

Glia in Health & Disease

Session 1 GLIAL DEVELOPMENT

THURSDAY 7/20/2006, 7:30 PM

S. Temple / C. Stiles

#	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
1	Temple	Glial development	25
2	Evans	Expression and function of REST in glial cells and their progenitors	15
3	Beug	Sonic hedgehog regulates gliogenesis in the rodent optic nerve	15
4	Ruhrberg	Defining the role of VEGF-A in glial development	15
5	Stiles	Transcription factors and glial development in the vertebrate central nervous system	25
6	McKinnon	Netrin-directed glial migration	15
7	Heiman	Coordinated morphogenesis of glia and neurons in <i>C. elegans</i> requires a conserved glial-neuronal protein pair	15

Session 2 GENETIC ANALYSIS OF GLIAL FUNCTION

FRIDAY 7/21/2006, 9:00 AM

S. Shaham / W. Talbot

#	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
8	Talbot	Genetic analysis of myelination and Node of Ranvier formation in zebrafish	25
9	Takada	Expression profile of differentiating oligodendrocytes in zebrafish	15
10	Hing	Wnt5 and the Drl RYK receptor mediate axon-glia interactions in olfactory map development	15
11	Kurant	Glial phagocytosis of apoptotic neurons in <i>Drosophila</i> —The role of a novel scavenger receptor, six microns under	15
12	Shaham	Glia regulate nervous system assembly, morphogenesis and function in <i>C. elegans</i>	25
13	Procko	Feeling the heat— <i>C. elegans</i> glia respond to temperature and require the <i>otd/Otx</i> homolog <i>TTX-1</i> for temperature-dependent gene expression	15
14	Read	Modeling glioma in <i>Drosophila</i>	15
15	Leiserson	A genetic model for a glial ion transport abnormality that results in peripheral neuropathy	15

Session 3 POSTER SESSION I

FRIDAY 7/21/2006, 2:00 PM

#	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
16	Canoll	Characterizing the effects of PDGF on glial progenitor migration and proliferation in vivo—Growth without limits	
17	Bélair	Plasticity of perisynaptic Schwann cells in chronically stimulated vertebrate neuromuscular junctions	

18	Bernardos	Characterization of Müller glia development in GFAP transgenic zebrafish
19	Bousslama-Oueghlani	OPCs differentiation in the cerebellum is controlled by a novel diffusible factor
20	Brink	Peripheral glia at the fly neuromuscular synapse
21	Broesamle	Global gene expression analysis in a Sox10-deficient zebrafish mutant reveals known and novel neural crest and myelin-specific genes
22	Götz	Lineage analysis of reactive gliosis—Glial diversity and neuronal regeneration
23	Butzkueven	Leukemia inhibitory factor regulates (neuro) peptide secretion in oligodendrocytes in vitro
24	Cassiani-Ingoni	Cytoplasmic translocation of Olig-2 in adult glial progenitors marks the generation of reactive astrocytes following autoimmune inflammation
25	Portis	Oligodendrocytes are a major target of the toxicity of spongiform murine retroviruses
26	Coleman	Effects of insulin therapy on diabetes-induced alterations in astrocyte GFAP and glutamate uptake
27	Colodner	Expression of tau in adult <i>Drosophila</i> glia is toxic
28	Garden	Transgenic expression of polyglutamine expanded ataxin-7 leads to non-cell autonomous degeneration of cerebellar Purkinje neurons mediated in part by Bergmann glia
29	Dimou	Absence of Nogo-A and MAG disturbs axon-glia communication and leads to abnormal myelin integrity and changed axonal diameter
30	Dugas	p57KIP2 regulation of oligodendrocyte lineage cell proliferation and differentiation
31	Dusart	Axono-glial interactions after traumatic injury in the central nervous system
32	Einheber	Accumulations of abnormal mitochondria at nodes of Ranvier in Caspr-deficient mice
33	Eroglu	How does thrombospondin induce CNS synaptogenesis?
34	Eshed	Gliomedin, a Schwann cell adhesion and ECM protein, mediates the molecular assembly of the Node of Ranvier
35	Frenkel	Activated microglia play an important role in clearing β -amyloid in a mouse model of Alzheimer's disease
36	Geiger	Ezrin is associated with a specific state of astrocyte activation linked to neuronal death in neurodegenerative disease
37	Genoud	Search for neuronal signals that promote oligogenesis and myelination—Functional characterization of HRP3
38	Gomes	TGF- β 1 as a novel mediator of neuron-astrocyte interactions
39	Gumy	Investigations into Schwann cell dysfunction under hyperglycemic conditions
40	Gurjar	Cytoskeletal changes in astrocytes before and after injury
41	Hernandez	Microarray analyses of the African American astrocyte transcriptome—An experimental framework to discovery susceptibility genes to glaucomatous optic neuropathy
42	Higashimori	Can over-expressing Kir4.1, A K^+ channel found in differentiated astroglia cells, also induce differentiation of astroglial derived tumor cells?
43	Hoogland	Focal and regional glial calcium signals recorded in vivo from intact cerebellum

44	Howng	NM2422—A novel mouse mutant with a central nervous system myelin defect
45	Ivkovic	Constitutive EGFR expression in glial progenitors inhibits their differentiation and prolongs their migratory and proliferative capacity
46	Jang	Interactions between olig2 and PAX6 in the perinatal subventricular zone
47	Juric	Interactions between monoaminergic neuronal activity and astrocytic BDNF neurotrophic support
48	Kaplow	Rap/Fzr and APC2/Morula regulate glia specification and migration through interactions with Loco, Pointed, and Nonstop
49	Kim	The dorsoventral patterning and <i>spitz/Egfr</i> signaling genes control lateral glial cell development in the <i>Drosophila</i> nervous system
50	Kimelberg	Developmental of differentiation electrophysiological glia cell types in the rat hippocampus
51	Kubera	Astrocyte-derived adenosine mediates synaptic cross-talk in the murine hippocampal network
52	Kucenas	Essential interactions between CNS-derived ensheathing glia, Schwann cells and motor axons in the peripheral nervous system of zebrafish
53	Kwan	Analysis of the effects of mutant Huntingtin expression in microglia
54	Lee	Differential anti-inflammatory mechanisms of PPAR- α activators in IFN- γ -activated rat glial cells—Focus on AP-1/SP-1 signal in MCP-1 gene
55	Lee	Dominant-negative β 1 integrin mice have region-specific myelin defects accompanied by alterations in MAPK activity and oligodendrocyte behavior
56	Li	Nitric oxide-mediated toxicity to developing oligodendrocytes by activated microglia is superseded by TNF α toxicity when astrocytes are present
57	Ligon	Olig2 is required for growth of neural progenitor cells and malignant glioma
58	Lin	Spatiotemporal changes in the distribution of A2B5 ⁺ astrocyte precursors during postnatal forebrain development
59	Kipnis	T cells support brain plasticity and cognition via modulation of glial response
60	Logan	Characterization of Draper-mediated glial engulfment
61	Lyons	Kif1b function during nervous system development in zebrafish

Session 4 MYELINATING CELLS

FRIDAY 7/21/2006, 7:30 PM

D. Colman / J. Griffin

#	Iname	Title	Talk Length
62	Colman	Mechanisms of myelination	25
63	Nielsen	Identification of a novel oligodendrocyte proline rich membrane protein (PRMP) using gene expression profiling	15
64	Colognato	How do laminin mutations cause myelination defects?	15

65	Tavoggia	Type III neuregulin-1 promotes oligodendrocyte myelination	15
	Griffin	Schwann cells	25
66	Dionne	Myelin basic protein gene regulation in developing and regenerating glia	15
67	Wang	Bimodal occurrence of aspartoacylase in CNS myelin and cytosol—Decrease of myelin and specific lipids in aspartoacylase-null rodents	15

Session 5 ASTROCYTE FUNCTION AT SYNAPSES AND BLOOD VESSELS

SATURDAY 7/22/2006, 9:00 AM

R. Robitaille / U. Gaul

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
68	Gaul	GPCR signaling in glial morphogenesis and blood-brain barrier formation	25
69	Derouiche	Perisynaptic astrocyte processes—Involvement of ezrin in their formation and plasticity	15
70	Parpura	Spatio-temporal characteristics of exocytosis in astrocytes	15
71	Sarthy	A study of glutamate homeostasis in the mammalian retina using GLAST knockout mice	15
72	Benediktsson	Dynamic, synaptically-associated clusters of an astrocytic glutamate transporter, GLT-1a—An examination of the effects of neuronal activity	15
73	Zhu	Pharmacological manipulation of gliotransmission reduces delayed neuronal death following status epilepticus	15
74	Robitaille	Interactions between interneurons and glial cells underlie hippocampal heterosynaptic depression	25
75	Stevens	The complement cascade mediates development synapse elimination	15

Session 6 POSTER SESSION II

SATURDAY 7/22/2006, 2:00 PM

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
76	Maurel	The nectin-like molecules—A new class of cell adhesion molecules to define axo-glial interactions	
77	Mclver	Lentivirus-mediated GFP expression as a tool for assessing oligodendrocyte injury in a rodent stroke model	
78	Heuschling	Stimulation of the Notch pathway modulates the phenotype acquisition of microglial cells	
79	Hol	GFAP isoforms in health and disease	
80	Miguel-Hidalgo	Increased alcohol preference and intake in Wistar rats after infusion of gliotoxins or a blocker of astrocytic gap junctions into the prelimbic cortex	
81	Miller	GLT1 upregulation attenuates the behavioral phenotype of Huntington's disease	
82	Götz	Induction of partial gliosis after deletion of β 1-integrin in astroglia	
83	Morishita	Myelination regulates localization of CNR/protocadherin- α family protein in the developing visual circuit	
84	Müllershausen	FTY720 signaling through S1P1 receptors in cortical astrocytes	
85	Nave	Axonal neuregulin-1 and intracellular PtdIns(3,4,5)P3 trigger myelin outgrowth by Schwann cells	
86	Neufeld	Activation of epidermal growth factor receptor is an upstream signal transduction pathway for the transition of a quiescent astrocyte into a reactive astrocyte	

87	Noon	Oncogenic signaling deregulates Schwann cell differentiation and disrupts axonal contact
88	Oland	Axonal sorting mediated by interactions of ingrowing axons with glial cells
89	Orthmann Murphy	Recessive mutations in <i>Cx47/GJA12</i> associated with Pelizaeus-Merzbacher-like disease result in loss-of-function
90	Sawin	Lipid rafts are important for microglia clearance of amyloid- β
91	Petrinovic	Expression patterns of axonal guidance molecules in the adult Nogo-A knockout mouse CNS
92	Potter	Deleterious effects of minocycline after in vivo target deprivation of thalamocortical neurons in the immature mouse brain
93	Risher	Astroglial reorganization in the hippocampal synaptic network during LTP in the developing rat
94	Ryu	The temporal downregulation of SCIP is required for normal peripheral nervous system myelination
95	Sakurai	The role of Pax6 transcription factor in astrocytes
96	Sakurai	Identification of a receptor phosphotyrosine phosphatase in complex with the NRG1 receptor ErbB4
97	Saunders	Vulnerability of blood-brain barrier in white matter blood vessels following systemic inflammation at a critical period of brain development
98	Grinspan	The maturation of glial cells in the spinal cord is compromised in a BMP signaling mutant
99	Serwanski	The nodal quartet—Both NG2 glia and astrocytes contribute to the nodal unit in myelinated axons
100	Shankaran	Measurement of brain microglial proliferation rates in vivo by heavy water labeling—Effects of neuroinflammatory stimuli and application to drug discovery
101	Shen	Epigenetic modifications define the early stages of oligodendrocyte lineage progression
102	Sierra	Senescent microglia exhibits an altered inflammatory profile
103	Silies	Glial cell migration in the <i>Drosophila</i> PNS
104	Stork	The role of septate junction associated proteins during midline glia development in the <i>Drosophila</i> CNS
105	Tanaka	Abnormalities found in Alexander disease-model-mouse
106	Goldman	Synergistic effects of the SAPK/JNK and the proteasome pathways on GFAP accumulation in Alexander disease
107	Tang	GFAP accumulation stimulates macroautophagy-lysosome pathway in Alexander disease
108	Tapinos	Nuclear expression and transcriptional role of ErbB3—Implications in Schwann cell physiology and pathology
109	Simons	Mechanisms of myelin biogenesis—Regulation of membrane transport in oligodendrocytes
110	Traka	<i>Nur7</i> is a novel mouse mutation in the aspartoacylase gene that causes spongy degeneration of the central nervous system

111	Tran	Thrombospondin-1 production and release is mediated by purinergic signaling in astrocytes—Implications for CNS development and repair
112	Van Damme	Astrocytes regulate GluR2 expression in motor neurons and their vulnerability to excitotoxicity
113	Ventura	Multiple glial and interneuronal lineages in the perinatal subventricular zone
114	Voas	α II-spectrin is required in myelinated axons for the formation of nodes and paranodes
115	Wang	Phenotypic changes of glial cells in aging retina
116	Witcher	Astroglial processes support larger synapses but do not limit their potential for synaptic crosstalk
117	Yang	Interleukin-13 induces cell death through the suppression of hemoxygenase-1 in LPS-treated microglia
118	Rubio	Retraction of Bergmann glial processes ensheathing parallel fiber synapses affect Purkinje cells spines
119	Zhou	The identity of potassium channels underlying mature astrocyte passive conductance
120	Zhu	NG2-expressing cells (polydendrocytes) differentiate into both oligodendrocytes and astrocytes

Session 7 AXON-GLIAL INTERACTIONS

SATURDAY 7/22/2006, 7:30 PM

J. Salzer / E. Peles / P. Magistretti

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
121	Salzer	Nodes of Ranvier and initial segments assemble by distinct mechanisms	25
122	Karadottir	Neurotransmitter signaling to two types of oligodendrocyte precursor cell	15
123	Peles	Role of cell adhesion molecules in myelinated nerves	25
124	Spiegel	Role of cell adhesion molecules mediating Schwann cell-axon interaction at the onset of myelination	15
125	Magistretti	Neuron-glia metabolic coupling and plasticity	25
126	Rosenbluth	How tight is the paranodal junction of myelinated nerve fibers?	15
127	Goutebroze	Role of protein 4.1B in the organization of nodes of Ranvier myelinated fibers in vivo	15

Session 8 REACTIVE GLIOSIS AND CNS REGENERATIVE FAILURE

SUNDAY 7/23/2006, 9:00 AM

M. Freeman / Z. He

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
128	He	Extrinsic and intrinsic control of axon regeneration	25
129	Venkatesh	Molecular dissection of the myelin-associated glycoprotein receptor complex reveals cell-type specific mechanisms for neurite outgrowth inhibition	15
130	Vargas	Why is Wallerian degeneration so slow in the CNS?	15
131	Buffo	Olig2 induction in acute and chronic lesions—A novel oligodendrocyte reactivity in cerebral amyloidosis	15
132	Freeman	The <i>Drosophila</i> cell corpse engulfment receptor Draper mediates glial clearance of severed axons	25
133	Lu	The role of Olig2 in cortical astrocyte development and neuroprotection after injury	15
134	Domeniconi	Astrocytic contribution to moto neuron apoptosis	15
135	Pastrana	The new role of matrix metalloproteinase 2 in the promotion of axon regeneration by olfactory ensheathing cells	15

Session 9 GLIA AND DISEASE

SUNDAY 7/23/2006, 2:00 PM

V.H. Perry / L. Watkins

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
136	Watkins	Glia as the "bad guys" in pathological pain, opioid tolerance, and opioid dependence—Clinical implications of targeted glial suppression	25
137	Hanani	Satellite glial cells in sensory ganglia—Their role in chronic pain	15
138	Sherman	Hyaluronan inhibits oligodendrocyte progenitor cell differentiation and maturation in neurodegenerative lesions	15
139	Ikenaka	Changes in the character of microglia coincide with the impaired remyelination by oligodendrocytes	15
140	Perry	The role of systemic infection on the progression of chronic neurodegenerative disease	25
141	Garden	The role of p53 in microglia activation by HIV-gp120 coat protein	15
142	Assanah	Glial progenitors in adult white matter are driven to form malignant gliomas by PDGF expressing retroviruses	15

Session 10 NEW APPROACHES TO UNDERSTANDING GLIA

MONDAY 7/24/2006, 9:00 AM

B. Tasic / W. Gan

<u>#</u>	<u>Iname</u>	<u>Title</u>	<u>Talk Length</u>
143	Gan	ATP mediates rapid microglial response to local brain injury	25
144	Slezak	New transgenic mouse models for inducible and cell-specific mutagenesis in subpopulations of astrocytes	15
145	McDermott	Developmental potential of radial neuroepithelial cells investigated by transplantation into the developing rat ventricular system in utero and ex vivo	15
146	Bacaj	Glia control sensory neuron development, morphology, and function in <i>C. elegans</i>	15
147	Tasic	Mosaic analysis with double markers in mice	25
148	Dunaevsky	Developmental regulation of Bergmann glia morphology and motility in the mouse cerebellum	15
150	Goelman	Observation of spatial waves in fMRI—Could it be related to calcium waves?	15