

CURRICULUM VITAE

1. BASIC INFORMATION

Full name: Petri Hyytiä

Date and place of birth: 6th of August, 1956, Kuusamo, Finland

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Citizenship: Finland

Language skills:

Finnish	Native speaker
English	Excellent
Swedish	Good (official state certificate)
French	Basics
German	Basics

Education and degrees:

2001	Docent, Faculty of Biosciences, University of Helsinki
1993	Ph.D., Department of Genetics, University of Helsinki (Dissertation: "Alcohol Reinforcement: Genetic Differences and Attenuation by Opioid Antagonists")
1982	M.Sc., Department of Genetics, University of Oulu

Previous professional appointments:

2010-2011	Visiting scientist, Research Program of Molecular Neurology, University of Helsinki (September 1 – February 28)
2008-2010	Senior Scientist, Department of Alcohol, Drugs and Addiction, National Institute for Health and Welfare, Helsinki
1996 - 2008	Senior Scientist, Department of Mental Health and Alcohol Research, National Public Health Institute, Helsinki, Finland
2007	Visiting Scientist, Department of Behavioral Neuroscience, Oregon Health and Science University, Portland, Oregon, USA (October 1 – December 31, 2007)
1993-1994	Post-doctoral fellow with George F. Koob, Department of Neuropharmacology, The Scripps Research Institute, La Jolla, California, USA
1990-1996	Staff Scientist, Alcohol Research Centre, Alko Group Ltd, Helsinki
1983-1990	Assistant Head of the Laboratory Animal Department, Alcohol Research Centre, Alko Group Ltd, Helsinki
1981-1982	Scholarship student, Laboratoire de Biologie et Génétique Evolutive, Centre National de Recherche Scientifique, Gif-sur-Yvette, France

2. RESEARCH AND SCIENTIFIC ACTIVITIES

Experience of research:

Thesis work	The Ph.D. thesis work "Alcohol Reinforcement: Genetic Differences and Attenuation by Opioid Antagonists" was supervised by Dr. David Sinclair at Alcohol Research Centre, Alko Group Ltd, 1993. Research on the opioidergic regulation of alcohol reward and consumption using operant conditioning procedures and pharmacological tools. The project resulted in 5 publications that have been cited 239 times.
Postdoctoral training	Professor George F. Koob's group at the Department of Neuropharmacology (chair Floyd F. Bloom), The Scripps Research Institute, La Jolla, California, USA, 1993-1994. Research on the GABAergic and dopaminergic neural circuits in modulation of drug reward using <i>in vivo</i> pharmacological and neurochemical tools in various animal models of addiction. Training included extensive education on the theoretical concepts of experimental analysis of addictive behaviour. The Scripps research group constitutes the most important hub of the existing personal scientific networks internationally. The training period resulted in 5 publications that have been cited 695 times.

Current scientific research activity:

The ongoing research project belongs to the field biomedical addiction research. More precisely, the most important ongoing project is part of an international collaboration initiated under the ERA-NET NEURON 2010 call. The project entitled "*Dysfunctional neuronal networks in alcoholism: Utilizing translational neuroimaging to identify altered brain connectivity and treatment efficacy predictors*" aims at developing MRI protocols for assessment of functional and anatomical connectivity in brain networks both in animal models and alcoholic patients. The project will acquire information on brain connectivity maps specific for alcoholism and on their modification by clinical reference compounds, i.e. acamprosate and naltrexone, in humans and animals. Based on this information we expect to predict better the effects of experimental drugs proposed for treatment of alcoholism in human patients.

At Biomedicum Helsinki, the project will be conducted both in the laboratories of the Institute of Biomedicine (Pharmacology), the Experimental MRI Laboratory (head Turgut Tatlisumak), and the university laboratory animal facilities.

External funding acquired from the Academy of Finland for the 3-year (2011-2013) project:

Personnel €	91.632
Consumables €	30.000
Equipment €	5.600
Travel €	7.200
Other direct costs (services) €	24.000
Overheads €	97.128
Total €	255.560

Research group:

Recruitment of personal is in progress. The students participating in the project in 2011 include: Leena Penna (BSc), Mateusz Dudek (MSc). Registration of PhD student status has not yet been completed.

The international participants of the project include:

- Wolfgang Sommer, MD PhD (Dept. of Psychopharmacology, Central Institute for Mental Health, Mannheim, Germany)
- Karl Mann, MD PhD (Dept. of Addiction Medicine, Central Institute for Mental Health, Mannheim, Germany)
- Serdar Dursun, MD PhD (Dept. of Psychiatry, University of Alberta, Edmonton, Canada)
- Santiago Canals, PhD (Instituto de Neurociencias, University Miguel Hernández, Alicante, Spain)

Publication record:

The list of publications includes a total of 92 items, including 74 peer-reviewed research articles, 10 articles published in edited volumes and conference proceedings, and 8 book chapters.

Citation statistics based on ISI Web of Science (October 2010):

Sum of the times cited: 2.315, H-index: 26

According to the classification of Web of Science, the publications represent the following main subject areas (partly overlapping percentages): substance abuse (54%), pharmacology & pharmacy (38%), neurosciences (25%), psychiatry (14%).

Selection of important papers pertinent for the present project:

- Bäckström P, Etelälahti T, Hyytiä P (2011). Attenuation of reinforcing and psychostimulant effects of amphetamine by aripiprazole. *Addict Biol* 16:55-63. IF = 4.728
- Björk K, Rimondini R, Hansson AC, Teräsmaa A, Hyytiä P, Heilig M, Sommer WH (2008) Modulation of voluntary ethanol consumption by beta-arrestin 2. *FASEB J* 22:2552-60. IF = 6.401
- Bäckström P, Hyytiä P (2007) Involvement of AMPA/kainate, NMDA, and mGlu5 receptors in the nucleus accumbens core in cue-induced reinstatement of cocaine seeking in rats. *Psychopharmacology (Berl)* 192: 571-80. IF = 4.103
- Bäckström P, Hyytiä P (2006) Ionotropic and metabotropic glutamate receptor antagonism attenuates cue-induced cocaine seeking. *Neuropsychopharmacology* 31: 778-86. IF = 6.993
- Bäckström P, Bachteler D, Koch S, Hyytiä P, Spanagel R (2004) mGluR5 antagonist MPEP reduces ethanol-seeking and relapse behavior. *Neuropsychopharmacology* 29:921-8. IF = 6.993
- Lintunen M, Hyytiä P, Sallmen T, Karlstedt K, Tuomisto L, Leurs R, Kiianmaa K, Korpi ER, Panula P (2001). Increased brain histamine in an alcohol-preferring rat line and modulation of ethanol consumption by H(3) receptor mechanisms. *FASEB J* 15:1074-6. IF = 6.401
- Weiss F, Parsons LH, Schulteis G, Hyytiä P, Lorang MT, Bloom FE, Koob GF (1996) Ethanol self-administration restores withdrawal-associated deficiencies in accumbal dopamine and 5-hydroxytryptamine release in dependent rats. *J Neurosci* 16:3474-3485. IF = 7.178

Scientific expert positions:

- 2006- : Receiving editor of *Addiction Biology*
- Reviewer for several journals in the field of neuroscience, pharmacology and addiction research, including: *Addiction Biology*, *Alcohol*, *Alcohol and Alcoholism*, *Alcoholism Clinical and Experimental Research*, *Brain and Behavioural Functions*, *Brain Research*, *Brain Research Bulletin*, *Drug and Alcohol Dependence*, *European Journal of Neuroscience*, *European Journal of Pharmaceutical Sciences*, *European Neuropsychopharmacology*, *FASEB Journal*, *Genes, Brain and Behavior*, *Journal of Neurochemistry*, *Naunyn-Schmiedeberg's Archives of Pharmacology*, *Neuropharmacology*, *Neuropsychopharmacology*, *Neuroscience and Biobehavioral Reviews*, *Pharmacology*, *Biochemistry and Behavior*, *Progress in Neuro-Psychopharmacology & Biological Psychiatry*, *Psychopharmacology*

Awards:

Distinguished International Scientist Collaboration Program Award 2007, awarded by the National Institute of Drug Abuse, USA.

Participation in previous major international projects:

EU-funded (5. framework) project "Identification and validation of molecular targets for pharmacological treatment of alcohol dependence" (QLG3-CT-2002-01048 ,TARGALC) 2002-2005, project coordinator Markus Heilig (Karolinska Institute, Sweden). Role as a partner: Recruitment of personal, supervision and coordination of work, budget planning and follow-up.

Scientific collaboration:

On-going scientific collaboration with Finnish investigators:

- Esa Korpi (Institute of Biomedicine, University of Helsinki): *Behavioral models of drug dependence.*
- Pertti Panula (Institute of Biomedicine, University of Helsinki): *Role of the central histamine system in regulation of alcohol-related behaviors.*
- Jari Tiihonen, James Calloway, Marko Lehtonen (Department of Forensic Psychiatry, Department of Pharmaceutical Chemistry, University of Kuopio): *Alterations in brain endocannabinoid levels induced by alcohol drinking.*
- Iiris Hovatta (Research Program of Molecular Neurology, University of Helsinki): *Role of δ -aminolevulinic acid dehydratase (ALAD) in anxiety-like behavior.*

On-going international collaboration:

- Erika Roman (University of Uppsala, Sweden): *Assessment of risk-taking behavior, impulsivity and anxiety in rat lines selected for differential alcohol preference.*
- Bo Söderpalm (University of Gothenburg, Sweden): *Involvement of glycine receptors in regulation of alcohol drinking.*
- Elizabeth Jerlhag, Jörgen Engel (University of Gothenburg, Sweden): *Epigenetic analyses of the proghrelin and GHS-R1A genes in rat brain.*
- Wolfgang Sommer (Central Institute of Mental, Health University of Heidelberg, Germany): *Gene expression profiling and neuroimaging in animal models of alcoholism.*
- Giancarlo Colombo (CNR Institute of Neuroscience, Italy): *Effects of allosteric GABA_A modulators on alcohol drinking.*
- William McBride (Indiana University School of Medicine, USA): *Region-specific gene expression profiling in rat lines selected for differential alcohol preference.*

3. TEACHING AND SUPERVISION

Experience of undergraduate and graduate teaching and supervision

I have participated in supervision of both undergraduate and graduate theses in various roles (see the full list below). I have reviewed Ph.D. theses both at the universities of Helsinki, Kuopio and Tampere, and acted as an opponent at the Universities of Helsinki and Tartu.

Supervised M.Sc. theses:

Antti Turhala, Faculty of Pharmacy, University of Helsinki, 1999
 Pia Bäckström, Faculty of Biosciences, University of Helsinki, 2000
 Tiina Etelälähti, Faculty of Biosciences, University of Helsinki, 2006
 Päivi Kivinen, Faculty of Biosciences, University of Helsinki, 2007
 Veera Holopainen, Faculty of Biosciences, University of Helsinki, 2009

Co-supervised licentiate theses:

Sami Ojanen, Faculty of Biosciences, University of Helsinki, 2007

Supervised Ph.D. theses:

Pia Bäckström, Faculty of Biosciences, University of Helsinki, 2002-2006

Hanna Malinen, Faculty of Biosciences, University of Helsinki, 2004- (suspended due to illness)

Reviewed Ph.D. theses:

Jyrki Rintala, Faculty of Medicine, University of Tampere, 2002
 Jarno Riikonen, Faculty of Medicine, University of Tampere, 2004
 Markus Storvik, Faculty of Pharmacy, University of Kuopio, 2004
 Anne Tammimäki, Faculty of Biosciences, University of Helsinki, 2008

Membership in Ph.D. thesis committees:

Anne Tamminiemi, Faculty of Pharmacy, University of Helsinki, 2007
 Tanja Kivinummi, Faculty of Pharmacy, University of Helsinki, 2008
 Kristiina Kaste, Faculty of Pharmacy, University of Helsinki, 2008 Heidi Kemppainen, Faculty of Biosciences, University of Helsinki, 2008

Ph.D. thesis opponent:

Tanja Kivinummi, Faculty of Pharmacy, University of Helsinki, 2009
 Silva Sütt, Department of Physiology, University of Tartu, Estonia, 2010

Lectures for undergraduate and graduate students

I have actively participated in organizing courses on neuropharmacology for graduate students of various graduate schools at the Institute of Biomedicine. For several years, I have lectured on the neurobiology of alcoholism during the alcohol theme day at the faculty of medicine. Lectures on the neurobiology of addiction have been given also for psychiatrists and psychologists. More general lectures on addiction medicine have recently been initiated at the Helsinki Open University. Regular lectures on the neurobiology and genetics of alcoholism and drug addiction (lectured both in English and Finnish):

- "Alkoholiriippuvuuden hermostollinen ja perinnöllinen tausta". Vuosittainen Ruoansulatus ja ravitsemus opintopaketti/Päihdepäivä (Lääketieteellinen tiedekunta, Helsingin yliopisto), 1996 – 2011
- "Opioidiriippuvuuden hermostollinen perusta" (Opioidiriippuvaisia hoitavien koulutus, Järvenpään sosiaalisairaala), 2002 "Animal models of drug craving and relapse" (Graduate school in pharmaceutical research, Universities of Kuopio and Helsinki), 2006
- "Neuronal Plasticity in Drug Addiction". NeuPhar 2008-kurssi: Neuropharmacology and brain gene expression (Institute of Biomedicine, University of Helsinki, with the participation of Finnish Graduate School in Neurosciences, Drug Discovery Graduate School, Helsinki Biomedical Graduate School), 2008
- "Role of the endocannabinoid system in alcohol and drug dependence". (Department of Biosciences, University of Kuopio), 2008
- "Päihdehäiriöiden etiologia ja patogeneesi". Psykiatrian erikoistumiskoulutus, runkoseminaari (Psykiatrian klinikka, Helsingin yliopisto), 2009 - 2011
- "Päihderiippuvuuden neurobiologinen ja geneettinen tausta", EU1A04x Päihteet, aivot ja terveys –seminaari (Psykologian laitos, Helsingin yliopisto), 2009
- "Animal models of addiction". NeuPhar2010: Neuropharmacology and behavioural animal models (Institute of Biomedicine, University of Helsinki, with the participation of Finnish Graduate School in Neurosciences, Drug Discovery Graduate School, Helsinki Biomedical Graduate School), 2010
- "Päihteiden käytön fyysiset ja psyykkiset vaikutukset". Päihdelääketieteen perusteet, Avoin yliopisto (Lääketieteellinen tiedekunta, Helsingin yliopisto), 2009-2011