms, T. Schanze and R. Eckhorn, Marburg
Receptive fields from epi-retinal recordings in anesthetized cats give hints for optimizing epi-retinal implants for blinds

T. Schanze, N. Greve and R. Eckhorn, Marburg
Population activity in cat visual cortex evoked by electrical form and motion stimulation of the retina

F. Michler, T. Zwickel, B. Al-Shaikhli and R. Eckhorn, Marburg
Slow visual feature learning in a recurrent network of spiking neurons

D. Bibitchkov, T. Kenet, M. Tsodyks, A. Grinvald and A. Arieli, Rehovot (Israel) and San Francisco, CA (USA)
Statistical analysis of the dynamics of intrinsic states in cat visual cortex

M. Bongard, J. Ammermueller and E. Fernandez, San Juan de Alicante (Spain) and Oldenburg
Temporal patterns in neuronal ensemble data

B. Godde and H. R. Dinse, Tübingen and Bochum
ICMS induced plasticity in area 18 of adult cats: Where have all the pinwheels gone?

J. Jastorff, Z. Kourtzi and M. A. Giese, Tübingen
Learning of natural and synthetic biological motion
C. Kayser, R. Salazar and P. König, Zurich (Switzerland)
*Processing of natural scenes in cat V1*

W. Einhäuser and P. König, Zürich (Switzerland)
*Does luminance contrast contribute to a saliency map for overt attention?*

W. Einhäuser, C. Kayser, K. P. Körding and P. König, Zürich (Switzerland)
*Functional segregation of visual pathways by learning from natural image sequences*

H. E. Plessier and G. T. Einevoll, Ås (Norway)
*Extended DOG model for relay cells in cat lateral geniculate nucleus*

**Visual systems of vertebrates: Development and regeneration**

S. Golz, C. Lantin and J. Mey, Aachen
*Effect of CYP26 over-expression on development of the retinotectal projection of the chick*

P. Wiesing and K. Obermayer, Berlin
*Lateral competition: The interplay of inhibition and excitation in primary visual cortex on the development of topographic projections and ocular dominance maps*

A. R. Garg, K. Obermayer and B. Bhaumik, Berlin and New Delhi (India)
*Development of thalamocortical visual circuits: A model based on the neurotrophic hypothesis*

J. Grabert, S. Patz and P. Wahle, Bochum
*Regulation of interneuronal voltage-gated potassium channels Kv3.1b and Kv3.2 expression in rat visual cortex*

S. Patz, J. Grabert and P. Wahle, Bochum
*Serotonin regulates GAD-65/67 mRNA and protein expression in developing rat visual cortex*

B. Jost, M. Schmidt and P. Wahle, Bochum
*GABA<sub>C</sub> receptors: Developmental regulation of expression and electrophysiological profiles in organotypic cultures of the superior colliculus*

M. J. Wirth and P. Wahle, Bochum
*Accelerated dendritic development of rat cortical pyramidal cells and interneurons after biolistic transfection with BDNF and NT-4/5*

I. Giebel, J. Grabert, S. Patz and P. Wahle, Bochum
*Diurnal regulation of NT4, LIF and BDNF: Role of sensory experience*

V. Jacob, M. Stotz-Reimers, P. G. Layer and A. Rothermel, Darmstadt
*CNTF exerts opposite effects on the expression of opsins in different subtypes of photoreceptors in reaggregated spheres of the chicken retina*

*Expression pattern of GFRα4 during development of the chicken retina*
A. Bytyqi, E. Duysen, O. Lockridge and P. Layer, Darmstadt
Complete postnatal degeneration of photoreceptors as a consequence of distorted
IPL formation in an AChE knockout mouse

A. Rothermel, J. Huhn, K. Volpert, V. Jacob and P. G. Layer, Darmstadt
Glia cell line-derived neurotrophic factor promotes differentiation and survival of
rod photoreceptors in reaggregated spheres of the chicken retina

M. B. Hoffmann and A. B. Morland, Freiburg and Egham (UK)
Organisation of the visual cortex in human albinism

M. Kaschube, D. Coppola, L. White, S. Loewel and F. Wolf, Göttingen,
Shreveport, LA (USA), Durham, NC (USA) and Magdeburg
Shape and spacing of orientation columns in ferret visual cortex

R. H. H. Kröger and H.-J. Wagner, Lund (Sweden) and Tübingen
Developmental plasticity in spectral sensitivity and processing in the cichlid fish
Aequidens pulcher

M. A. Dahlem, Magdeburg
Distortions in retino-cortical magnification factor caused by cortical folding

T. D. Mrsic-Flögel, M. Vaz Afonso, U. Eysel, T. Bonhoeffer and M. Hübener,
Martinsried and Bochum
Retinal lesion induced plasticity in mouse visual cortex

C. Creutzfeldt, L. Lindemann, Y.-A. Barde, T. Bonhoeffer and M. Hübener,
Martinsried and Basel (Switzerland)
Optical imaging reveals retinotopic map changes in the visual cortex of ephrin-a
deficient mice

M. Vaz Afonso, T. D. Mrsic-Flögel, U. T. Eysel, M. Hübener and T. Bonhoeffer,
Martinsried-München and Bochum
Long-term in vivo 2-photon microscopy of morphological changes in mouse visual
cortex induced by retinal lesions

E. Schuetz, M. Wissing and S. Thanos, Münster
Does a peripheral nerve graft peripherize central neurons? (II)

M. Ott and B. Bellintani-Guardia, Tübingen
Adjustment of displaced retinal ganglion cells to ocular growth in the chameleon
(Chamaeleo calyptratus)

Cortex and Cerebellum

R. A. DuBois, Adelaide (Australia)
Bifurcation between quasi-stationary cortical activity states alters the spatial and
temporal distribution of response patterns
583  R. A. DuBois and G. Stuart, Adelaide (Australia) and Freiburg
    Transient synchronization of cortical neurons using synthetic conductance injection

584  S. Gruen, M. Abeles and M. Diesmann, Berlin, Jerusalem (Israel) and Göttingen
    The impact of higher-order correlations on coincidence distributions of massively parallel data

585  A. Nieder and E. K. Miller, Cambridge, MA (USA)
    The relative contributions of prefrontal, posterior parietal, and inferior temporal cortices in extracting numerical information in monkeys

    Distinct input-output characteristics are shown by three classes of spiny layer IV neurons in rat barrel cortex

587  J. Rickert, C. Mehring, S. C. De Oliveira, E. Vaadia, A. Aertsen and S. Rotter, Freiburg, Dortmund and Jerusalem (Israel)
    Inference of hand movement direction from local field potentials in monkey motor cortex I: Tuning properties of single channels

588  H. Thurm, C.-L. von Schlabendorff, A. Aertsen and U. Egert, Freiburg
    Spatiotemporal dynamics of thalamically evoked responses in the barrel cortex

589  C. Mehring, J. Rickert, S. Cardoso de Oliveira, E. Vaadia, A. Aertsen and S. Rotter, Freiburg i. Br., Dortmund, Jerusalem (Israel) and Freiburg i Br
    Inference of movement direction from local field potentials in monkey motor cortex II: Decoding from multiple channels

590  A. Morrison, C. Mehring, M. Diesmann, A. Aertsen and T. Geisel, Göttingen and Freiburg
    Distributed simulation of large biological neural networks

591  M. Buschermöhle, T. Tetzlaff, S. Grün, M. Diesmann and T. Geisel, Göttingen and Berlin
    Latency variability of synchronous spiking emerging from subthreshold activation

    Distributed computing for neuroscience-data analysis

593  M. Diesmann, S. Goedeke and T. Geisel, Göttingen
    The spike intensity caused by fast supra-threshold input transients

594  T. Tetzlaff, M. Buschermoehle, M. Diesmann and T. Geisel, Göttingen
    The interplay between spike rate and correlation in neural feed-forward architectures

595  A. Krauss, I. Manns and M. Brecht, Heidelberg
    A psychophysical investigation of the detectability of electrical currents applied to the somatosensory barrel cortex of the awake rat
596  G. Radnikow, J. Lübke and D. Feldmeyer, Heidelberg and Freiburg
Morphology and physiology of L4 spiny neurones in developing rat barrel cortex

597  D. Feldmeyer, A. Roth, J. Lübke and B. Sakmann, Heidelberg and Freiburg
Morphometry of the synaptic connection between layer 4 spiny neurones and layer 2/3 pyramidal cells in rat barrel cortex

598  M. Schneider, A. Schäfer and M. Brecht, Heidelberg
Quantitative composition of synaptic responses in rat barrel cortex

599  I. D. Manns and M. Brecht, Heidelberg
Subthreshold spatiotemporal receptive field properties of layer V neurons in somatosensory cortex

600  M. Brecht, M. Schneider, B. Sakmann and T. Margrie, Heidelberg
Movements evoked by intracellular stimulation of single pyramidal cells in layer 5 and 6 of rat motor cortex

A model of rapid surface detection in primate visual cortex

602  M. Delescluse and C. Pouzat, Paris (France)
Probabilistic model of spontaneous Purkinje cells firing in rats cerebellar slices: Application to the spike-sorting problem

603  I. Scheffler and M. Vater, Potsdam
Anatomical maturation of the auditory cortex in the mustached bat

604  B. Langguth, P. Eichhammer, M. Proeschold and G. Hajak
Modulation of cortical excitability by neuronavigated transcranial magnetic stimulation (TMS) of the cerebellum – a pilot study

605  N. Catz, P. W. Dicke and P. Thier, Tübingen
The cerebellar complex spike serves as the “teacher” reducing the motor error during saccadic learning

606  H. Dietrich, P. W. Dicke, N. Catz, M. Glickstein, T. Haarmeier and P. Thier,
Tübingen and London (UK)
Lesions of lobuli VI and VII of the cerebellum cause oculomotor disturbances but do not impair visual motion perception

**Hippocampus and Limbic system**

Altered fiber connections in human epileptic hippocampus – a dextran amine fluorescent tracer study

608  D. Paesler, S. Gabriel and U. Heinemann, Berlin
Potassium release likely mediates spread of seizure like events under conditions of blocked chemical synaptic transmission
609 C. Drephal, Berlin
Long-term potentiation (ltp) in the lateral amygdala

610 M. Schubert, T. Kaschel and D. Albrecht, Berlin
The amygdala is not the hippocampus

611 C. Bohla, K. S. Eriksson, H. L. Haas and O. Selbach, Duesseldorf
Orexins/Hypocretins cause protein synthesis-dependent synaptic plasticity in the hippocampus

Orexins/Hypocretins cause sharp wave- and θ-related synaptic plasticity in the hippocampus by orchestrating glutamatergic, noradrenergic and cholinergic signaling

613 C. P. Müller, R. I. Carey and J. P. Huston, Düsseldorf and Syracuse, NY (USA)
The role of serotonin1A-receptors in the control of cocaine’s behavioral and neurochemical effects

614 A. A. Ponomarenko, T. M. Korotkova and H. L. Haas, Duesseldorf
High frequency (200 Hz) oscillations in the basolateral amygdala and dorsal endopiriform nucleus of the behaving rat

Physiological and morphological characterization of putative cholinergic interneurons of the hippocampal formation

616 A. Kulik, R. Shigemoto, R. Lujan and M. Frotscher, Freiburg, Okazaki (Japan) and Albacete (Spain)
Immunohistochemical localization of metabotropic GABA receptor subtypes GABA_BR1α/b and GABA_BR2 in the rat hippocampus

617 J. Keuker, G. De Biurrun and E. Fuchs, Göttingen
Preservation of hippocampal neuron numbers in behaviorally characterized, aged tree shrews

3D MRI of mouse hippocampus in vivo: Contrast-enhancement using Mn^{2+}

619 M. H. Kole, T. Costoli, J. M. Koolhaas and E. Fuchs, Göttingen, Parma (Italy) and Groningen (The Netherlands)
Social defeat produces lasting bidirectional reorganization of CA3 pyramidal neuron dendrites and synaptic plasticity

620 L. Fester, Hamburg
Auto/paracrine regulation of estrogen-induced synaptogenesis
621 O. von Bohlen und Halbach and K. Unsicker, Heidelberg
Structural alterations in the limbic system of aged haploinsufficient trkB and/or trkC receptor knockout mice

622 H. Hilbig, D. Elsner, C. Merkwitz and H. R. Dinse, Leipzig and Bochum
Distinct effects of enriched environmental housing conditions on hippocampal structures of aged rats

Recovery of physiological function in dentate gyrus after global cerebral ischaemia

624 A. Abraham, C. Helmeke and K. Braun, Magdeburg
Cortical dendritic spine development is modulated by juvenile emotional and physical stress and 5-HT1A-receptor activation

625 K. Becker, J. Bock and K. Braun, Magdeburg
Changes of parental behavior after acute an repeated separation from the offspring in the precocious species Octodon degus

626 S. Sajikumar and J. U. Frey, Magdeburg
Synaptic tagging and long-term depression in rat hippocampal slices in vitro

627 S. Kostenko, J. U. Frey and S. Frey, Magdeburg
Limbic interactions in the modulation of late phases of long-term potentiation in rat dentate gyrus in vivo

628 M. Zagrebelsky, T. Bonhoeffer and M. Korte, Martinsried
Possible antagonistic roles of TrkB and p75 neurotrophin receptors in modulating structural plasticity in the rodent hippocampus

629 A. Wortmann, E. Berger, E.-J. Speckmann and U. Mußhoff, Münster
Opposite influence of melatonin to the synaptic transmission in rat hippocampal slices during the circadian cycle

630 B. W. Hawks, P. M. Plotsky and S. J. Garlow, Regensburg and Atlanta, GA (USA)
Postnatal maternal separation up regulates BDNF mRNA in the hippocampus of BALB/cByJ, but not C57BL/6J or DBA/2J mice

631 G. Hajak, P. Eichhammer, B. Langguth, J. Marienhagen, A. Kharraz and H. Klein
Limbic predictors of rTMS effects in patients with affective disorder as measured by ECD-SPECT

632 M. Müller, R. Apfelbach and M. Fendt, Tübingen
Temporary inactivation of the medial amygdala blocks freezing in rats induced by trimethylthiazoline, a component of fox feces

633 C. Hölscher and H. Mallot, Tübingen
Movement-correlated neuronal activity in the hippocampus: Evidence for motor representation in the hippocampal formation

634 A. Marowsky, J.-M. Fritschiy and K. E. Vogt, Zürich (Switzerland)
Specificity of inhibitory signalling in the amygdala
Learning and Memory

R. Campan and M. Lehrer, Toulouse (France) and Zurich (Switzerland)
Honeybees generalize shape features acquired through image motion

M. Brackmann, D. Manahan-Vaughan and K.-H. Braunewell, Berlin
Group I mGlurS regulate the expression of the neuronal calcium sensor protein
VILIP-1 in vitro and in vivo: Possible implications for mGlurR-dependent
hippocampal plasticity?

A. Galkin, P. Szyszka, T. Franke, R. Friedrich, W. Denk and R. Menzel, Berlin
and Heidelberg
Anatomy and odour-induced calcium activity in the mushroom bodies of honeybee
(Api mellifera) brain using 2-photon microscopy

B. Grünewald, K. Bernhard, A. Erle, M. Gauthier and R. Menzel, Berlin and
Toulouse (France)
Essential role of the mushroom bodies for memory retrieval after olfactory learning
of honeybees

A. Wersing and B. Grünewald, Berlin
Cellular mechanisms of odor learning in honeybees: Combining electrophysiology
and Ca²⁺ imaging

P. Szyszka, A. Galkin, G. Galizia and R. Menzel, Berlin
Optical imaging of Kenyon cell activity in the mushroom body during odor
perception and odor learning in the honey bee, Apis mellifera

C. Groß and D. Kuhl, Berlin
Dendritic localization of the Arg3. 1/Arc mRNA binding protein Zink is negatively
regulated by synaptic activity

N. Plath and D. Kuhl, Berlin
Arg3. 1 is associated with the NMDA-receptor complex and is required for memory
formation

N. Stollhoff, D. Eisenhardt and R. Menzel, Berlin
Extinction and re-consolidation in the honeybee Apis mellifera: Two interfering
processes?

(France) and Marburg
A modified version of the unique cue theory accounts for olfactory compound
processing in honeybees

R. Scheiner, J. Erber and M. B. Sokolowski, Berlin and Missisauga, Ontario
(Canada)
Sucrose responsiveness and behaviour in honey bees and fruit flies

I. Plekhanova and U. Müller, Berlin
The role of the mitogen-activated protein kinases in learning
D. Schoofs, A. Schwarz, M. Manns, B. Hellmann, O. Güntürkün and B. Diekamp, Bochum
*Zenk immunoreactivity after reversal learning in the avian forebrain*

S. Lissek and O. Güntürkün, Bochum
*NMDA receptors in the pigeon prefrontal cortex – a role for working memory?*

S. Klein, M. Hadamitzky, M. Koch and K. Schwabe, Bremen
*Performance in a four-arm baited eight-arm radial-maze after microinjections of glutamate antagonists in the nucleus accumbens*

S. Schmadel, K. Schwabe and M. Koch, Bremen
*Behavioural effects of neonatal excitotoxic lesions of the rat entorhinal cortex*

K. Schwabe, T. Enkel and M. Koch, Bremen
*Effects of neonatal lesions of the rat medial prefrontal cortex on adult behavior*

T. D. Zars, Columbia, MO (USA)
*The white ABC transporter of Drosophila is needed for high-temperature reinforcement processing in the heat-box learning paradigm*

P. Tovote, M. Koch, A. Ronnenberg, M. Meyer, O. Stiedl and J. Spiess, Göttingen
*Blood pressure responses in the fear-conditioned mouse*

A. Schauenburg, M. A. Nitsche, C. Exner, N. Lang, W. Paulus and F. Tergau
*Transcranial direct current stimulation (tDCS) of the primary motor cortex enhances implicit motor learning*

J. Gerber, M. Hahn, A. Siemer and R. Nau, Göttingen
*Increased mortality and spatial memory deficits in TNF-α deficient mice after experimental pneumococcal meningitis*

O. Bukalo, O. Nikonenko, M. Schachner and A. Dityatev, Hamburg
*Mice deficient for the extracellular matrix glycoprotein tenascin-R show increased hippocampal polyspike activity and shifted thresholds for induction of long-term potentiation and depression*

A. Khoutorsky and M. Spira, Jerusalem (Israel)
*Constitutive proteolytic activity is required for short-term plasticity of cultured Aplysia sensorimotor synapses*

D. Balschun, F. Pitossi, H. Schneider, W. Zuschratte, A. Del Rey, H. O. Besedovsky and W. Wetzel, Magdeburg, Buenos Aires (Argentina) and Marburg
*Endogenous IL-6 is involved in hippocampal long-term potentiation and spatial learning*

D. Markhratcheva-Stepotchkina, V. V. Gavrilov, Y. I. Alexandrov and J. U. Frey, Magdeburg
*Effects of MK-801 on learning of instrumental food-acquisition behavior in rats and its neuronal base*
660 S. Uzakov, V. Korz and J. U. Frey, Magdeburg
Modulation of hippocampal long-term potentiation by holeboard experience in the rat

661 A. C. Borta and R. K. Schwarting, Marburg
High and low anxiety rats: Analysis of inhibitory avoidance behavior, pain reactivity, and the memory-modulating effects of a selective nicotinic agonist

662 A. Roedel, I. Sillaber, M. E. Keck and F. Ohl, München
Chronic application of the CRH-R1 antagonist R121919 enhances cognitive performance in mice

663 C. Breitenstein, S. Kamping, A. Floeel, B. Dräger and S. Knecht, Münster and Bethesda, MD (USA)
Functional relevance of Wernicke's area in adult language acquisition

664 C. Roth-Alperman, R. G. Morris, T. Bonhoeffer and M. Korte, Martinsried and Edinburgh (UK)
Homeostatic regulation of synaptic strength in CA1 pyramidal neurons?

665 F. B. Madeira, A.-L. Bonnefont, H. Daniel, F. Crepel, C. De Zeeuw, F. Grosveld and N. Galjart, Rotterdam (The Netherlands) and Paris (France)
Behavioural analysis of mice expressing a PKG inhibitory peptide in cerebellar Purkinje cells

666 A. Saudargiene, B. Porr and F. Woergoetter, Stirling (UK)
Biophysical evaluation of a linear model for temporal sequence learning: Iso-learning revisited

667 S. Barkan, A. Ayali, F. Nottebohm and A. Barnea
Neuronal recruitment in adult zebra finch brain during a reproductive cycle

668 M. Schubert, M. Giurfa, C. Reisenman, B. Gerber and H. Lachnit
The effect of cumulative experience on the use of elemental and configural visual discrimination strategies in honeybees

669 M. Dacher, A. Lagarrigue and M. Gauthier, Toulouse (France)
Antennal tactile learning in the honeybee: Memory dynamics and effect of nicotinic antagonists

670 M. Schubert, M. Giurfa, C. Reisenman, B. Gerber and H. Lachnit, Toulouse (France), Tucson, AZ (USA), Würzburg and Marburg
The effect of cumulative experience on the use of elemental and configural visual discrimination strategies in honeybees

671 S. Schmid, N. S. Simons and H.-U. Schnitzler, Tübingen
Properties of sensory neuron synapses in the trigeminal and auditory startle pathway

672 H. F. Mochnatzki and W. J. Schmidt, Tübingen
How is the egocentric spatial orientation represented in the striatum?
*Role of group III mGlur in synaptic depression in the PnC*

*Associative learning in individually assayed Drosophila larvae*

675 A. Gupta, R. Wolf and M. Heisenberg, Mumbai (India) and Würzburg
*A new olfactory learning paradigm for single flies in the flight simulator*

676 R. F. Salazar, C. Kayser and P. König, Zuerich (Switzerland)
*Effects of reinforcement on the activity in areas 17 and 21A in the alert cat*

**Neuroanatomical studies**

677 R. Loesel and N. J. Strausfeld, Aachen and Tucson, AZ (USA)
*Common design in brains of velvet worms and chelicerates and their phylogenetic relationships*

678 P. Bräunig, Aachen
*The morphology of descending dorsal unpaired median (DUM) neurons of the locust subesophageal ganglion*

679 G. Westhoff, G. Roth and H. Straka, Bremen and München
*Topographic representation of sensory signals in the thalamus of the fire bellied toad* (Bombina orientalis)

680 K. Schuchardt, G. Fleissner and G. Fleissner, Frankfurt
*Histological and immunocytochemical evidence for a metasomal light sense in scorpions*

681 K. von Wangenheim, H. Bratzke, W. Singer and R. A. Galuske, Frankfurt am Main
*Long range intrinsic connections in human motor cortex*

*Diffusion tensor MR imaging: Preliminary applications to mice, rats, and squirrel monkeys*

683 M. Müller, S. L. Mironov, M. V. Ivannikov, J. Schmidt and D. W. Richter, Göttingen
*Mitochondrial network organization and motility in mouse respiratory neurons*

684 A. Mashaly, I. Frambach and F.-W. Schürmann, Göttingen
*Integration of growing local interneurons into the mushroom body system of mature cricket brains is reflected by structure*
685  M. Gundel, Jena
*Median nerve neurons in thoracic ganglia of the cockroach*, Periplaneta americana L

*Chemoarchitecture and in vivo labelling of cholinergic neurons in the rabbit basal forebrain*

687  E. Budinger and H. Scheich, Magdeburg
*Medial prefrontal cortex of the Mongolian Gerbil: Anatomical subdivisions, thalamic connections, and auditory cortical afferents*

688  G. R. Szycik and A. Brechmann, Magdeburg
*Talairach-transformation and the localization of primary auditory cortex*

689  W.-D. Hütteroth and J. Schachtner, Marburg
*3D reconstructions of pupal and adult glomeruli in the antennal lobe of the sphinx moth Manduca sexta*

690  A. Jenett, D. Malun and R. Menzel, Berlin
*The early ontogenesis of octopaminergic structures in the brain of the honeybee Apis mellifera*

691  A. Jenett, J. Schindelin, C. Grübel and M. Heisenberg, Würzburg
*The Virtual Brain Project: Comparison of expression patterns of different reporter genes driven by the same Gal4-enhancer trap line*

692  J. Rybak, C. Groh, C. Meyer, E. Strohm and J. Tautz, Würzburg
*3-D reconstruction of the beewolf brain*, Philanthus triangulum F

**Neurohistochemical studies**

693  M. Hamann and A. Richter, Berlin
*Deficit of striatal calretinin-immunoreactive GABAergic interneurons in a genetic animal model of primary paroxysmal dystonia*

694  S. Kammann, M. Hamann and A. Richter, Berlin
*Reduction of striatal nitric oxide synthase-immunoreactive interneurons in an animal model of primary paroxysmal dystonia*

695  A. Benali, I. Leefken, U. T. Eysel and E. Weiler, Bochum
*Analysis of cell numbers in immunohistochemically stained brain sections using a computerized image analysis system*

696  O. Ganeshina, D. Mueller, R. Brandt and R. Menzel, Brisbane (Australia) and Berlin
*Actin is highly expressed in the honeybee brain neuropiles*
Localization of the neuropeptide angiotensin II and its reaction sites involved in the circadian control of blood pressure in normotensive and transgenic-hypertensive rats at three zeitgeber times

Localization of methionine sulfoxide reductase A (MSRA) in the mouse brain

Calcium-binding proteins in the cerebellum of the japanese quail

Comparative analysis of NADPH-diaphorase staining in the brain of the moth Manduca sexta and the locust Schistocerca gregaria

Fine structural immunocytochemistry: A manner of multiple labeling on an invertebrate neurosecretory system

Evolution of serotonin-immunoreactive neurons in the arthropod ventral nerve cord

The role of the calcium sensor protein VILIP-1 in neuronal signalling

Inhibition of rat brain mitochondrial respiratory chain enzymes by dopamine

Binding partners for acetylcholinesterase in the mammalian CNS

Impairing mitochondrial metabolism in hypoglossal motoneurons from mouse: Implication for amyotrophic lateral sclerosis (ALS)

Phosphodiesterase expression and second messenger levels in two human glioblastoma cell lines

The CNS-proteoglycan brevican is located in perineuronal nets in primary hippocampal cultures

Divalent iron accelerates a β_{1-40}-dependent signal transduction cascades and toxicity in neuronal cells
C. Göritz, K. Nieweg and F. W. Pfrieger, Strasbourg (France)

*Cholesterol homeostasis in neurons*

**Synapses and transmitters**

W. Müller, J. Winterer and P. K. Stanton, Berlin and Bronx, NY (USA)

*Long-term depression of presynaptic release from the readily-releasable vesicle pool induced by NMDA receptor-dependent retrograde NO*

R. Menzel and G. Manz, Berlin

*Plasticity of mushroom body-extrinsic neurons in the honeybee brain*

G. Kattenstroth, K. Gottmann, T. C. Südhof and M. Missler, Bochum, Dallas, TX (USA) and Göttingen

*NMDA receptor mediated postsynaptic responses are reduced in neocortical neurons from α-neurexin deficient mice*

A. Copi, K. Jüngling, P. Wahle and K. Gottmann, Bochum

*Functional synaptic integration of mouse ES cell-derived neurons in neocortical networks*

A. N. Chepkova, O. A. Sergeeva and H. L. Haas, Düsseldorf

*Long-lasting enhancement of corticostrialal neurotransmission by taurine: Role of acetylcholine and dopamine*

H. Schmidt, E. B. Brown, B. Schwaller and J. Eilers, Frankfurt, Boston, MA (USA) and Fribourg (Switzerland)

*Diffusional mobility of parvalbumin in spiny dendrites of cerebellar Purkinje neurons quantified by two-photon FRAP*

S. Korte, M. J. Frech and K. H. Backus, Frankfurt

*Modulation of the GABAergic transmission by different subtypes of nicotinic receptors in the rat inferior colliculus*

C. Keipert, M. Yigit, P. Jedlicka and K. H. Backus, Frankfurt

*Muscarinic modulation of the GABAergic transmission in the rat inferior colliculus*

P. Vollmayer, J. Servos, T. Clair, J. W. Goding, K. Sano and H. Zimmermann, Frankfurt am Main, Bethesda, MD (USA), Prahran (Australia) and Kobe (Japan)

*Diadenosine polyphosphates are hydrolyzed by members of the ecto-nucleotide pyrophosphatase/phosphodiesterase-family*

A. Rollenhagen, A. Roth, O. Ohana, K. Sätzler, M. Frotscher, B. Sakmann and J. Lübke, Freiburg, Heidelberg, Zürich (Switzerland) and Heidelberg

*Three-dimensional reconstruction of synapses onto thick tufted layer 5 pyramidal neurons in the rat somatosensory cortex*


*Monitoring clathrin-mediated endocytosis in hippocampal synapses*

E. A. Lemke and J. Klingauf, Göttingen

*Visualization of single synaptic vesicle dynamics in hippocampal boutons*
J. B. Sorensen, G. Nagy, F. Varoqueaux, M. C. Wilson and E. Neher, Göttingen and Albuquerque (USA)
Large dense-core vesicle secretion in the presence and absence of SNAP-25

Catecholamine secretion from chromaffin cells expressing wild type Synaptotagmin I, Syt II or phosphorylation mutants of Syt I only

A. C. Meyer, A. Sigler, W. D. Altrock, S. Tom Dieck, S. H. Gerber, T. C. Südhof, E. D. Gundelfinger and C. Rosenmund, Göttingen, Magdeburg and Dallas, TX (USA)
Functional analysis of mice deficient of the presynaptic active zone proteins piccolo and bassoon

K. Yasuyama, I. A. Meinertzhagen, H. Gras and F.-W. Schürmann, Okayama (Japan), Halifax, Nova Scotia (Canada) and Göttingen
Complex synaptic connections of cholinergic antennal lobe projection neurones in the lateral horn neuropile of Drosophila melanogaster

K. Zeng and W. Zhang, Göttingen
GABA<sub>b</sub>-receptor-mediated modulation of Ca<sup>2+</sup>-independent transmitter release in brain stem of neonatal mouse

V. Sargsyan, W. Zhang, A. Rohlmann and M. Missler, Göttingen
Neurexins as key modulators of synaptic Ca<sup>2+</sup>-channel function

A. Brandt, J. Striessnig and T. Moser
Impact of Ca<sup>2+</sup>-channels on the development of cochlear inner hair cells

D. Speidel, C. Enk, F. Varoqueaux, K. Reim and N. Brose, Göttingen
Presynaptic distribution of CAPS1 and CAPS2 implies a role in synaptic vesicle exocytosis

K. Reim, H. Wegmeyer, J. H. Brandstätter, M. Mansour, C. Rosenmund and N. Brose
Two new complexin isoforms: CPX III and CPX IV

F. Gabriele, M. van Kampen and E. Fuchs, Göttingen
Regulation of α2a- and α2c-adrenoceptors in the brain: Alpha2a upregulation persists after chronic psychosocial stress

M. Mansour, N. Brose, C. Rosenmund and K. Reim, Göttingen
The functional role of the complexin snare complex interaction

F. Felmy and R. Schneggenburger, Göttingen
Developmental expression of the Ca<sup>2+</sup> binding protein Calretinin in calyx of Held nerve terminals

F. Felmy, E. Neher and R. Schneggenburger, Göttingen
Membrane potential has no direct effect on quantal release at a mammalian central synapse
M. Wölfl and R. Schneggenburger, Göttingen
Presynaptic capacitance measurements and Ca^{2+} uncaging reveal sub-millisecond exocytosis kinetics and characterize the Ca^{2+} affinity of vesicle fusion at a fast CNS synapse

I. Panek, S. Meisner and P. H. Torkkeli, Torun (Poland) and Halifax, Nova Scotia (Canada)
The distribution and function of metabotropic GABA_B receptors in spider peripheral mechanosensilla

R. Fabian-Fine, P. Verstreken, P. R. Hiesinger, J. A. Horne, R. Kostyleva, H. J. Bellen and I. A. Meinertzhagen, Halifax, Nova Scotia (Canada) and Houston, TX (USA)
The action of Endophilin and the role of vesicle release by kiss-and-run at photoreceptor synaptic terminals in Drosophila melanogaster

J. Waters and F. Helmchen, Heidelberg
Impact of spontaneous activity on dendritic properties of neocortical pyramidal neurons in vivo

D. Dressel, J. W. Deitmer and J. Brockhaus, Kaiserslautern
Purinergic modulation of synaptic activity and glia-neuron interaction in the cerebellum

M. S. Sons, N. Busche, W. Zhang, J. J. Plomp and M. Missler, Leiden (The Netherlands)
Alpha-Neurexins determine transmitter release level at the mouse neuromuscular junction

Functional regions of the presynaptic cytomatrix protein Bassoon: Significance for presynaptic targeting and cytomatrix anchoring

M. Timmer, A. Bachmann, J. Sierraalta, E. Knust, E. D. Gundelfinger and U. Thomas, Magdeburg, Düsseldorf and Santiago de Chile (Chile)
Postsynaptic recruitment of Drosophila LIN-7 to larval neuromuscular junctions depends on specific isoforms of DLG

Interaction of the neuronal calcium-binding protein caldendrin with postsynaptic scaffolding molecules

I. Böhme, H. Rabe, R. Schirrmacher, F. Rösch and H. Lüddens, Mainz
Rat GABA transporter 1 and 3: Functional analysis of EGFP fusion proteins and characterisation of a putative PET-ligand
U. V. Nägerl, N. S. Tobisch and T. Bonhoeffer, München-Martinsried
Activity-dependent morphological plasticity in hippocampal neurons

D. Polnau, A. Gärtnert, H. Thoenen, T. Bonhoeffer and M. Korte, Martinsried and London (UK)
Hippocampal LTP requires pre- and postsynaptic TrkB signaling

M. S. Lemak, V. V. Maximov, P. V. Maximov, S. V. Koulchitsky and L. L. Voronin, Moskow (Russian Federation) and Minsk (Belarus)
Evidence for ephaptic feedback in mossy fiber-CA3 synapses: Positive correlation between paired responses

R. Fonseca, U. V. Nägerl and T. Bonhoeffer, München
Competitive interactions between potentiated synapses

C. R. Rose, R. Blum, A. Lepier, B. Pichler, K. W. Kafitz and A. Konnerth, München
A direct role for truncated TKRB receptors in glial calcium signaling

J. Köhler, A. H. Kossel, T. Bonhoeffer and R. Klein, München-Martiensried
Fluorescently tagged EphB2 receptors to study their dynamics in neurons

R. Conti and I. Llano, Paris (France)
Action potential and ryanodine evoked calcium rises in synaptic terminals of cerebellar basket cells

C. Lehner and H. Kerschbaum, Salzburg (Austria)
Glutamate - mediated cell - death in epidermal cells of Xenopus laevis

S. Schrofner, A. Zsombok, A. Hermann and H. Kerschbaum, Salzburg (Austria) and Pecs (Hungary)
Nitric oxide and cGMP - mediated modulation of Ca - and KCa - conductances in snail neurons

C. Ianista, D. Walcher and J. Kirsch, Ulm
Identification and functional characterization of monomeric GTPases, which bind to the GDP/GTP exchange factor collybistin

K. Knöpfle, J. Kirsch and R. Nawrotzki
A molecular role for gephyrin in the biosynthesis of molybdenum cofactor

P. Weber, I. C. Kuhse and J. Kirsch, Ulm
Characterization of an antibody against collybistin, a guanine nucleotide exchange factor interacting with gephyrin: A possible role in glycine receptor clustering and function?

Structure function analysis and molecular interaction of the cysteine string protein of Drosophila melanogaster
Neuropeptides and neuromodulation

M. Meseke, J. Börner, M. Dreger and P. Skiebe, Berlin
Identification and immunocytochemical localisation of tachykinin-related peptide and orcokinin-like peptides in the stomatogastric nervous system in three different decapod crustacean species

V. Beglopolous, A. Rohlmann and M. Missler, Göttingen
Functional characterization of neurexophilins in the CNS

T. M. Korotkova, O. A. Sergeeva, R. E. Brown and H. L. Haas, Düesseldorf
Effects of hypothalamic neuropeptides on dopaminergic and GABAergic neurons in the ventral tegmental area (VTA) of the rat

E. Tousson, Frankfurt
Circadian rhythms in acute and organotypic explants of the hypothalamic suprachiasmatic nucleus of the mouse

T. Rose and M. Hörner, Göttingen and Hong Kong SAR (China)
Activity-dependent suppression of spontaneous spike generation in the Retzius neurons of the leech, Hirudo medicinalis

S. Vezenkov, N. Elsner and R. Heinrich, Göttingen
A central nervous role for proctolin: Control of singing behavior by activation of the adenylate cyclase- and phospholipase C-pathway in the brain of grasshoppers

K. Miskiewicz, E. Pyza and F.-W. Schürmann, Göttingen and Krakow (Poland)
Daily structural changes of dense core vesicles in PDH-ir neurons in the optic lobe of the housefly’s brain

J. Pilli and K. A. Wiese, Hamburg
Cellular parameters modulated by octopamine in context of a switch-on of recurrent action in auditory lateral inhibiton of crickets

Y. Avraham, L. Hanuš, O. Zolotariev, A. Ben-Menachem, D. Ben-Shushan, R. Mechoulam and E. M. Berry, Jerusalem (Israel)
Regulation of the endocannabinoid systems by dietary oils as possible therapy for treating weight loss associated with eating disorders

H. Schwimmer, R. Gerstberger and M. Horowitz, Jerusalem (Israel) and Giessen
Nitric oxide and angiotensin II - neuromodulators in thermoregulation during exposure to combined heat and hypohydration stress
771  N. Brenscheidt, B. Brüstle, S. Kreissl and W. Rathmayer, Konstanz
    Signal transduction mechanisms involved in the potentiation of muscle contraction by the neuropeptide proctolin

772  T. Bullmann, K. Schildberger and P. A. Stevenson, Leipzig
    Nitric oxide as an endogenous modulator of circadian pacemaker cells in the snail Bulla gouldiana

773  F. Qadri, Lübeck
    Differential mRNA expression of kinin receptors and nitric oxide synthase isoforms in hypothalamus and brainstem during LPS-induced inflammation in rats

774  O. Jöhren, A. Dendorfer and P. Dominiak, Lübeck
    Hypothalamic neuropeptides are differentially expressed in rat models of obesity and type-2 like diabetes

775  P. Herlyn, O. Jöhren and P. Dominiak, Lübeck
    Quantification of orexin receptor mRNA in distinct brain nuclei using quantitative real-time PCR

776  S. Hofer, H. Dircksen and U. Homberg, Marburg and Bonn
    Involvement of a neuropeptide related to orcokinin in light entrainment of the circadian clock of the cockroach

777  S. Söhler and M. Stengl, Marburg
    Are FMRFamide-related peptides involved in the circadian coupling pathway of the cockroach Leucophaeae maderae?

778  N.-L. Schneider and M. Stengl, Marburg
    Extracellular long-term recordings of the accessory medulla, the circadian pacemaker of the cockroach Leucophaeae maderae

779  V. M. Kovalzon, G. N. Fessenko, S. V. Koroleva and I. P. Ashmarin, Moscow (Russian Federation)
    Peptide interplay and rodent sleep

780  O. Farkas, A. Tamás, A. Zsombok, Á. Péterfalvi, D. Reglodi, A. Büki, I. Lengvári, T. Dóczi and J. T. Povlishock, Pécs (Hungary) and Richmond, VA (USA)
    Effects of Pituitary Adenylate Cyclase Activating Polypeptide (PACAP) in a rat model of diffuse axonal injury

781  C. Matthew, H. Schuppe, J. Chad and P. Newland, Southampton (UK)
    4,5-diaminofluoroscein imaging of nitric oxide synthesis in crayfish terminal ganglia

782  Y. Hamasaka, C. J. Mohrherr, K. R. Rao, D. R. Nässel and C. Wegener, Stockholm (Sweden) and Pensacola, FL (USA)
    Chronobiological quantification of pigment-dispersing factor in the cockroach Leucophaeae maderae

783  C. Wegener, Y. Hamasaka and D. R. Nässel, Stockholm (Sweden)
    PDF-containing clock neurons in the brain of Drosophila larvae express functional acetylcholine receptors
784 J. Shelley and V. Gauck, Tübingen
_The effect of serotonin on the Ih current of deep cerebellar nucleus neurons_

785 S. C. Hoyer, J. Liebig and W. Rössler, Würzburg
_Brain plasticity, biogenic amines and aggression in the ponerine ant Harpegnathos saltator_

**Ion channels and receptors**

786 E. Wehage, J. Eisfeld, I. Heiner, E. Jüngling and A. Lückhoff
_Activation of the cation channel LTRPC2 splice variants differentially by ADP-ribose and hydrogen peroxide_

787 O. Kann, R. Kovács and U. Heinemann, Berlin
_Activation of metabotropic receptors elevates mitochondrial Ca\(^{2+}\) and stimulates oxidative metabolism in rat hippocampal slice cultures: Functional implications of cellular Ca\(^{2+}\) entry and release_

788 D. G. Wüstenberg, M. Boytcheva, B. Grünewald, D. A. Baxter, J. H. Byrne and R. Menzel, Houston, TX (USA) and Berlin
_Physiologically based Hodgkin-Huxley model simulates spiking behaviour of honeybee Kenyon cells_

789 A. Pickenhagen, G. Gisselmann and H. Hatt
_Characterization of the distribution patterns of HCN isoforms in rodent nasal epithelium and construction of targeting vectors for HCN1 and HCN4 knock out mice_

_Characterization of novel homo- and heterooligomeric ligand gated chloride channels in D. Melanogaster_

791 G. Gisselmann, Y. Bobkov, T. Marx, C. H. Wetzel, B. Gamerschlag, E. M. Neuhaus, B. W. Ache and H. Hatt, Bochum and Gainesville, FL (USA)
_Characterization of Ih channels from invertebrate olfactory receptor neurons_

792 C. Gurgui, S. Kraner, O. K. Steinlein, D. Swandulla and M. Hans, Bonn
_Functional consequences of ε AChR subunit truncating mutations linked to congenital myasthenic syndrome_

793 F. Otto, H. Straub, A. Gorji, E. Siep and E.-J. Speckmann, Münster
_Nifedipine inhibits the delayed rectifier K\(^{+}\) current in rat hippocampal and human neocortical neurons_

_Expression of NCKX but not NCX correlates with the kinetics of glutamate responses and expression of AMPA receptors in rat histaminergic neurons_

795 P. Coulon, G. Klees, P. W. Dierkes and W.-R. Schlue, Düsseldorf
_Effect of hyposmotic conditions on cell volume and electrophysiological properties of leech Retzius neurones_
D. Günzel, T. Gabriel and W.-R. Schlue, Düsseldorf and Bochum
*Pressure injection: A reliable method to determine cytosolic buffering in single cells?*

S. Westmark, P. Hochstrate and W.-R. Schlue, Düsseldorf
*Permeation of Ca$^{2+}$, Sr$^{2+}$, and Ba$^{2+}$ through the caffeine-sensitive cation channels in leech P neurons*

H. Thurm, B. Fakler and D. Oliver, Freiburg
*Properties of Ca$^{2+}$-activated large conductance K$^{+}$ channels in mammalian inner hair cells*

R. V. Haberberger, M. Kress, J. Karasek, G. Barritt and S. Wiegand, Giessen
*Possible role of TRPC channels in nociceptive processing*

R. V. Haberberger, K. S. Lips, P. Hartmann, M. Kress and W. Kummer, Giessen
*Subtypes of nicotinic acetylcholine receptors modulate the intracellular calcium level in nociceptive neurons of the rat*

*Localisation of the endogenous toxin-like modulator lynx1, and its relation to the nicotinic acetylcholine receptor subunit α7 and α10 in rat ganglia*

A. Scholz, M. Gruß, J. Stehr and G. Ettorre, Gießen and London (UK)
*Voltage-dependent potassium channel in rat sensory neurones is blocked by hypoxia*

E. V. Kvachmina, D. Richter and E. Ponimaskin, Göttingen
*The characterisation of 5-HT7 receptor isoform: Specific receptor-G-protein interaction and post-translational modifications*

E. Papoucheva, D. W. Richter and E. Ponimaskin, Göttingen
*Functional role of acylation of 5-HT$\textsubscript{1A}$ receptor*

E. G. Ponimaskin, A. Dumuis, M. Opperman and D. Richter, Göttingen and Montpellier (France)
*Post-translational modifications and functions of 5-HT$\textsubscript{4}$ receptor*

A. N. Al-Sabi, M. Ferber, B. M. Olivera, J. Rivier and H. Terlau, Göttingen, Salt Lake City, UT (USA) and La Jolla, CA (USA)
*The interaction of kappaM-conotoxin RIIIK with Shaker potassium channels from trout*

M. Ferber and H. Terlau, Göttingen
*Expression of heteromeric Kv1 potassium channels in Xenopus oocytes*

S. M. Pilgram, K. Borchardt and F. Soto, Göttingen
*Immunocytochemical localization of P2X$\textsubscript{3}$ receptor subunits in the rat brain*
809 U. Heilbronner, M. van Kampen and G. Flügge, Göttingen
Persistent upregulation of thalamic α-2b adrenoceptors after chronic psychosocial stress

Block of AMPA-type glutamate receptor channels by the novel antagonists RPR119990 and RPR 117824

811 I. Witte, M. Gewecke and T. Roeder, Hamburg and Würzburg
Ligand-gated chloride channels of the fruitfly Drosophila melanogaster

812 C. Kaehler, G. Schramm, D. Heyden, M. Gewecke and T. Roeder, Hamburg and Würzburg
Analysis of tissue distribution, pharmacology and physiological significance of octopamine receptor splice variants of the fruit fly Drosophila melanogaster

813 C. Kaehler, E. Liebau, H. Hutter, M. Gewecke and T. Roeder, Hamburg, Heidelberg and Würzburg
Physiological and molecular analysis of muscarinic neurotransmission in the nematode Caenorhabditis elegans

814 G. Glassmeier, S. Fehr, M. Schweizer, O. Pongs and J. R. Schwarz, Hamburg
Kv3.1- and Kv3.4-mediated K currents in nerve terminals of the rat posterior pituitary

815 C. K. Bauer, A. S. Ganz, D. Schiemann, I. Wulfsen and J. R. Schwarz, Hamburg
Expression and function of erg K+ channels in gonadotroph cells of the rat pituitary

816 B. Callesen, D. Isbrandt, K. Sauter, J. Dannenberg, O. Pongs and R. Bähring, Hamburg
KCHIP interaction with a conserved retention signal containing n-terminal domain of Kv4 channels

Loss of functional M-current-mediating KCNQ channels leads to abnormal excitability and resonance behaviour in hippocampus and neocortex

818 M. Gebauer, D. Isbrandt, K. Sauter, O. Pongs and R. Bähring, Hamburg
Structural determinants of Kv4 channel inactivation

819 D. Wicher, S. Messutat and B. Lapied, Jena
Noncapacitative calcium current and calcium signaling in neurosecretory insect neurons

820 T. Broicher, T. Kanyshkova, S. Meuth, T. Munsch, H.-C. Pape and T. Budde
Ethosuximide and Mibefradil display differential blocking effects on low voltage-activated Ca2+ channels in thalamic neurons
T. Kanyshkova, L. Caputi, T. Munsch, C. Abrahamczik, H.-C. Pape and T. Budde, Magdeburg
Expression and electrophysiological properties of hyperpolarization-activated cation channels in a rat model of absence epilepsy

S. Meuth, H.-C. Pape and T. Budde, Magdeburg
Ca²⁺-dependent inactivation of neuronal Ca²⁺ channels: A restricting mechanism of an ubiquitous intracellular mediator

M. E. Tulapurkar, G. Zuendorf, T. Hanck and P. D. G. Reiser, Magdeburg
Agonist-specific translocation and recycling of nucleotide-activated P2Y2 receptor

M. Jansen, H. Rabe, G. Dannhardt, H. Lüddens, S. T. Sinkkonen and E. R. Korpi, Mainz and Helsinki (Finland)
Two novel GABA mimetics reveal functional discrimination on different GABAA receptor subtypes

H. Rabe, I. Böhme and H. Lüddens, Mainz
Determined switch of GABA sensitivity by point mutations in GABAA receptors α subunits

M. Ulbrich and P. Fromherz, Martinsried
Capacitive opening of recombinant voltage-gated K⁺ channel on silicon chip

M. Eder, K. Becker, A. Schierloh, W. Zieglgänsberger and H.-U. Dodt, München
Distribution and properties of functional postsynaptic kainate receptors on neocortical layer V pyramidal neurons

I. Pahal, C. Thode and M. Darlisson, Nottingham (UK)
Molecular evolution and function of the GABAA receptor β-4 and γ-4 subunits

T. Schubert, R. Weiler and A. Akopian, Oldenburg and New York, NY (USA)
Actin filaments modulate voltage-gated calcium channels in retinal ganglion cells

T. Knott, K.-H. Boven, H. R. Polder, P. van Stiphout and A. Stett, Reutlingen, Tamm and AC Eindhoven (The Netherlands)
Automated patch-clamping with the novel CytoPatch™ technology

D. Hess, P. Wallén, S. Grillner and A. El Manira, Stockholm (Sweden)
Sodium-dependent potassium currents in lamprey spinal neurons: Effects of replacement of extracellular sodium by lithium

G. Barbara, C. Zube, J. Rybak, M. Gauthier and B. Grünewald, Toulouse (France), Würzburg and Berlin
Ionotropic receptors of cultured honeybee antennal lobe neurons

H. Winter, T. Weber, U. Zimmermann, K. Rohbock, I. Köpschall, S. Christ, J. McGee, K. Bauer, E. Walsh and M. Knipper, Tübingen, Hannover and Omaha, NE (USA)
Potassium channel KCNQ4

Transcriptional control of the cochlear motor protein prestin
835 M. Knipper, H. Winter, T. Weber, I. Köpschall, K. Rohbock, S. Christ, J. McGee, K. Bauer, E. Walsh and U. Zimmermann, Tübingen, Hannover and Omaha, NE (USA)

*Differential transcriptional control of cochlear ion channels dependent on the onset of expression*

836 I. Barbara, S. Pfeiffer, K. Kohler, E. Guenther and E. Zrenner

*ATP induces cell permeabilization in the intact rat retina*

837 M. G. Langer, S. Fink, A. Koitschev, K. Löffler, J. P. Ruppersberg and H.-P. Zenner, Tübingen

*A stochastic gate model for the transduction channel of cochlear hair cells*


*Probing the structure of mechanosensors in the inner ear by Scanning Probe Microscopy using a novel experiment control and automation software*

839 E. Schmidt, J. Kirsch and J. Kuhse

*Identification and characterization of novel interactionpartners of the inhibitory glycine receptor subunit α 2*

840 T. P. Pauly and J. Kuhse, Ulm

*Splicevariants of the NR1-subunit of the NMDA-receptor are differentially regulated by receptor activity during synaptogenesis of rat embryonic spinal cord neurons in vitro*

841 J. Kuhse and R. Neugebauer, Ulm

*Expression of a soluble glycine binding domain of the n-methyl-d-aspartate receptor NR1 subunit*

842 H. Fischer and S. Huck, Vienna (Austria)

*Pharmacological discrimination of somatic and prejunctional nicotinic acetylcholine receptor(nAChR)channels in the mouse superior cervical ganglion(SCG)*

843 C. van Rijnsoever, C. Sidler and J.-M. Fritschy, Zürich (Switzerland)

*Evidence for a subsynaptic pool of GABA_A receptors*

**Neuropharmacology and -toxicology**

844 M. Schneider and M. Koch, Bremen

*Chronic cannabinoid treatment during puberty leads to disruption in sensorimotor gating, object recognition memory and the performance in a progressive ratio schedule in adult rats*

845 S. Röskam and M. Koch, Bremen

*Attentional modulation of prepulse inhibition of the acoustic startle reflex in rats with a combined PPI/conditioned inhibition paradigm*
846 J. Brosda, N. Wegener, K. Schwabe and M. Koch, Bremen
Clozapine increases disruption of prepulse inhibition after sustained PCP or MK-801 treatment

847 T. Enkel, K. Diederich, E. Drews and M. Koch, Bremen
Effects of neonatal medial prefrontal cortex lesions on trace fear conditioning in rats

848 M. Jähkel, L. Schiller, M. Schlögel and J. Oehler, Dresden
Effects of long-term isolation housing on behaviour in male and female mice

849 L. Schiller, M. Donix, M. Jähkel, N. Sachser and J. Oehler, Dresden and Münster
Isolation-induced alterations in different AB mice strains: Autoradiographic analyses of 5-HT1A and 5-HT2A receptors

Impact of homocysteine metabolites on neuronal network activity detected with microelectrode arrays: Implications for neurological disturbance in homocystinuria

851 M. Grewing, C. Distler and K.-P. Hoffmann, Bochum
Influence of the opioid fentanyl on neuronal activity in the cat’s superior colliculus

852 J. Leemhuis and D. Meyer, Freiburg
Dendrite formation induced by NMDA receptor stimulation: Role of the small GTPase RAC and phosphoinositide 3-kinase (PI3-k)

853 M. Koch, P. Tovote, A. Ronnenberg, S. O. Ögren, O. Stiedl and J. Spiess, Stockholme (Sweden)
Effects of 5-HT2C receptor activation on exploratory behavior and autonomic function of mice

854 M. Yoge-Falach, T. Amit, O. Bar-AM, Y. Sagi and M. B. Youdim, Haifa (Israel)
In Vitro and in vivo regulation and mechanism of amyloid precursor protein secretion by anti-Parkinson drug rasagline

855 U. Bickmeyer, M. Assmann, M. Köck and C. Schütz, Helgoland and Bremerhaven
Secondary metabolites from marine sponge influence intracellular calcium signals

856 H. Franke, A. Guenther, J. Grosche, R. Schmidt, S. Rossner, R. Reinhardt and P. Illes, Leipzig
P2X7 receptor expression after ischemia in the cortex of rats

Reduced food availability alters the expression of purinergic receptor mRNA in the nucleus accumbens of the rat

858 R. Reinhardt, A. Guenther, A. Manaenko, H. Faber-Zuschratter, D. Schneider, P. Illes and H. Franke, Leipzig and Magdeburg
Neuronal P2X7 receptors in rat brain after ischemic damage
859  S. R. Ott, A. Delago and M. R. Elphick, London (UK)
*Sensitization of soluble guanylyl cyclase by YC-1 in an insect brain and its
application in identifying NO targets by anti-cGMP immunohistochemistry

860  Y. Dahlem, S. C. Müller and W. Hanke, Magdeburg and Stuttgart
*Nitric oxide effects on the intrinsic optical signal of retinal spreading depression
waves

861  E. Appenrodt and H. Schwarzberg, Magdeburg
*The modulation of Methylphenidate-induced motor activity in rats by melatonin
and vasopressin

862  K. Krüger, J. Gruner, N. Binding, M. Madeja and U. Mußhoff, Münster
*Effects of arsenicals on neuronal ion channels

863  G. Hajak, P. Eichhammer, B. Langguth, J. Aigner and H. Klein
*Modulation of cortical excitability by atypical neuroleptics

864  P. Eichhammer, B. Langguth, R. Wiegand, P. Sand and G. Hajak
*Neuromodulatory effects of SSRIs on cortical excitability influenced by genetic
factors

865  G. Krause, A. Podssun, E. Schreiber, S. Homma, R. Rosner and W. Baumann,
Rostock-Warnemünde
*Electrical neuronal network activity on a silicon based neurosensor chip with flow
injection system

866  K. Jügelt, D. Schiffmann and D. G. Weiss, Rostock
*Impact of spike sorting noise on features in multivariate analysis of neuronal
activity on MEAs

867  P. Lohmann and M. W. Riepe, Ulm
*Neuroprotection and neuronal dysfunction upon repetitive inhibition of oxidative
phosphorylation

Cell and tissue cultures

868  C. Theiss, M. Napirei and K. Meller, Bochum
*Anterograde transport of GFP-tagged neurofilaments in living cells

869  S. Diestel, M.-T. Fergen, C. Müller and B. Schmitz, Bonn
*The role of NCAM phosphorylation on NCAM mediated signal transduction
pathways

870  C. Mauth, L. Just, R. Schulz and A. Bader, Braunschweig
*In vitro differentiation of neural progenitor cells on a biofoil membrane system

871  F. Otto, P. Göertz, W. Fleischer and M. Siebler, Düsseldorf
*Neurophysiological characterization of cryopreserved rat cortical neurons on
microelectrode arrays
S. Balakrishnan, F. Bergmann and B. Keller, Göttingen
*Intracellular calcium signalling in a motoneurone cell line and non motoneurone cell line - implications in study of amyotrophic lateral sclerosis*

P. Lingor, S. Kügler, U. Schöll and M. Bähr, Göttingen
*Recombinant Semliki Forest virus effectively transduces primary neuron cultures, but vector toxicity limits its use in vitro*

F. Paquet-Durand, S. Tan and G. Bicker, Hannover
*Turning teratoma cells into neurons: Cell contact facilitates rapid differentiation of NT-2 cells into postmitotic neurons*

*Investigations on kinetics of cell-transistor coupling by means of genetically modified HEK293 cells*

H. Kuhrt, M. Walski, J. Albrecht and A. Reichenbach, Leipzig and Warsaw (Poland)
*Rabbit retinal organ culture as an in-vitro-model for hepatic retinopathy*

E. Gutyrchik and P. Fromherz, Martinsried
*Control of attachment and growth of rat hippocampal neurons in culture*

T. A. Keil, M. Cyrklaff, V. Lucic, P. Fromherz, I. Grunwald and W. Baumeister, Martinsried
*Cryo-electron tomography of cultivated mammalian neurons*

M. Merz and P. Fromherz, Martinsried
*Topologically defined networks of mollusc neurons electrically interfaced to silicon chips*

G. Vollmer, O. Goldbaum and C. Richter-Landsberg, Oldenburg
*Heat shock proteins in cultured rat brain neurons: Developmental expression and differential regulation after stress*

H. Steuer, A. Jaworsky, D. Stoll and B. Schlosshauer, Reutlingen
*The porcine outer blood-retina barrier as blood-brain barrier model in vitro*

**Glia cells; Myelin**

B. Haas, C. Schipke, O. Peters and H. Kettenmann, Berlin
*Different mechanisms of astrocytic calcium-wave propagation in cortex versus hippocampus*

A. Hoffmann, O. Kann, H. Kettenmann and U.-K. Hanisch, Berlin and Senftenberg
*Suppression of receptor-evoked calcium signaling and control of release function via elevated basal calcium levels in activated microglia*

A. Heidemann, C. Schipke, O. Peters and H. Kettenmann, Berlin
*Control of Ca\(^{2+}\) oscillations in astrocytes in situ*
885 H. Gaethje, N. Isakovic, S. Kelm and F. Dietz, Bremen
Structural basis for the interactions of myelin-associated glycoprotein with its binding partners

886 W. Volknandt, A. Wilhelm, C. Nolte, H. Kettenmann and H. Zimmermann, Frankfurt am Main and Berlin
Allocation of secretory organelle proteins to EGFP-expressing astrocytes in vitro and in situ

887 M. Kirsch, N. Trautmann, M. Ernst and H.-D. Hofmann, Freiburg and Victoria (Australia)
gp130-mediated activation of the JAK/STAT-pathway is necessary for activation of glial cells following optic nerve lesion

888 E. Butkevich, T. Shirao, R. Duden, S. Hülsmann and I. Majoul, Göttingen, Gunma (Japan) and Cambridge (UK)
Gap junctions serving intercellular communications are stabilized under the plasma membrane by direct interactions with drebrin

889 C. B. Braun, B. Fuss, G. Raivich and K. Frank, Göttingen, Richmond, VA (USA) and London (UK)
Oligodendrocytes during myelination and trauma in PLP-DSRED transgenic mice

890 G. Saher, C. Lappe-Siefke, S. Ishibashi and K.-A. Nave, Göttingen and Tochigi (Japan)
Dysmyelination caused by cre-mediated inactivation of cholesterol biosynthesis in oligodendrocytes

891 A. Nimmerjahn, F. Kirchhoff and F. Helmchen, Heidelberg and Göttingen
Two-photon imaging of glial cells in the intact neocortex

892 F. C. Britz, I. C. Hirth and J. W. Deitmer, Kaiserslautern
G-protein-mediated activation of glial functions in the leech central nervous system

893 O. Uckermann, M. Weick, L. Vargova, M. Francke, A. Bringmann, E. Sykova and A. Reichenbach, Leipzig and Prague (Czech Republic)
Glutamate-induced morphological changes in the guinea-pig retina

Biomechanical properties of Müller cells

Early change in extracellular ATP-induced responses and potassium currents of Müller glial cells in experimental retinal detachment: Effect of suramin

896 H. Wang and G. Reiser, Magdeburg
Thrombin-induced ERK1/2 activation through PAR-1 in rat astrocytes is mediated by the Ca²⁺-sensitive tyrosine kinase Pyk2 and Src kinase

897 A. A. Zimmermann and W. Zuschratter, Mannheim and Magdeburg
Neuro-glial contacts and changes in the glyco-landscape of the cell surface
C. Richter-Landsberg, M. Oppermann, M. Handschuh and O. Goldbaum, Oldenburg

Cytoplasmic inclusions which transiently occur after treatment with okadaic acid in oligodendroglial cells overexpressing τ are stabilized by proteasomal inhibition

T. Stahnke, C. Bellmann, T. Mronga and C. Richter-Landsberg, Oldenburg

Peroxynitrite induces cytoskeletal changes and cytoplasmic inclusions in oligodendroglial cells overexpressing the map τ

L. Biller, G. Schramm, H. Marquardt, M. Gewecke and T. Roeder, Hamburg and Würzburg

Neurons versus Glia - Differences in the transcriptomes of insect neurons and glial cells

Neuronal development

E. Weiler and U. T. Eysel, Bochum

Differential expression of connexin mRNAs in the visual cortex of the rat

L. Just, M. Wiehle, C. Mauth, R. Schulz, F. Stahl and A. Bader, Braunschweig

Proliferation and differentiation of neural precursors prepared from ventral mesencephalon of embryonic rats

M. Bennay and M. Koch, Bremen

Enhanced sensitivity of accumbens core and shell neurons to dopaminergic drugs in adult rats with neonatal excitotoxic lesions to the medial prefrontal cortex

D. Engelkamp, K. Benzing, S. Flunkert, K. Tersar and A. Schedl, Frankfurt and Newcastle (UK)

A novel model system to study guidance cues of migrating neurons

S. Flunkert, K. Benzing and D. Engelkamp, Frankfurt am Main

Guiding cues of tangentially migrating cells

A. Kral, R. Hartmann, J. Tillein, S. Heid and R. Klinke, Frankfurt am Main

Functional maturation of the auditory cortex deprived from hearing experience

A. Gundlfinger, F. Metzger, A. Aertsen and U. Egert, Freiburg and Basel (Switzerland)

Chronic modulation of protein kinase c activity affects neuronal connectivity in cerebellar slice cultures

C. Jung, I. Hirschmüller-Ohmes and R.-B. Illing, Freiburg

Changing molecular complexities during ontogenesis in inferior colliculus and cerebellum of the rat brain

M. Frank, M. Ebert, N. Véron and R. Kemler, Freiburg

Expression and function of γ-protocadherins in the central nervous system of the mouse
910  T. Manzke, S. Preusse, S. Hülsmann and D. Richter, Göttingen
Development of the serotonin 5-HT$_{4\alpha}$ receptor isoform and co-expression with 
μ-opioid receptors in the pre-Boeztinger complex of rat

911  T. Wolfram, M. Rossner, T. Fischer, R. Laage and K.-A. Nave, Göttingen, La Jolla, 
CA (USA) and Heidelberg
Analysis of protein-protein interactions of neurally expressed basic helix-loop-
helix transcription factors

912  T. Michaelis, T. Watanabe, O. Natt, S. Boretius, J. Frahm, S. Utz and 
J. Schachtner, Göttingen and Marburg
3D MRI of brain metamorphosis in Manduca sexta

913  E. Voronezhskaya and L. Nezlin, Moscow (Russian Federation) and Göttingen
Peripheral sensory neurons lead neurogenesis in trochophore animals

914  E. Roussa and K. Kriegstein, Göttingen
TGF-β promotes survival on mesencephalic dopaminergic neurons in synergy with 
Shh

915  G. Dityateva, M. Schachner and A. Dityatev, Hamburg
Substrate- and concentration-dependent effects of nicotine on neurite outgrowth in 
vitro

916  A. Haase and G. Bicker, Hannover
Nitric Oxide and cyclic GMP mediated neuronal cell migration in the enteric 
nervous system of the grasshopper embryo

917  K. Burau, K. Huber, A. Allmendinger, K. Unsicker and U. Ernsberger, 
Heidelberg
The role of c-ret signaling in the cholinergic differentiation of sympathetic neurons

918  S. Titz, M. Hans, A. Lewen, D. Swandulla and U. Misgeld, Heidelberg and Bonn
The developmental change in the GABA response from depolarizing to 
hyperpolarizing

919  I. Antonow-Schlöërke, T. Müller, H. Schubert, A. Anwar, C. Wichler and 
M. Schwab, Jena
Glucocorticoid induced alterations of brain cytoskeletal proteins in the fetal sheep 
are reversible after one course of drug administration

920  M. Brodhun, T. Coksaygan, I. Antonow-Schlöërke, T. Müller, H. Schubert, 
P. W. Nathanielsz, S. Patt and M. Schwab, Jena
Programmed cell death and maturation of glucocorticoid receptors are not related 
during brain development in fetal sheep

Immunocytochemical localization of IGL, a new GAP-43 like gene product in 
different developmental stages of the American cockroach

922  T. Rüdiger and J. Bolz, Jena
Thalamic growth cone behavior regulated by the neurotransmitter acetylcholine: 
Running on the spot
J. E. Heil, J. W. Deitmer and C. Lohr, Kaiserslautern
Developmental changes of voltage-dependent Ca^{2+} influx in insect neurons and glial cells during metamorphosis

M. Goegler
Guiding cells with light

D. Koch
Optical guidance of growth cones

A. Gieseler, T. Opitz, A. De Lima and T. Voigt, Magdeburg
Emerging network organisation in compartment cultures of embryonic neocortex: (Mechanisms contributing to) GABAergic neurons distribution

W. Kilb and H. J. Luhmann, Mainz
Early onset of synaptic activity in Cajal-Retzius cells of embryonic mouse cerebral cortex

D. Cleppien, O. Vef, R. Beckervordersandforth, T. Löffler, B. Altenhein and G. Technau, Mainz
A screen for genes controlling gliogenesis in Drosophila

S. Utz and J. Schachtner, Marburg
Involvement of the NO/cGMP signaling pathway in the development of the antennal lobe of the sphinx moth Manduca sexta

C. Lohmann and T. Bonhoeffer, Martinsried
Imaging structural plasticity and calcium dynamics in dendrites of hippocampal neurons during synapse formation

S. Posser and G. Boyan, München
Immunocytochemically unique neurons of the median domain contribute to the primary axon scaffold of the grasshopper brain

R. Böttcher, A. Rolfs and U. Strauss, Rostock
Properties of Na^{+} currents of neuronal progenitor cells

C. C. Steinmetz, I. Buard, K. Naegler and F. W. Pfrieger, Strasbourg (France)
Isolation and cultivation of CNS neurons from postnatal mice

U. Kirschnick, E. Horn and H.-J. Agricola, Jena and Ulm
An atlas for the determination of the biological age of cricket embryos (Acheta domesticus) using morphological features

M. Wildt and B. S. Beltz, Wellesley, MA (USA)
Serotonin levels in brains of juvenile lobsters, Homarus americanus, show a diurnal rhythm

C. Groh and W. Rössler, Würzburg
Influences on the development of the honeybee brain
Regeneration and plasticity

937 A. U. Bräuer, N. E. Savaskan, O. Ninnemann and R. Nitsch, Berlin
Identification of lesion-induced genes in the hippocampus: A role for plasticity-related genes (PRGs) in layer-specificity?

938 J. Lesting, J. Neddens and G. Teuchert-Noodt, Bielefeld
Adaptive changes of dopaminergic and serotonergic interaction in the nucleus accumbens depending on epigenetic factors

939 J. Neddens, A. Busche, F. Bagorda and G. Teuchert-Noodt, Bielefeld
An early methamphetamine intoxication exerts region-specific morphogenetic effects on the maturation of the cortical serotonin (5-HT) innervation: Interaction with environmental experience

940 D. Polascheck and G. Teuchert-Noodt, Bielefeld
Restricted rearing causes overshoot maturation of 5-HT innervation in amygdaloid nuclei

941 A. Busche, A. Bagorda and G. Teuchert-Noodt, Bielefeld
The maturation of serotonin and acetylcholine innervation in the dentate gyrus is influenced by epigenetic factors

942 M. Huemmeke, U. T. Eysel and T. Mittmann, Bochum
Lesion induced enhancement of LTP in the visual cortex of rats is mediated by NMDA-receptors containing the NR2B subunit

Effects of combined administration of FK 506 and Simulect® on sciatic nerve regeneration

944 D. Dehn and T. Deller, Frankfurt am Main
Upregulation of the chondroitin sulfate proteoglycan NG2 in the zone of denervation and sprouting following unilateral lesion of the entorhinal cortex

Commissural/associational sprouting in the hippocampus after entorhinal cortex lesion in adult mice overexpressing the growth-associated protein CAP23

946 J. Maciaczyk, C. Hackl and G. Nikkhah, Freiburg
Effect of differentiation stage on fetal dopaminergic precursors survival and integration after grafting in animal model of Parkinson’s disease

947 A. Papazoglou, A. Klein, T. J. Feuerstein, D. Lottrich, V. Kloth, J. Wessolleck and G. Nikkhah, Freiburg
Gabapentin-lactam: A new potential neuroprotective agent

948 A. Klein, G. A. Metz and G. Nikkhah, Freiburg and Lethbridge, Alberta (Canada)
Mechanisms of functional restoration of skilled limb movements after 6-hydroxydopamine lesion and dopaminergic grafts: Restoration or compensation?
B. Schmidt, I. Singec, A. Klein, V. Kloth, D. Lottrich and G. Nikkhah, Freiburg
Xenotransplantation of rostral migratory stream (RMS) - and olfactory bulb-
derived cells into a rat model of Parkinson's disease

K. S. Kraus and R.-B. Illing, Freiburg
Survival of olivocochlear neurons and their role in reorganisation processes in the
rat auditory system after cochlear lesion

V. Kloth, A. Klein, D. Lottrich, M.-B. Schmidt, C. Hackl and G. Nikkhah, Freiburg
Training modulates learning and performance levels of sensorimotor behaviour
following dopaminergic grafts

K. Thinyane, P. Baier, J. Schindehuette, G. Flugge, E. Fuchs, W. Paulus, P. Gruss
and C. Trenkwaler, Göttingen
Transplantation of differentiated murine embryonic stem cells in a 6-
hydroxydopamine rat model of Parkinson's disease

J. Gerber, T. Böttcher, I. Bering, S. Bunkowski, W. Brück, U. Kuhnt and R. Nau,
Göttingen
Increased neurogenesis after experimental Streptococcus pneumoniae meningitis

M. Hasselblatt, M. Bunte, R. Dringen, A. Tabarnero, J. Medina, C. Giaume,
A.-L. Siren and H. Ehrenreich, Göttingen, Tübingen, Salamanca (Spain) and
Paris (France)
Endothelin-1 modulates astrocytic protein content and morphology by inhibition of
gap junctional permeability

D. Kämmer, C.-C. Riechers, K. Radyushkin, B. Meyer, M. Ilia, T. Michaelis,
and London (UK)
Long-term behavioral, morphological and molecular follow-up after discrete
cortical lesion in mice

B. C. Lieberoth, C. G. Becker, M. Schachner and T. Becker, Hamburg
Expression of growth-related genes predicts different regenerative capacities of
neurons with a spinal axon and indicates plasticity of intraspinal neurons in adult
zebrafish

A. Pätschke, G. Bicker and M. Stern, Hannover
Neuronal regeneration in the ventral nerve cord of the locust

J. Jungnickel, K. Gransalke, M. Timmer and C. Grothe, Hannover
Analysis of the endogenous FGF-2 system with regard to its role after peripheral
nerve lesion

W. Nindl, P. Kavakebi, P. Claus, C. Grothe and L. Klimaschewski, Innsbruck
(Austria) and Hannover
FGF-2 isoforms in postmitotic sympathetic neurons: Synthesis, nuclear transport
and involvement in karyokinesis
960  H. Erez, C. Hoogenraad, C. De Zeeuw, N. Galjart and M. E. Spira, Jerusalem
Axotomy induced reversed microtubules polarity leads to the formation of a
vesicles trap and the extension of a growth cone’s lamellipodium

961  M. Prager-Khoutsersky and M. E. Spira, Jerusalem (Israel)
Reversible internalization of voltage gated channels accompany brefeldin A-
induced structural remodeling of cultured Aplysia neurons

962  R. Oren, A. Dormann, D. Gitler and M. Spira, Jerusalem (Israel)
Critical calpain-dependent ultrastructural alterations underlie the transformation
of an axonal segment into a growth cone after axotomy of cultured Aplysia
neurons

963  M. E. Spira
On line confocal imaging of processes underlying the dedifferentiation of an
axonal segment into a motile growth cone after axotomy

964  G. A. Metz, M. Knieling and O. W. Witte, Lethbridge, Alberta (Canada) and Jena
How likely is recovery after a stroke? Implications from descriptive movement
analysis after focal cerebral ischemia in adult rats

965  M. Rohregger and N. Dieringer, München
Postlesional vestibular reorganization alters the spatial tuning of the frogs
translational VOR

966  K. Rose, M. Zeller, S. König and S. Thanos, Münster
Studies of the regenerating marmoset (Callithrix jacchus) retina proteome

967  L. Molnár, Z. Solt, G. Kiszler and E. Pollák, Pécs (Hungary)
Pattern of GABA-immunoreactive neural structures in the original and regenerated
ventral nerve cord ganglia of the earthworm, Eisenia fetida

968  O. Gleich, J. Huverstuhl and I. Strutz, Regensburg
The expression of the cyclin dependent kinase inhibitors p16 and p18 in the gerbil
Organ of Corti

969  A.-L. Pina, S. Van Wageningen, E.-M. Stoerr, M. Kubitza, F.-P. Wachs, L. Aigner,
J. Winkler and A. Brawanski, Regensburg
Partial recovery of conditioned taste aversion after stem cell transplantation in
insular cortex lesioned rats

970  B. Langguth, P. Eichhammer, M. Zowe, J. Marienhagen, T. Kleinjung and
G. Hajak, Regensburg
Treatment of auditory phantom perception (tinnitus) with neuronavigated
repetitive transcranial magnetic stimulation (rTMS) - a pilot study

971  T. Pruss, M. Niere and H. Volkmer, Reutlingen
Neurofascin interactions in sensory neurons

972  F. Hofmann, O. Klink, C. Leibrock, V. Berezin, E. Bock, E. Guenther and
H. Volkmer, Reutlingen and Copenhagen (Denmark)
Organotypic co-cultures on MEA as a valuable tool to study the establishment of
projection pathways in the CNS
B. Schloshauer, B. Schroeder and E. Mueller, Reutlingen and Denkendorf
Different axonal and glial migration velocities determine the tissue engineering concept of artificial nerve guides

Y.-H. Kim, J.-W. Park, M.-H. Ko, S.-H. Jang and T. Parrish, Seongnam (Korea Republic of), Jeonju (Korea Republic of), Taegu (Korea Republic of) and Chicago, IL (USA)
Ipsilateral motor pathway investigated by TMS and functional MRI in patients with recovered paralytic upper limb

J. Tan, I. Koepschall, K. Rohbock and M. Knipper, Tübingen
Diverse pharmacological manipulations of nerve activity has a differential effect on activity-dependent genes in the cochlea and auditory cortex

A. Kretz, S. Kügler, G. Dietz, C. Happold, M. Bähr and S. Isenmann, Tübingen
Bcl-XL promotes axonal regeneration in adult CNS neurons in vitro

Neurogenetics

M. H. Schwab, T. Fischer and C. Lai, Göttingen and La Jolla, CA (USA)
Generation of BAC-transgenic mice using cholinergic- and dopaminergic-specific promoters to express the reverse tetracycline regulated transactivator, rtTA

P. Claus and C. Grothe, Hannover
The survival of motoneuron protein SMN interacts specifically with a high-molecular-weight isofom of fibroblast growth factor – 2 (FGF-2)

H. Y. Keskin, M. E. Erdal, T. Ergenoglu, M. Ergen, H. Beydagi and T. Demiralp, Istanbul (Turkey)
The effects of polymorphisms in COMT and MAO-A genes on EEG and event related brain potentials (ERPs)

M. Ergen, M. E. Erdal, T. Ergenoglu, H. Y. Keskin, H. Beydagi and T. Demiralp, Istanbul (Turkey) and Mersin (Turkey)
Serotonin related gene polymorphisms affect the event related brain potentials (ERPs)

A. Ihring, A. Borst and D. F. Reiff, Martinsried
Imaging of neural activity using genetic indicators

P. Eichhammer, B. Langguth, P. Sand and G. Hajak, Regensburg
Modulation of cortical excitability by monoaminergic receptor variants

D. Wagh, S. Latzke, S. Huber, H. Dürrbeck, M.-C. Dabauvalle, E. Asan, A. Hofbauer, S. Buchner and E. Buchner, Würzburg and Regensburg
Identification and characterization of the nc82 antigen, an active zone protein at the presynaptic terminal of dipteran insects

Neuropathology

E. Seiffert and A. Friedman, Berlin
Electrophysiological responses to cortical blood-brain-barrier disruption

*Influence of different promoters on the expression pattern of mutated human α-synuclein in transgenic mice*

N. Link, A. Moser, X. R. Zhu, H. Lübbert and C. C. Stichel, Bochum and Leverkusen

*Mouse pesticide models: Characterisation of neuropathology*

U. Häussler, A. Depaulis and U. Egert, Freiburg and Strasbourg (France)

*Analysis of LFP propagation in the hippocampus of epileptic mice*


*BAG1 over-expression in brain protects against stroke*

H. Marquardt, G. Schramm, M. Gewecke and T. Roeder, Hamburg and Würzburg

*Parkinson in fruitfly, gene expression pattern changing during time?*

S. Petri, K. Krampfl, F. Hashemi, R. Dengler and J. Bufler, Hannover

*The expression of GABA\(_A\) and AMPA-receptor mRNA in the primary motor cortex of patients with amyotrophic lateral sclerosis*

A. Alpar, U. Gärtner, G. Seeger, W. Härtig, R. Heumann and T. Arendt, Leipzig and Bochum

*Interneurons respond actively upon cortical changes in the Val12-Ha-ras transgenic mice*

C. Haase, M. Holzer and T. Arendt, Leipzig

*Aggregation of phospho-τ-analoga induced by heparin, aluminum-ions and iron-ions*

S. Schmetsdorf, U. Gärtner and T. Arendt, Leipzig

*Expression of cell cycle regulators in the developing mouse brain*

M. Morawski, M. K. Brückner, P. Riederer, G. Brückner and T. Arendt, Leipzig and Würzburg

*Perineuronal nets potentially protect against oxidative stress*

B. Mosch, U. Ueberham and T. Arendt, Leipzig

*Cell cycle and cell death in Alzheimer's disease: The role of cyclin B and cdk 1*

J. Gerdelmann, J. Stieler and T. Arendt, Leipzig

*The cdk5-activators p25\(^{nck5a}\) and p35\(^{nck5a}\) contribute to cell death of SH-SY5Y neuroblastoma cells*

A. Riedel, R. Miettinen, I. Alafuzoff, H. Soininen and T. Arendt, Leipzig and Kuopio (Finland)

*Cajal-Retzius cells in normal aging and Alzheimer's disease: The entorhinal cortex*

V. P. Tran, K. Rose, V. Senner, P. Ahmann and S. Thanos, Münster

*Glioma cell migration along adult neurites - a new in-vitro model*
999 U. Altrup and A. Üre, Münster
Endogenous antiepileptic processes are activated by epileptiform activity in a model nervous system

1000 U. Altrup, M. Häder and U. Storz, Münster
Neuronal pacemaker potentials develop into epileptiform activity in model nervous systems

1001 A. Joschko and U. Altrup, Münster
Proteolytic enzymes trigger epileptogenic properties in a model nervous system

Neural-immune interactions

Detection of abnormal prion protein in sporadic Creutzfeldt-Jakob disease (sCJD)

1003 I. Goczalik, I. Milenkovic, M. Raap, M. Weick, J. Heidmann, V. Enzmann, P. Wiedemann, A. Reichenbach and M. Francke, Leipzig
IL-8 and IL-8 receptors are expressed in cultured glial Müller cells from guinea pig and human retinae

1004 C. R. Pawlak, Y.-J. Ho, R. K. W. Schwarting and A. Bauhofer
Relationship between endogenous levels of cytokine mRNA in the striatum and anxiety-like behavior in the rat

1005 G. D. Hadjilambreva, E. Mix, A. Rolfs, F. Zhou and U. Strauss, Rostock
Interferon-β affects neocortical neuronal activity and excitability

1006 E. B. Mallon, A. Brockmann and P. Schmid-Hempel, Zuerich (Switzerland) and Würzburg
A link between the nervous system and the immune system in insects?

Neuroendocrinology

1007 H. Lilienthal, A. Roth-Härer, A. Hack, H. Kaya and G. Winneke, Düsseldorf
Affective properties of 1,25-(OH)₂ vitamin D₃ and other steroid hormones in rats with or without exposure to endocrine disruptors

1008 E. M. Tousson, S. Adolf and H. Meissl, Frankfurt
Circadian rhythms in acute and organotypic explants of the hypothalamic suprachiasmatic nucleus of the mouse

1009 M. Seifert, M. Gewecke and T. Roeder, Hamburg and Würzburg
Control of behavior and metabolism by a single transmitter - the role of the transcription factor tubby

1010 M. Schmidt, M. S. Oitzl, J. H. van Woezik, F. Holsboer, S. Levine and E. De Kloet, Leiden (The Netherlands), München and Davis (USA)
Direct molecular consequences of prolonged maternal deprivation on the hypothalamic-pituitary-adrenal axis
1011 E. Frank, J. M. Aldag, R. Landgraf and A. Wigger, München and Atlanta
Effects of a single social defeat on behavioural and neuroendocrine parameters in rats bred for extremes in anxiety

1012 S. A. Krömer, W. Jacob and R. Landgraf, München
Mice bred for high or low trait anxiety: A new murine model for emotionality

Neuropsychology and psychophysics

Visuo-spatial attention in the vertical dimension: A TMS study

1014 W. Backhaus, Berlin
Evidence for a spherical geometry of spatial color perception

1015 W. Rhoden and W. Backhaus, Berlin and Berlin
Color discrimination scales and elementary color scales: Investigations of nonlinear relations

1016 H. R. Heekeren, S. Marrett, P. A. Bandettini and L. G. Ungerleider, Bethesda, MD (USA)
Evidence for categorical decision-making in prefrontal cortex - an event-related fMRI study

1017 F. N. Dinse, S. Meisig, A. Schmid, E. Altenmüller and H. R. Dinse, Bochum and Hannover
Reaction-time measurements show task-specific adaptations of mental finger representations in profesional pianists

1018 D. Davis and G. von der Emde, Seattle, WA (USA) and Bonn
Recognition of object shape during active electrolocation in electric fish

1019 B. Nieder, S. Buus, M. Florentine and B. Scharf, Boston, MA (USA)
Duration but not level of intense inducer tones affect the loudness reduction of subsequent weaker tones

1020 A. Nieder and E. K. Miller, Cambridge, MA (USA)
Discrimination of visual numerosities by monkeys: Object tracking versus analog magnitude representations

1021 P. Stoerig, C. Loose, M. Niedeggen and A. Cowey, Düsseldorf and Oxford (UK)
Chromatic priming across the vertical meridian in normal and hemianopic subjects

1022 H. Eich, R. Brockhaus and K. Fasshauer, Krefeld
Successful treatment of tinnitus by transcranial magnetic stimulation - a case report

1023 R. Armann, C. Seelmann and J. Schramme, Mainz
Lightness Constancy: Shades are compensated in perception, scattering light not
1024  C. F. Axaeng, T. Strekalova and D. Bartsch, Mannheim
Osmotic minipumps as a stress-free method of chronic imipramine administration: Behavioral study in C57Bl6/N mice

1025  A. Kaminiarz and F. Bremmer, Marburg
Modulation of human direction discrimination by cognitive demands

1026  A. Rogalewski, A. Floel, C. Breitenstein and S. Knecht, Münster and Bethesda (USA)
Which components of language are sufficient to activate the hand motor system?

1027  I. Hamann, O. Gleich, M. C. Kittel and J. Strutz, Regensburg and Regensburg
Psychoacoustic thresholds in the Mongolian gerbil (Meriones unguiculatus): A comparison of methods

1028  M. C. Kittel, O. Gleich, I. Hamann and J. Strutz, Regensburg
Temporal integration in the Mongolian Gerbil

Perceptual and working memory impairments in first-episode schizophreniform psychosis and established schizophrenia

1030  A. Hodzic, A. A. Karim, R. Veit and B. Godde, Tübingen
Differential effects of tactile coactivation on spatial and frequency discrimination: Psychophysics and FMRI in humans

Neuronal networks theory and modeling

1031  S. Schreiber, J.-M. Fellous, P. Tiesinga and T. J. Sejnowski, Berlin, La Jolla, CA (USA) and Chapel Hill, NC (USA)
The influence of individual conductances on spike timing for inputs with dominant frequencies

1032  J. Kanev, G. Wenning and K. Obermayer, Berlin
Itô calculus approach to the distribution of isi and response-stimulus correlation

1033  L. Schwabe and K. Obermayer, Berlin
Modeling perceptual learning in the primary visual cortex: Passive unsupervised or active reinforcement-based sensory reorganization?

1034  T. Hoch, G. Wenning and K. Obermayer, Berlin
Optimal information transmission in a parallel array of integrate-and-fire neurons

1035  O. Beck and K. Obermayer, Berlin
Contrast adaptation by adjusting neurotransmitter release probability in a hypercolumn model of visual cortex

1036  S. Grünewälder and W. Bibel, Berlin and Darmstadt
A model for the reaching reflex of an infant
1037 G. Wenning, T. Hoch and K. Obermayer, Berlin
Metabolic aspects of information transmission in the noisy leaky integrate-and-fire neuron model

Odor stimulation induces changes of correlation between glomeruli in the antennal lobe of Honeybee

1039 S. Schneider and G. Schöner, Bochum
A neural field model for planning of saccadic eye movements: Dependency of saccadic decision making on target separation and fixation condition

1040 E. L. Schulzke and C. W. Eurich, Bremen
Activity patterns in neural layers are enhanced by disordered connectivity

1041 K. R. Pawelzik, D. Rotermund and U. A. Ernst, Bremen
Building representations spike by spike

1042 A. Etzold, H. Schwegler, C. W. Eurich, W. Freiwald and H. Stemmann, Bremen and Delmenhorst
A robust method for the estimation of tuning curves and the encoding accuracy of neural populations

1043 A. Kumar, C. Mehring and A. Aertsen, Freiburg
Dynamics of random networks: Current-based vs conductance based synapses

1044 C. Leibold and J. L. van Hemmen, Garching bei München
Dual coding principle: A unifying concept in interaural time difference localization

1045 M. Denker, M. Timme, M. Diesmann, F. Wolf and T. Geisel, Göttingen
Precise spike patterns in complex neural networks

1046 B. Naundorf, F. Wolf and M. Volyushev, Göttingen
What determines the timing of a spike?

1047 G. Jentsch and R. Kree, Göttingen
A Monte Carlo Simulation of intracellular signal propagation in an autocatalytic reaction

1048 I. M. Herrmann, R. Der and T. Geisel, Göttingen and Leipzig
Homeostatic adaptation in neural systems

1049 S. Dodel, I. M. Herrmann, J.-B. Poline and T. Geisel, Orsay (France) and Göttingen
Network dynamics and functional connectivity from fMRI

1050 M. Furman and M. Gur, Haifa (Israel)
Motion perception during pursuit eye movements: A neural network study

1051 A. Büschges, V. Dürr, Ö. Ekeberg and K. G. Pearson, Berlin
Stick insect walking pattern generation - a 3D neuro-mechanical simulation study
Methods and demonstrations

1052  J. Kretzberg, A.-K. Warzecha, T. J. Sejnowski and M. Egelhaaf, La Jolla, CA (USA) and Bielefeld
       Do fly motion-sensitive neurons receive spike-triggered or graded synaptic input?

1053  F. H. Hamker, Pasadena, CA (USA)
       A dynamic computational model of goal-directed perception

1054  J. Ausborn, W. Mader, C. C. Eberle and W. Stein
       Functional consequences of presynaptic inhibition in an oscillatory network – a simulation study

1055  W. Mader, J. Ausborn, O. Straub and W. Stein, Ulm
       MadSim – a tool for simulating biological neuronal networks

1056  A. Knoblauch and G. Palm, Ulm
       Binding and synchronization in reciprocally connected cortical areas

1057  M. Borst and G. Palm, Ulm
       Periodicity pitch detection and sound separation with spiking neural networks

1058  A. Benucci, P. P. Verschure and P. Koenig, Zurich (Switzerland)
       Two-states membrane potential fluctuations driven by weak pairwise correlations

1059  R. A. DuBois, N. Engel and G. Stuart, Canberra (Australia) and Freiburg
       A dynamic clamp for the injection of synthetic conductances into biological neurons

1060  R. Ritz, R. Förster and A. V. M. Herz, Berlin
       LabTools: An integrated web-based framework for the publication of neuroscientific data

1061  R. Förster, R. Ritz and A. V. M. Herz, Berlin

1062  J. Mohr, A. Hess, M. Scholz and K. Obermayer, Berlin and Erlangen
       Automatic extraction and visualization of functional information from autoradiographic brain image stacks

1063  H.-G. Schlosser, K. Druen, A. Clarke, W. Lanksch and A. Unterberg, Berlin
       Eye movements in comatose patients - galvanic evoked vestibulo-ocular monitoring-

1064  W. Horstmann, S. Lorenz and M. Egelhaaf, Bielefeld
       The monist-project – educational simulations for brains

1065  J. P. Lindemann, N. Böddeker and M. Egelhaaf, Bielefeld
       3D-Reconstruction of insect flight trajectories from 2D image sequences

1066  S. Kutluğ, E. Bodur, S. Akar and A. N. Cokugras, Ankara (Turkey) and Darmstadt
       Formation of denervation supersensitivity in rabbits following intraocular and intravitreal injection of botulinum toxin
1067 V. Kloth, D. Lottrich and G. Nikkhah, Freiburg
Qualitative analysis of skilled forelimb use in a modification of the paw-reaching test in rats

1068 R. Tammer, Göttingen
MRI-compatible, headmounted platform design for use in small laboratory primates

1069 M. Müller, J. Schmidt, S. L. Mironov and D. W. Richter, Göttingen
Construction and performance of a custom-built two-photon laser scanning system

1070 A. Gennerich and D. Schild, Göttingen
Sub-microscopic mitochondria motility in mitral cell dendrites studied by single particle tracking

1071 C. Lohr and J. W. Deitmer
Ratiometric confocal calcium imaging in developing insect neurons using Fura Red

1072 P. Blaesse, S. Löhrke and E. Friauf, Kaiserslautern
Single-cell electroporation of HEK293 cells and auditory brainstem slices

1073 M. Gabriel and U. T. Koch, Kaiserslautern
Computer controlled multiple odour sources for defined antenal stimulation

Volume warping of segmented brain data sets in autoradiographic imaging

1075 K. Kemnitz, Z. Petrasek and W. Zuschratter, Berlin and Magdeburg
Film at minimal-invasive conditions: Ultra-low excitation levels and ultra-sensitive imaging detectors

Fluorescence lifetime imaging microspectroscopy of xFP-fused proteins in hippocampal cell cultures using ultra-low excitation levels and ultra-sensitive imaging detectors

1077 A. Kremper and R. Eckhorn, Marburg
Reduction of high dimensional brain signals by radial basis functions for extracting differences in the small-sample case

1078 M. J. Hinner, G. Hübener and P. Fromherz, Martinsried
Towards cell selective staining with voltage sensitive dyes using enzyme activation

1079 V. L. Flanagan and A. Borst, Martinsried
Comparison between different stimulus identification techniques

1080 N. Heim, O. Zapata-Hommer and O. Griesbeck, Martinsried
Efficiently maturing and circularly permuted variants of the sapphire mutant of GFP
1081 C. Pouzat, M. Delescluse and J. Diebolt, Paris (France) and Champs-sur-Marne (France)  
Spike-sorting with a Bayesian approach implementing a Markov Chain Monte Carlo method. I: Definition of a realistic model for data generation

1082 C. Pouzat, M. Delescluse and J. Diebolt, Paris (France) and Champs-sur-Marne (France)  
Spike-sorting with a Bayesian approach implementing a Markov Chain Monte Carlo method. II: Gibbs sampler based posterior density estimation and consequences for extra-cellular data analysis

1083 M. P. Bonomini, E. Fernandez and M. Bongard, San Juan de Alicante (Spain)  
WAND - an open workbench for the analysis of neuronal data

An electronic device that measures series resistance during tevc recording in xenopus oocytes

1085 N. Birbaumer, B. Schoelkopf and H. Preissl, Tübingen  
The Thought-Translation-Device (TTD): A brain-computer-interface for the completely paralyzed

1086 E. Horn, D. De Staerke, U. Friedrich, M. Viso and C. Dournon, Ulm, Toulouse (France), Bonn, Paris (France) and Vandoeuvre-les-Nancy (France)  
Experiences from the german-french pupil outreach project biological research in space linked to the andromède mission to the international space station

1087 B. M. Schmitt, H.-R. Polder and H. Koepsell, Würzburg and Tamm  
Automated and real-time correction of series-resistance errors during membrane capacitance monitoring in the two-electrode voltage clamp mode using a novel hardware device

Satellite Symposium: Inhibition: Molecules, Mechanisms, Functions

1088 J. Kirsch, Heidelberg  
Molecular determinants of inhibitory synapses

1089 H. Monyer, Heidelberg  
Chemical and electrical synapses at GABAergic interneurones and significance thereof for synchronous activity

1090 H. Möhler, F. Crestani, J.-M. Fritschy and U. Rudolph, Zürich (Switzerland)  
Functional relevance of GABA_A receptor subtypes

1091 H. Lerche, Ulm  
Impaired inhibition as a pathophysiological mechanism in idiopathic epilepsies

1092 H. Wolf, Ulm  
Inhibition of muscles makes them move faster: Arthropod common inhibitors
Satellite symposium: Molecular basis of neural repair mechanisms

1093 B. Grothe, Martinsried
Glycinergic inhibition in audition: Specific functions in temporal processing

1094 H. Neumann, Ulm
Extra-classical receptive field responses – Balanced inhibition and excitation in visual Gestalt organization

1095 M. Spitzer, Ulm
Inhibition and the prefrontal cortex: A central mechanism for cognitive and emotional control

1096 M. Egorova, G. Ehret and I. Vartanyan, Saint Petersburg (Russian Federation) and Ulm
Critical bandwidths and inhibition in auditory midbrain neurons of house mice

1097 M. Schmäh and H. Wolf, Ulm
Inhibitory motor neurones in the abdomen of locusts, stick insects and dragonflies are putative homologs

1098 M. Schmäh, H. Wolf and P. Bräunig, Ulm and Aachen
Specific inhibitory motor neurones supply body wall muscles in the locust prothorax

1099 C. Sommer, R. Kollmar, S. Schwab, M. Kiessling and W.-R. Schäbitz, Ulm and Heidelberg
Untitled

1100 J. Schulz, Tübingen
Neuroprotection by the inhibition of apoptosis

1101 P. Nicotera, Leicester (UK)
Molecular switches in neuronal cell death

1102 U. Dirnagl, Berlin
Neuroprotection by ischemic preconditioning

1103 D. Lindholm, Uppsala (Sweden)
Role of inhibitory apoptosis proteins (IAPs) in neurodegeneration and disease

1104 A. Chedotal, Paris (France)
Slits and semaphorins, not just axon guidance molecules

1105 C. Stuermer, Konstanz
Reggie and Nogo functions in neurite growth

1106 J. Verhaagen, Amsterdam (The Netherlands)
Chemorepulsive semaphorins in neuroregeneration

1107 J. Fawcett, Cambridge (UK)
The role of proteoglycans in regeneration and plasticity
1108  A. Faissner, Bochum
Tenascin-C and related ligands in CNS wound reaction and repair

1109  R.-C. Almudena, Valencia (Spain)
Olfactory ensheathing glia autotransplantation: A therapy to repair injured spinal cords in primates

1110  L. Benowitz, Boston, MA (USA)
Axon regeneration through the mature optic nerve

1111  A. Bjorklund, Lund (Sweden)
Toward a stem cell therapy for Parkinson’s disease

1112  O. Bruestle, Bonn
ES cell-based neural transplantation

1113  P. Brundin, Lund (Sweden)
Brain repair in experimental and clinical Parkinson’s disease

1114  J. Mallet, Paris (France)
Optimization of viral vectors for neurodegenerative diseases

1115  P. Aeberscher, Lausanne (Switzerland)
The potential of lentiviral vectors for neurodegenerative diseases

1116  S. Dunnett, Cardiff (UK)
The role of training and experience in graft-derived recovery of function

Satellite symposium: Transcranial magnetic stimulation and transcranial direct current stimulation

1117  A. T. Barker, Sheffield (UK)
Eighteen years of TMS – principles and practice

1118  S. A. Brandt, M. Voss, A. Kühn and K. Irlbacher, Berlin
Contributions to the field by Bernd-Ulrich Meyer and Simone Röricht

1119  J. Ruohonen, Helsinki (Finland)
Modelling of the stimulating field generation in TMS

1120  T. Weyh and K. Wendicke, München and München
Comparing coil characteristics

1121  M. R. Magistries and K. M. Rösler, Geneva (Switzerland) and Berne (Switzerland)
The triple stimulation technique (TST)

1122  R. Ilmoniemi, Helsinki (Finland)
EEG responses to TMS

1123  M. Sommer, N. Lang, T. Tings, F. Tergau and W. Paulus, Göttingen
Bipolar versus monopolar transcranial magnetic stimulation

1124  F. Awiszus, Magdeburg
TMS and threshold hunting
1125 T. Mima, T. Satow, T. Nagamine, H. Fukuyama and H. Shibasaki, Kyoto (Japan)
Repetitive and single TMS studies in somatosensory system

1126 V. Di Lazzaro, Rome (Italy)
Generation of I-waves in the human: Spinal recordings

1127 M. Hallett, Bethesda, MD (USA)
Surround inhibition

1128 K. Funke, V. Moliadze, Y. Zhao and U. T. Eysel, Bochum
TMS and single unit recordings in the visual cortex of cat

1129 S. H. Lisanby, B. Luber, O. Morales and H. A. Sackeim, New York, NY (USA)
Neurophysiological effects of magnetic seizure therapy (MST) in monkeys and humans

1130 Y. Ugawa, Tokyo (Japan)
Long term effects by rTMS in humans and monkeys

1131 O. W. Witte, Düsseldorf
Functional inhibition in the surround of experimental focal cortical dysplasias

1132 V. E. Amassian and M. Stewart, Brooklyn (USA)
TMS and I-waves: Their phylogeny and cortical network origin

1133 J. Rothwell, London (UK)
Functional connectivity of the premotor and motor cortices

1134 R. Chen, Toronto, Ontario (Canada)
Interactions between different inhibitory systems in the motor cortex

1135 T. V. Ilic and U. Ziemann, Belgrade (Yugoslavia) and Frankfurt am Main
Paired-pulse TMS: The dimension of stimulus intensity

1136 R. Hanajima, T. Furubayashi, N. Iwata, Y. Shiio, S. Okabe and Y. Ugawa, Tokyo (Japan)
Paired pulse TMS: Different mechanisms for intracortical inhibition induced by paired pulse TMS at different intervals

1137 S. Hamdy, Salford (UK)
The organisation and reorganisation of human swallowing motor cortex

1138 C. Gerloff and F. Hummel, Tübingen
Inhibitory control of acquired motor programmes in the human brain

1139 A. Münchau, Hamburg
Modulation of premotor-motor interaction by 1 Hz subthreshold rTMS in healthy subjects and de novo patients with Parkinson's disease

1140 K. R. Mills, Oxford (UK)
Mapping motor cortex projections to single motor units in humans with transcranial magnetic stimulation

1141 U. Ziemann, Frankfurt am Main
Pharmacology and TMS
T. Paus
Effective connectivity of the human frontal cortex and its modulation by repetitive transcranial magnetic stimulation

D. E. Bohning, Charleston, SC (USA)
Interleaving fMRI and rTMS

J. Baudewig, Göttingen
Methodological considerations for simultaneous TMS and fMRI studies

S. Bestmann, Göttingen
BOLD MRI interleaved with high-frequency TMS of the motor cortex

H. R. Siebner, Kiel
Applications of combined TMS-PET studies in clinical and basic research

F. Tergau, Göttingen
Repetitive transcranial magnetic stimulation in the treatment of epilepsy

J. D. Rollnik, S. Wüstefeld, J. Däuper, M. Karst, M. Fink, A. Kossev and R. Dengler, Hannover
rTMS for the treatment of pain

A. Kaptzan, J. Applebaum, Y. Yanoslovsky, N. Grisaru and R. Belmaker
Right prefrontal TMS vs sham TMS in mania: A controlled follow-up study

M. E. Keck, München
The neurobiological basis of therapeutic use of rTMS in psychiatric disorders

M. S. George, Charleston, SC (USA)
rTMS in psychiatry, what do we really know?

L. J. Grunhaus, Tel Hashomer (Israel)
Repetitive transcranial magnetic stimulation and electroconvulsive therapy in resistant major depression. A comparison study

F. Padberg, P. Zwanzger, R. Ella, B. Zinka, R. Rupprecht and H.-J. Möller, München
rTMS of the prefrontal cortex in major depression: Mechanisms of action and clinical efficacy

A. Cowey, Oxford (UK)
Transcranial magnetic stimulation and cognitive neuroscience

V. Walsh, J. O Shea, N. Muggleton and A. Cowey, London (UK) and Oxford (UK)
The role of the frontal eye fields and posterior parietal cortex in visual search

T. Kammer, Tübingen
Phosphenes and visual suppression by occipital TMS

R. Töpper, I. Meister and F. Mottaghay, Hamburg, Aachen and Ulm
Language processing and the motor cortex

B. Boroojerdi, Aachen
Rapid experience-dependent plasticity in the human visual cortex
| 1159 | P. Schwenkreis, M. Tegenthoff and C. Maier  
*Fluctuations of motor cortex excitability in pain syndromes* |
| 1160 | A. Antal, Göttingen  
*Transcranial direct current stimulation of the visual cortex* |
| 1161 | H. Theoret, M. Kobayashi, A. Valero and A. Pascual-Leone, Boston, MA (USA)  
*Exploring paradoxical functional facilitation with rTMS* |
| 1162 | L. G. Cohen, Bethesda, MD (USA)  
*Behavioral and physiological correlates of cortical plasticity: Studies with TMS* |
| 1163 | J. Classen, Würzburg  
*Paired stimulation techniques in conjunction with TMS* |
| 1164 | C. M. Epstein, Atlanta, GA (USA)  
*rTMS and learning* |
| 1165 | M. Tegenthoff, P. Ragert, B. Pleger and H. Dinse, Bochum  
*Cortical and psychophysical effects of rTMS in Hebbian learning* |
| 1166 | P. M. Rossini and F. Ferreri, Roma (Italy)  
*Transcranial magnetic stimulation and cognition* |
*Motor cortex plasticity after hand amputation* |
| 1168 | V. Hömberg, Düsseldorf  
*TMS in neurorehabilitation* |
| 1169 | C. M. Bütefisch, Düsseldorf  
*Modulation of use-dependent plasticity by amphetamine* |
| 1170 | K. J. Werhahn, Mainz  
*Bihemispheric plasticity after acute hand deafferentiation* |
| 1171 | R. Lemon, London (UK)  
*Understanding the action of TMS on the cortex: The importance of animal studies* |
| 1172 | G. Hess, A. Zahorodna and M. Grzegorzewska, Krakow (Poland)  
*LTP and DC stimulation in rat motor cortex slices* |
| 1173 | N. Birbaumer, B. Schoelkopf and H. Preissl, Tübingen  
*The Thought-Translation-Device (TTD): A brain-computer-interface for the completely paralyzed* |
| 1174 | D. Liebetanz, Göttingen  
*Safety aspects of transcranial direct current stimulation* |
| 1175 | M. A. Nitsche, Göttingen  
*Inducing LTP and LTD like effects in the human motor cortex* |
N. Lang, H. Siebner, V. Rizzo, M. A. Nitsche, W. Paulus, R. N. Lemon and J. Rothwell, London (UK), Kiel and Göttingen
Combining rTMS and DC stimulation of the motor cortex

W. Paulus, Göttingen
Pharmacology of tDCS

C. W. Hess, Bern (Switzerland)
TMS in clinical neurophysiology

R. Benecke, Rostock
Affections of the cortical silent period in motor disorders

A. Priori, A. Pesenti, B. Bossi and G. Ardolino
Motor cortex excitability in chorea and myoclonus

G. Deuschl, Kiel
TMS and tremor

K. Wessel, Braunschweig
TMS and cerebellum

R. Dengler, Hannover
TMS in ALS

H. Shibasaki, T. Mima, W. Chen, N. Murase, R. Kaji and R. Kaji, Kyoto (Japan), Taipei (Taiwan Province of China) and Tokushima (Japan)
The effect of rTMS on sensorimotor function and focal dystonia

K. M. Rösler and M. R. Magistris, Bern (Switzerland) and Geneva (Switzerland)
Triple stimulation technique (TST): Clinical applications

L. B. Niehaus, Berlin
Interhemispheric inhibition in stroke

P. Urban, Mainz
Magnetic stimulation and brainstem

J. H. Liepert, Hamburg
TMS in stroke patients

R. Sparing, C. Lau, H. Foltys and V. Walsh, Aachen, Oxford (UK) and London (UK)
The role of early visual areas during action observation

A. Dieckhöfer, T. D. Waberski, R. Gobbel’e, K. Rache and H. Buchner, Aachen
Transcranial direct current stimulation modulates the excitability of the somatosensory cortex

M. Sandrini, S. F. Cappa, S. Rossi, P. M. Rossini and C. Miniussi, Brescia (Italy), Milano (Italy), Siena (Italy) and Roma (Italy)
The role of the prefrontal cortex in verbal episodic memory: RTMS evidences
1192 S. R. Filipovic, B. Bloem, W. Gerschlager and J. C. Rothwell, Bristol (UK), Nijmegen (The Netherlands), Vienna (Austria) and London (UK)
Effect of the low-frequency repetitive transcranial magnetic stimulation (rTMS) on the background EEG activity

1193 J. Lewald, I. G. Meister, J. Weidemann and R. Töpper, Dortmund and Aachen
Effect of repetitive transcranial magnetic stimulation of the visual cortex on spatial hearing

1194 M. S. Nitsche, M. A. Nitsche, C. C. Klein, F. Tergau, J. Rothwell and W. Paulus, Göttingen and London (UK)
Transcranial direct current (tDCS) stimulation induces outlasting excitability changes in the human motor cortex, as revealed by transcranial magnetic stimulation

1195 U. Henschke, A. Schlitterlau, K. Fricke, D. Liebetanz, M. A. Nitsche, F. Tergau and W. Paulus
Modulation of after-effects of transcranial direct current stimulation (tDCS) – generated cortical excitability shifts by application of the GABA_A-agonist lorazepam

1196 A. Schlitterlau, U. Henschke, K. Fricke, M. A. Nitsche, D. Liebetanz, F. Tergau and W. Paulus
Modulation of long-lasting after-effects of transcranial direct current stimulation (tDCS) – generated cortical excitability shifts by application of ion-channel blockers and NMDA receptor-antagonists

1197 M. Nitsche and K. Fricke, Göttingen
Pharmacological modulation of membrane potentials and NMDA receptor efficacy shifts during and after transcranial weak direct current stimulation of the human motor cortex

1198 K. Matsunaga, M. A. Nitsche and J. C. Rothwell, London (UK) and Göttingen
Effect of transcranial DC motor cortex stimulation on somatosensory evoked potentials in humans

1199 L. Marshall, M. Mölle and J. Born, Lübeck
Effects of transcranial direct current stimulation on memory during sleep

1200 P. Krause, S. Foerdeerreuther and A. Straube, München
Clinical improvement of CRPS symptoms after repetitive paraspinal cervical magnetic stimulation

1201 P. Krause and A. Straube, München
Repetitive magnetic and functional electrical stimulation reduce spastic tone increase in patients with spinal cord injury

1202 A. Struppler, B. Angerer and P. Havel, München
Facilitation of goal directed motor tasks and position sense by repetitive peripheral magnetic stimulation (RPMS) – physiological and clinical aspects
1203 B. Angerer, P. Havel and A. Struppler, München
Technical approaches to induce and evaluate goal directed motor tasks and position sense due to repetitive peripheral magnetic stimulation (RPMS)

1204 A. Peinemann, B. Reimer, C. Löer, B. Conrad and H. R. Siebner, München and Kiel
Long-lasting changes in corticospinal excitability after prolonged subthreshold 5-Hz repetitive transcranial magnetic stimulation (rTMS)

1205 O. Bjoerntoft, A. Floyer, P. M. Matthews, A. Cowey and V. Walsh, Oxford (UK) and London (UK)
Functional brain imaging combined with 1 Hz transcranial magnetic stimulation

1206 J. Hung, J. Driver and V. Walsh, Oxford (UK) and London (UK)
Modulation of top-down attentional control by 'virtual lesions' of posterior parietal cortex: Combining repetitive transcranial magnetic stimulation and Bundesen's computational theory of visual attention

1207 N. G. Muggleton, J. O Shea, C.-H. Juan, A. Cowey and V. Walsh, Oxford (UK) and London (UK)
The role and timing of human frontal eye field involvement in visual search

1208 O. B’artfai, T. Z. Kincses, A. Antal, M. A. Nitsche and W. Paulus, Pécs (Hungary) and Göttingen
Transcranial direct current stimulation of the primary visual cortex modulates the amplitude of the N70-component of visual evoked potentials

1209 M. Jakoubkova, M. A. Nitsche, S. Happe, C. Trenkwalder and W. Paulus
Increased REM density induced by anodal transcranial direct current stimulation over the left premotor cortex during posttraining REM sleep

1210 J. Horacek, L. Skrdlantova, B. Paskova, J. P. Prasko, M. Kopecek, C. Hoschl and O. Belohlavek, Prague (Czech Republic)
Repetitive transcranial magnetic stimulation (rTMS) - influence on the brain metabolism

1211 L. Skrdlantova, J. Horacek, M. Kopecek, M. Klírova, P. Ježil and J. P. Prasko, Prague (Czech Republic)
The influence of different frequencies of rTMS on Attention (Continuous performance test)

1212 E. Fernandez, A. Alfaro, I. Tormos, R. Climent, H. Vilanova, M. Bongard, J. Peris and A. Pascual-Leone, San Juan de Alicante (Spain)
Neurophysiological evaluation of visual cortex excitability in blind subjects using image-guided transcranial magnetic stimulation

1213 E. A. Feredoes, P. S. Sachdev and W. Wen, Sydney (Australia)
Disruption of the neuronal circuitry subserving working memory, by low frequency repetitive TMS, using a visuospatial 3-back task: A negative study
E. A. Feredoes, P. S. Sachdev, C. J. Davis and S. G. Gandevia, Sydney (Australia) and Sidney (Australia)
*Exploring Baddeley's Phonologic Loop using transcranial magnetic stimulation*

E. A. Feredoes and P. S. Sachdev, Sydney (Australia)
*Transcranial magnetic stimulation of the prefrontal cortex during visuospatial working memory task performance*

A. Gerdelat, D. Tombari, I. Loubinoux, F. Chollet and M. Simonetta-Moreau, Toulouse (France)
*Does chronic serotonin re-uptake inhibitor paroxetine treatment modulate human motor cortex excitability in healthy subjects? A TMS study*

B. Tomasino, R. Rumiani, P. Borroni and A. Isaja, Trieste (Italy) and Milano (Italy)
*Involvement of the primary motor cortex in mental rotation of hands: A TMS study*

*Transcranial magnetic stimulation (TMS) and physiological regulation of slow cortical potentials (SCP)*

A. Thielscher and T. Kammer, Ulm and Tübingen
*Determining the cortical stimulation site in TMS: Linking physiological measurements with physical field models*

G. F. Wittenberg, S. Smith, E. P. Bastings, T. P. Pons and D. C. Good, Winston Salem, NC (USA)
*Dynamic course of intracortical TMS paired-pulse interactions during recovery of motor function after stroke*

A. Wolters, F. Sandbrink, A. Schlottmann, E. Kunesch, K. Stefan, L. G. Cohen, R. Benecke and J. Classen, Rostock, Bethesda, MD (USA) and Würzburg
*A temporally asymmetric Hebbian rule governing plasticity in the human motor cortex*

M. Wycislo and J. Classen, Würzburg
*Involvement of long-term potentiation - like plasticity in human motor learning: A TMS study*

**Satellite symposium: Novel Channels and Activation Mechanisms**

C. Harteneck, Berlin
*Characterisation of TRPV4 and potential functions*

G. Gordon, Bucharest (Romania)
*Ion channels involved in cold sensing*

R. Seifert, Jülich
*Preliminary CNG channels and sour taste*
1226  R. Blum, K. W. Kafitz, T. Ziegler and A. Konnerth, München
Na\textsubscript{1. 9}, a sodium channel involved in neurotrophin-evoked depolarization

1227  M. Biel, München
Pacemaker channels of heart and thalamus