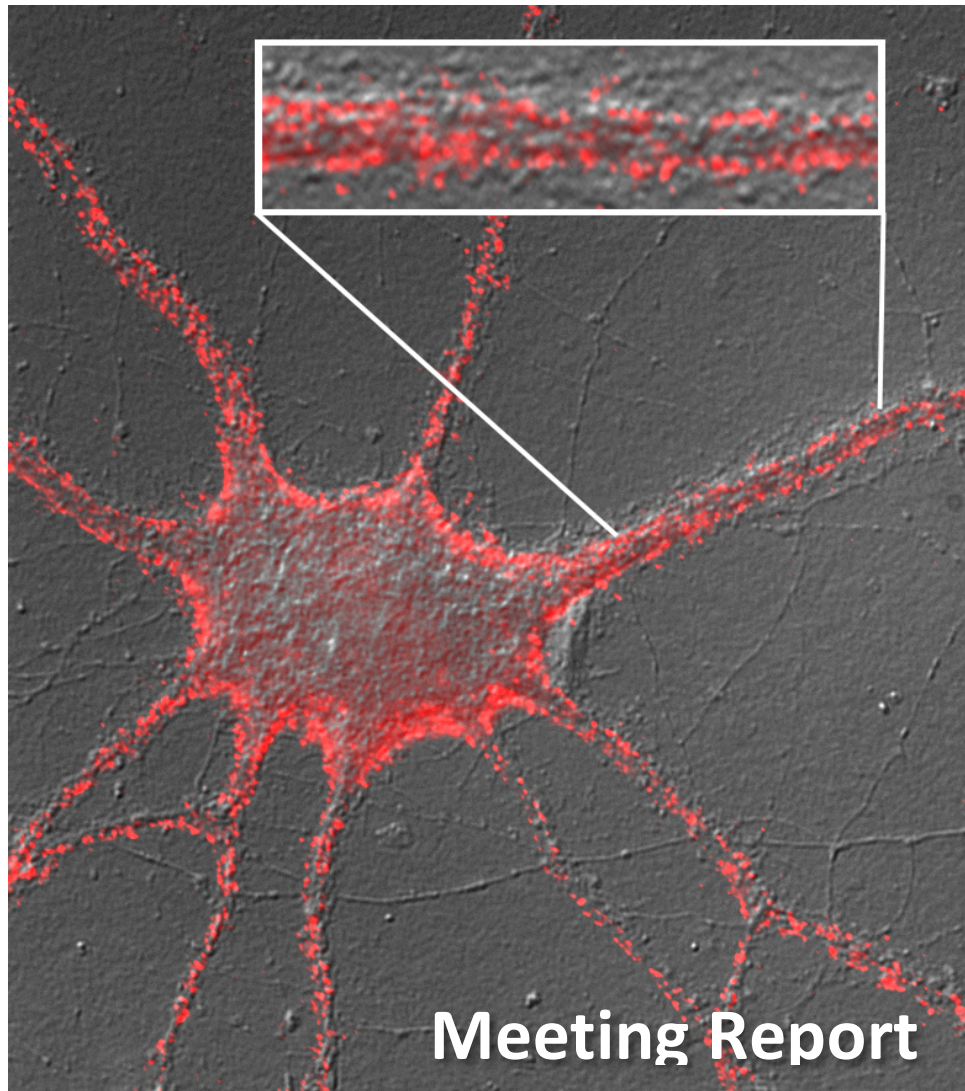


International Workshop

**The neuroplastin cell adhesion molecules:
key regulators of neuronal plasticity and synaptic function.**

Ballenstedt, Germany, October 24th-26th 2013



Cover picture: Neuroplastin-65 in a primary hippocampal neuron (R. Herrera-Molina, LIN Magdeburg)

Short Report

The neuroplastins are immunoglobulin superfamily neuronal and synaptic adhesion molecules that play key roles in regulating such diverse functions as neurite outgrowth, synapse formation and stabilisation, neuronal plasticity, learning and memory and neuronal energy supply. First attempts to characterise these two closely related neuronal and synaptic glycoproteins date back to the ISN Biennial meeting in Montpellier/France in 1993, where the foundation was laid for a fruitful and long standing international collaboration between the Magdeburg and London groups on this subject. Research in several labs over the past 20 years has unravelled primary and secondary structures, expression patterns and interaction partners of neuroplastins and provided evidence for a role in a range of key neuronal functions, particularly in synaptic plasticity.

This workshop was the first to bring together scientists interested in neuroplastins from different perspectives – from neurochemistry and glycobiology to human genetics and mental disorders. It was focussed on recent advances in establishing the functions and underlying cellular and molecular mechanisms of these molecules. 40 renowned experts and young scientists from 16 institutions from 9 different countries came together in Ballenstedt. The program included two plenary lectures by high-profile scientists (Philip Gordon-Weeks, Fritz Rathjen), 14 lectures, a poster session and a general discussion to identify novel routes of research and new collaborations. Experimental models presented at the workshop comprised *Drosophila*, rodents, and humans.

We gratefully acknowledge financial support of the meeting by the International Society for Neurochemistry (ISN), Royal Holloway University of London, the Leibniz Institute for Neurobiology Magdeburg and the CBBS Magdeburg, funded by the federal state of Saxony-Anhalt, as well as support by the Marie Curie ITN BrainTrain and the SFB 779 “Neurobiology of motivated behavior”.

All participants agreed that this meeting was a great success and that it will help to initiate new collaborative projects and joint research initiatives among them.

The organisers will capture the scientific highlights of this meeting and the new perspectives originating from it in a mini-review, which will be submitted to the *Journal of Neurochemistry* in December.

Philip Beesley, Karl-Heinz Smalla and Constanze Seidenbecher

Costs

| | |
|------------------------------------------|----------|
| Total travel costs guests: | 8.625 € |
| Hotel accomodation, food, meeting rooms: | 8.772 € |
| Bus to venue: | 700 € |
| Printing of program booklets, badges: | 373 € |
| Office Assistance: | 500 € |
| | <hr/> |
| | 18.970 € |

Funds

| | |
|--------------------------------|----------|
| ISN support: USD 10000 | 7.398 € |
| Magdeburg SFB 779 support: | 3.000 € |
| Magdeburg CBBS support: | 5.000 € |
| EU BrainTrain support: | 2.700 € |
| Royal Holloway London support: | 590 € |
| | <hr/> |
| | 18.688 € |

Recipients of ISN young scientists fellowships

The International Society for Neurochemistry (ISN) supported this workshop with an amount of USD 10,000. We are grateful to the Society, in particular to its Conference Committee, for this extremely helpful support, which was mostly used to support young researchers (66% of the total ISN support). We herewith announce the recipients of ISN young scientists travel fellowships to this meeting:

- Asya Azieva, Moscow, Russia
- Rodrigo Herrera-Molina, Santiago de Chile and LIN Magdeburg, Germany
- Hassan Marzban, Calgary, Canada
- Kristina Mlinac, Zagreb, Croatia
- Sylwia Owczarek, Copenhagen, Denmark
- Atsushi Saito, Baltimore, U.S.
- Isabella Sarto-Jackson, Vienna, Austria



The fellowships were used to cover travel and accommodation expenses of the awardees.

Group picture of all participants:



Workshop Program

Thursday, October 24th

Bus departure from Magdeburg: 1.00 p.m. at Ratswaage hotel, 1.15 p.m. at LIN

2.30-3.30 Arrival and registration

3.30-4.30 Tour of castle

4.30-5.00 Refreshments

Session 1

5.00-5.15 Eckart Gundelfinger (LIN Magdeburg, Germany)

Welcome and overview of conference

5.15-6.15 Plenary lecture. Phillip Gordon-Weeks (King's College, London, UK) Microtubule-Actin Filament Interactions In Neuritogenesis and Growth Cone Pathfinding

6.30-8.00 Dinner, Get-together

Friday, October 25th

Session 2: Chair: Constanze Seidenbecher

9.00-9.30 Philip Beesley (Royal Holloway, University of London, UK)

Neuroplastins; overview and role in synaptic plasticity

9.35-10.05 Judith Ochrietor (University of North Florida, USA)

Sense-sational Basigin: different architectural roles for different sensory systems

10.10-10.25 Uli Thomas (LIN Magdeburg, Germany)

Basiplastin? at Drosophila glutamatergic synapses

10.30-11.00 Refreshments

Session 3: Chair: Philip Beesley

11.00-11.45 Vladimir Berezin and Sylvia Oczwarek (Department of Neuroscience and Pharmacology University of Copenhagen) Neuroplastins: Structure and signaling

11.50-12.20 Richard Hawkes (University of Calgary, Canada)

Synaptic Architecture and plasticity in the cerebellum

12.25-12.55 Hassan Marzban (University of Manitoba, Canada) Neuroplastins in adult and developing cerebellum and their localization to parasagittal stripes

1.00-2.15 Lunch

Session 4: Chair: Michael Kreutz

2.15-2.45 Alexander Dityatev (DZNE Magdeburg, Germany)

NCAM-associated polysialic acid and synaptic plasticity

2.50-3.20 Isabella Sarto Jackson (Medical University of Vienna, Austria)

Neuroplastin 65: a novel binding partner for GABA_A receptors

3.25-3.40 Rodrigo Herrera-Molina (Universidad de Chile, Santiago de Chile, and LIN Magdeburg, Germany) Regulation of the structure and function of excitatory and inhibitory synapses by Neuroplastin 65

3.45-4.15 Refreshments

Session 5: Chair: Vladimir Berezin

4.15-4.45 Andrew Halestrap (University of Bristol, UK)

Monocarboxylate transporters-relating structure to function and the role of basigin

4.50-5.20 Atsushi Saito (John's Hopkins University, USA) Neuroplastin: its implication for cognitive deficits in schizophrenia and animal model via in utero electroporation

5.25-5.55 Kristina Mlinac (University of Zagreb, Croatia)

Neuroplastin in Mice Lacking Complex Gangliosides

6.00-7.30 Poster session

7.30 Dinner

Saturday October 26th

Session 6: Chair: Richard Hawkes

9.00-9.40 Plenary Lecture: Fritz Rathjen (MDC Berlin, Germany)

Molecular analysis of neuronal connectivity

9.45-10.00 Karl-Heinz Smalla (LIN Magdeburg, Magdeburg) The search for neuroplastin function: proteomic approaches

10.05-10.35 Dirk Montag (LIN Magdeburg, Magdeburg) Life without neuroplastins

10.40-11.00 Refreshments/Check out

Session 7: Chair: Eckart Gundelfinger

11.00-12.15 Round table discussion: future perspectives.

12.15-1.15 Lunch

Bus departure from Ballenstedt 1.30 p.m.

List of Participants

| | |
|--------------------------------|-------------------------|
| Asya Azieva | Moscow, Russia |
| Philip Beesley | London, UK |
| Vladimir Berezin | Copenhagen, Denmark |
| Hans-Gert Bernstein | OVGU Magdeburg, Germany |
| Soumee Bhattacharya | LIN Magdeburg, Germany |
| Daniela Dieterich | OVGU Magdeburg, Germany |
| Alexander Dityatev | DZNE Magdeburg, Germany |
| Klaus-Dieter Fischer | OVGU Magdeburg, Germany |
| Eve Gerecke | LIN Magdeburg, Germany |
| Phillip Gordon-Weeks | London, UK |
| Eckart Gundelfinger | LIN Magdeburg, Germany |
| Andrew Halestrap | Bristol, UK |
| Richard Hawkes | Calgary, Canada |
| Isabel Herbert | Uni Jena, Germany |
| Martin Heine | LIN Magdeburg, Germany |
| Rodrigo Herrera-Molina | LIN Magdeburg, Germany |
| Svjetlana Kalanj Bognar | Zagreb, Croatia |
| Thilo Kähne | OVGU Magdeburg, Germany |
| Michael Kreutz | LIN Magdeburg, Germany |
| Kristina Langnäse | OVGU Magdeburg, Germany |
| Anne-Christin Lehmann | LIN Magdeburg, Germany |
| Hassan Marzban | Calgary, Canada |
| Kristina Mlinac | Zagreb, Croatia |
| Dirk Montag | LIN Magdeburg, Germany |
| Michael Naumann | OVGU Magdeburg, Germany |
| Judith D. Ochrietor | Florida, U.S. |
| Sylvia Owczarek | Copenhagen, Denmark |
| Fritz Rathjen | MDC Berlin, Germany |
| Atsushi Saito | Baltimore, U.S. |
| Isabella Sarto-Jackson | Vienna, Austria |
| Constanze Seidenbecher | LIN Magdeburg, Germany |
| Oleg Senkov | DZNE Magdeburg, Germany |
| Karl-Heinz Smalla | LIN Magdeburg, Germany |
| Marlen Thiere | OVGU Magdeburg, Germany |
| Uli Thomas | LIN Magdeburg, Germany |
| Hristo Varbanov | DZNE Magdeburg, Germany |
| Sampath Vemula | LIN Magdeburg, Germany |
| Ursula Wyneken | Santiago, Chile |
| Kathleen Zocher | OVGU Magdeburg, Germany |