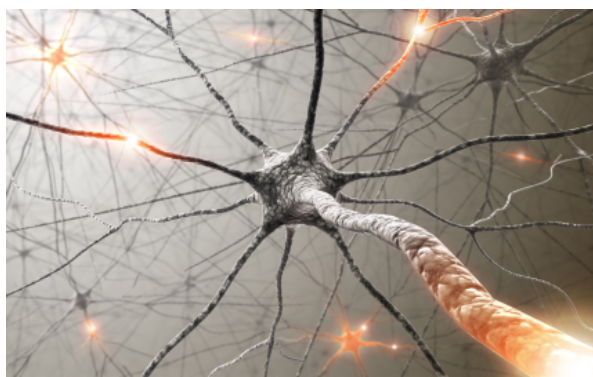


# NATIONAL CORE FOR NEUROETHICS LA NEUROÉTHIQUE

THE UNIVERSITY OF BRITISH COLUMBIA



## ANNUAL REPORT 2009 - 2010

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## NATIONAL CORE FOR NEUROETHICS LA NEUROÉTHIQUE



September 2010

Dear Colleagues, Friends, and Supporters,

We are pleased to share with you this report on the growth and success of the National Core for Neuroethics at UBC since August 2009.

At this three-year anniversary, we have:

- continued to make significant progress on our work at the interface of neuroethics and functional neuroimaging, stem cells, dementia, cognitive enhancement, and global health neuroethics
- brought new research programs to the fore through new grants and collaborations in neurodevelopmental disorders, gene therapy, and neuroscience communication
- graduated young researchers to leading graduate programs and faculty positions in Canada and the United States
- successfully attracted outstanding new graduate students and postdoctoral fellows to the Core
- participated in and hosted numerous outreach activities across British Columbia including events around the Olympic and Paralympic Games, visits to Northern BC, and the launch of Café Neuroéthique in Vancouver
- built new relationships and interest in neuroethics among our medical residents and neuroscience graduate students
- provided leadership on a national and international level.

Our growth has been exemplary, and we are proud that this young organization is already achieving prominence on the world stage. We look forward to continued success as we move our research, education, and outreach programs to the next level of excellence, and keep at the focus of our attention the happiness and productivity of our brilliant Team.

This report says it all.

- Judy Illes and Peter Reiner

## ***Mission***

*The National Core for Neuroethics is an interdisciplinary research group dedicated to tackling the ethical, legal, policy and social implications of frontier technological developments in the neurosciences. Our objective is to align innovations in the brain sciences with societal, cultural and individual human values through high impact research, education and outreach.*



## faculty members



### **Judy Illes, Ph.D.**

Dr. Illes is Professor of Neurology and Canada Research Chair in Neuroethics at the University of British Columbia (UBC). She is Director of the Core and faculty in the Brain Research Centre and at the Vancouver Coastal Health Research Institute. She also holds affiliate appointments in the School of Population and Public Health and the School of Journalism at UBC, and in the Department of Computer Science and Engineering at the University of Washington in Seattle, WA. Dr. Illes' research focuses on ethical, legal, social and policy challenges specifically at the intersection of the neurosciences and biomedical ethics. Dr. Illes is a co-founder and Executive Committee Member of the Neuroethics Society, Chair of the Committee on Women in World Neuroscience (WWN) for the International Brain Research Organization (IBRO), and a Canadian representative to the National Academy of Sciences/IBRO US-Canada Committee. Her most recent book, *The Oxford Handbook of Neuroethics*, with B.J. Sahakian, is forthcoming in 2011.



### **Peter Reiner, V.M.D., Ph.D.**

Dr. Peter B. Reiner is co-founder of the National Core for Neuroethics and Professor in the Kinsmen Laboratory of Neurological Research, Department of Psychiatry and the Brain Research Centre. Dr. Reiner has a distinguished track record as a research scientist studying the neurobiology of behavioural states and the molecular underpinnings of neurodegenerative disease, and experience in the private sector as President and CEO of Active Pass Pharmaceuticals, a drug discovery company that he founded to tackle the scourge of Alzheimer's disease. Upon returning to academic life, Dr. Reiner refocused his scholarly work in the area of neuroethics. His particular areas of interest are the penetration of neuroscience thinking in society at large and the neuroethics of cognitive enhancement.



### **Lynn Beattie, M.D., F.R.C.P.C.**

Dr. Beattie is Professor Emeritus, Division of Geriatric Medicine, Department of Medicine, at the UBC. She is Director of the Clinic for Alzheimer Disease and Related Disorders at UBC Hospital and sees patients at this venue. Further, she participates in the Executive Committee of the BC Network for Aging Research and in the Centre for Research in Personhood in Dementia. Dr. Beattie is on the Board of the Alzheimer Society of Canada as Chair of the Research Policy Committee and is Secretary Treasurer of C5R, the Consortium of Canadian Centres for Clinical Cognitive Research. In 2007 she started as the Scientific Director for CHAP, the Centre for Healthy Aging at Providence Health Care in Vancouver. She is a member of the Board of the Pacific Alzheimer Research Foundation. In the past, Dr. Beattie started and was the first Head of the Division of Geriatric Medicine at UBC, initially based at Shaughnessy Hospital and in later years at Vancouver Coastal UBC/VGH.

## staff members, interns, and visiting scholars



### **Yemi Banjo, B.Sc., M.Sc.**

Yemi Banjo joined the Core in June 2009 as a Research Fellow to co-ordinate the 'International Neuroethics: Enhancement, Drugs and Devices' study led by Dr. Reiner in collaboration with Dr. Thomas Metzinger (Johannes Gutenberg University Mainz). She graduated from the University of California, Davis in 2005 with a Bachelor of Science degree in Neurobiology, Physiology and Behaviour, and recently completed a Master's degree in Neuroscience at UBC. As a graduate student she studied the effects of brief fetal exposure and subsequent adult re-exposure to cycad neurotoxins. Ms. Banjo also co-manages the International Neuroethics Network.



### **Emily Borgelt, B.Sc., M.A.**

Emily's research examines perspectives on the clinical use of neuroimaging in mental health care. She also manages the Clinical Neuroethics program, for which she develops and delivers case studies and didactic presentations for medical residents in the clinical neurosciences. During her time at the Core she has co-authored three peer-reviewed articles and taught a session on "Neuroethics Challenges in Regenerative Medicine" at the 4th Annual Canadian IBRO School. Emily graduated from Emory University in 2008 with a Bachelors degree in Neuroscience and Behavioural Biology and a minor in Ethics Studies. She pursued her Master's Degree in Bioethics at Case Western Reserve University, which she completed in May 2009. In Fall 2010, she will return to Case Western to pursue a Ph.D. in Bioethics with a concentration in stem cell research and regenerative medicine.



### **Elana Brief, Ph.D.**

Dr. Brief is the project leader on the Core's studies of Indigenous perspectives on neurodegenerative disease. She is working collaboratively with a First Nations community that has a genetic mutation leading to early onset familial Alzheimer's Disease. Dr. Brief believes that including Indigenous perspectives and voices in neuroethics will enrich the field and offer alternate understandings of neuroscience concepts. Dr. Brief received a doctorate from UBC in physics for her imaging work on brain chemistry in MS patients. Dr. Brief's current research focus is on population health and, in 2009, she co-authored a book on participatory research techniques entitled: *Our Common Ground - Cultivating Women's Health through Community Based Research*.



### **Daniel Buchman, B.A., M.S.W.**

Daniel's neuroethics research combines medical sociology, medical anthropology, bioethics, and the philosophy of psychiatry. His dissertation work, under the supervision of Dr. Illes, Dr. Reiner, and Dr. Anita Ho (UBC Centre for Applied Ethics) will focus on how the dissemination of knowledge from the neurosciences influences public perception of addiction as a brain disease. Daniel received his Bachelor of Arts in Psychology and Social Studies of Medicine from McGill University, and his Master of Social Work with a specialization in Addiction Studies from the University of Toronto. He has worked as a clinical social worker in front-line and outpatient addiction and mental health settings, in addition to inpatient work at an acute care hospital. Since joining the Core in 2008, Daniel has published in the *American Journal of Bioethics-Neuroscience*, *Addiction*, the *Minnesota Journal of Law, Science & Technology*, *Neuroethics*, *Harm Reduction Journal*, and the *Journal of Ethics in Mental Health*. In September 2009, he was awarded a prestigious Banting and Best Graduate Student Fellowship.





**Neil Chahal, B.Sc., M.H.A.**

Neil is the Research and Education Co-ordinator for the UBC hub of the Canadian Dementia Knowledge Translation Network (CDKTN) - a pan-Canadian network for the translation and exchange of research in Alzheimer's disease and dementia. Neil holds a Bachelor of Science degree in Human Physiology and a Master of Health Administration, both from the University of British Columbia.



**Nina Di Pietro, Ph.D.**

Dr. Di Pietro joined the Core in 2010 as a Postdoctoral Fellow and the Project Lead for the Neuroethics arm of NeuroDevNet, a new Network of Centres of Excellence devoted to neurodevelopmental disorders at UBC. She works closely with the other NeuroDevNet project directors to bring neuroethics into the foreground of the three major areas of research of the Network - cerebral palsy, autism, and fetal alcohol syndrome. Dr. Di Pietro's first independent line of research in Neuroethics for NeuroDevNet examines how advocacy invokes scientific citations and literature to promote therapeutic products. Dr. Di Pietro received her doctorate in Neuroscience from Boston University in 2006. She joined UBC as a post-doctoral research fellow at the Brain Research Centre in 2006, where she investigated physiological interactions between dopamine and serotonin in the prefrontal cortex and the firing patterns of neurons in this brain region during decision-making tasks.



**Carole Federico, B.Sc.**

Carole has been co-ordinating two studies that examine the needs of neuroimagers and neurodegenerative disease researchers for incorporating neuroethics into their research. She is also the assistant editor of, and a contributing author to the forthcoming Oxford Handbook of Neuroethics (J. Illes and B.J. Sahakian, Oxford University Press, Oxford, 2011). Carole completed her undergraduate studies in Biopsychology, with an interest in Philosophy at UBC. This fall, 2010, she will begin her Master's degree in Bioethics at McGill University in Montreal, Quebec.



**Alex Garnett, B.A.**

Alex is a research intern at the Core, and is working in collaboration with Dr. Edie Rasmussen (School of Library, Information, and Archival Studies), and Postdoctoral Fellow Heather Piwowar (Data Observation Network for Earth (DataONE)), to apply informatics to the study of neuroethics. This involves mining the neuroscience literature for the presence of ethics content, using content analysis and full-text annotation along with bibliometric methods for citation analysis. Alex received his Bachelor of Arts degree from the University of Connecticut in 2009, with a major in Cognitive Science and Linguistics.



**Roland Nadler, B.A.**

Roland joined Dr. Reiner at the Core as a Fulbright Scholar finalist in September 2009. His research focuses on the public's ethical intuitions about cognitive enhancement. Using methods inspired by experimental philosophy, he and Dr. Reiner aim to produce a body of data detailing folk attitudes about issues of safety, autonomy, peer pressure, and distributive justice arising from technologies that have the potential to manipulate cognitive and emotional functioning. Roland completed his undergraduate studies at Harvard University in 2009, concentrating in Philosophy with a specialization in Mind, Brain, and Behaviour. This fall, he will begin working towards a Master's degree in UBC's Interdisciplinary Studies Graduate Program.



**Chris Ng**

Chris Ng is a Research Intern at the Core. He is a 2nd year medical student in a Bachelor of Science (Hons) and MBChB integrated program between the University of St. Andrews and the University of Edinburgh. Mr. Ng joined the Core in June 2010 and, under the guidance of Dr. Reiner, has been studying the medicalisation of normal cognitive decline and aging behavior. He wishes to pursue neurology as a specialty in his medical career.



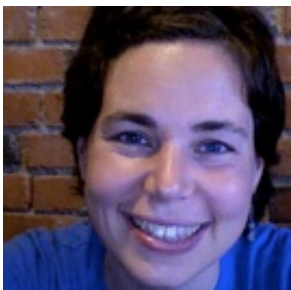
**Altaira Northe, B.Sc.**

Altaira has been responsible for Administration at the Core. She completed her undergraduate studies in Environmental Sciences, with a special interest in human impact and policy, at UBC. Prior to joining the Core, she worked in the Research and Technology Development Office at the Child and Family Research Institute.



**Sara Parke, B.A.**

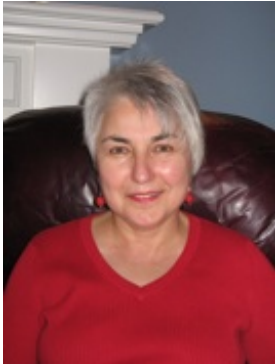
Sara Parke is a 2009 Fulbright Scholar at the Core. She studied Human Biology at Stanford University with a concentration in Neurobiology and Behavior. Sara has been investigating stakeholder perspectives on stem cell therapy for spinal cord injury (SCI). She will begin medical school in the fall of 2010 at the University of Colorado and hopes to specialize in Neurology or Physical Medicine and Rehabilitation, such that she may continue her work in SCI. Sara also hopes to obtain a degree in Medical Humanities, combining her interests in medicine, ethics, and poetry.



**Heather Piowar, M.Eng., M.Sc., Ph.D.**

Dr. Piowar is a Research Intern at the Core and completed her doctorate in the Department of Biomedical Informatics at the University of Pittsburgh in June 2010. For her dissertation, she investigated the patterns and prevalence with which researchers share their raw research datasets: When are data shared? Which incentives have a demonstrated impact on data sharing behavior, and what can we learn from this to inform future policy? Her research uses bibliometric and natural language processing methods to quantify gene expression micro-array data sharing. In a collaborative effort with Dr. Edie Rasmussen of the School of Library, Information, and Archival Studies, and Mr. Alex Garnett, Dr. Piowar has been applying similar techniques to study patterns in the neuroethics literature.





**Joanne Reimer, R.N., M.N.**

Joanne is the Co-ordinator for the Spinal Cord Injury Stakeholders Initiative Project which explores the perspectives of primary stakeholders on stem cells for the treatment of spinal cord injury. The goal of the project is to inform clinical trials with the perspectives of those who are the end-beneficiaries of future potential treatments. Joanne's enthusiasm for the project relates to her 25 years of experience advocating for clinical translation of health care that is imbued with the values of persons and families living with chronic illness.



**Julie Robillard, Ph.D.**

Dr. Robillard devotes her attention to neuroscience communication, examining issues ranging from law and neuroscience in the media, to science information and the aging population. Dr. Robillard holds a Bachelor of Science in Biological Sciences from Université de Montréal, where she specialized in Microbiology and Immunology. She completed her doctorate in Neuroscience at the UBC in 2010, where she focused on the impact of aging on synaptic plasticity and the role of antioxidants as modulators of plasticity in the aging brain.



**Mohsen Sadatsafavi, M.D., M.H.Sc.**

Mohsen Sadatsafavi is a Ph.D. student at the Collaboration for Outcome Research and the Center for Clinical Epidemiology and Evaluation at the UBC. His research interest is in the application of statistical techniques in economic evaluation and medical decision-making. He is working with members of the Core to seek solutions to the problem of incidental findings in brain imaging from a health economics perspective.



**Kate Tairyan, M.D., M.P.H.**

Kate Tairyan is a Senior Research Fellow with the Core. Dr. Tairyan obtained her M.D. in preventive medicine from the Armenian State Medical University and a diploma in health management from the National Institutes of Health. She received the Ed Muskie graduate fellowship award to obtain a Master of Public Health degree with a concentration on global health leadership from Emory University. Her public health expertise and work experience includes several positions at the Ministry of Health of Armenia and collaborations with international experts on health policy development and poverty reduction issues. Dr. Tairyan is spearheading a project to evaluate investigator needs for integrating neuroethics into neuroscience using imaging as a model. In addition to her work at the Core, Dr. Tairyan is the Content Director for the Health Sciences Online (HSO) program and teaches courses on global health at Simon Fraser University.

**Louise Whiteley, B.A., Ph.D., M.Sc.**

Dr. Whiteley is a Visiting Scholar at the Core and is co-ordinating a series of film screenings of *Interior Traces*, a new multimedia drama she co-wrote with the support of a Wellcome Trust grant in the UK. *Interior Traces* explores how new ways of seeing the brain might affect how people see themselves. Dr. Whiteley is also contributing to ongoing work at the Core by systematically analyzing the use of images on websites that sell diagnostic and treatment neuroproducts directly to consumers. Dr. Whiteley received a Bachelor of Arts in Psychology and Philosophy at Oxford University and a doctorate in Neuroscience at University College London in 2008. Her doctorate research used behavioural methods, neuroimaging, and computational modelling to look at how the brain processes uncertainty. Dr. Whiteley also completed an MSc in Science Communication at Imperial College London, with a focus on ethics and the visual and material representation of brain science.



*Core members with distinguished  
colleagues and advisors*

## faculty affiliates and advisors

**Richard Ashcroft, Ph.D.**

Professor of Bioethics, School of Law, Queen Mary, University of London

**Jehannine C. Austin, Ph.D.**

Assistant Professor, Centre for Complex Disorder, Department of Psychiatry, University of British Columbia

**C. Laird Birmingham, M.D.**

Professor, Department of Psychiatry, University of British Columbia

**Mary Anne Bobinski, J.D., Ph.D.**

Dean, Faculty of Law, University of British Columbia

**Michael Burgess, Ph.D.**

Principal of the College for Interdisciplinary Studies and Professor, Center for Applied Ethics, University of British Columbia

**Art Caplan, Ph.D.**

Professor of Bioethics and Director, Center for Bioethics, University of Pennsylvania

**Mildred Cho, Ph.D.**

Associate Director, Stanford Center for Biomedical Ethics, Stanford University

**Max Cynader, Ph.D., O.C.**

Director, Brain Research Centre, University of British Columbia

**Howard Feldman, M.D.**

Vice President and Therapeutic Area Head, Global Clinical Research, Neuroscience, Bristol Myers Squibb

**Joseph J. Fins, M.D.**

Chief, Division of Medical Ethics, Weill Cornell Medical College

**Erica Frank, M.D., M.P.H.**

Professor and Canada Research Chair, School of Population and Public Health and Department of Family Practice, University of British Columbia

**Hank Greely, J.D.**

Professor of Law, Stanford Law School, Stanford University

**Joachim Hallmayer, M.D.**

Associate Professor, Department of Psychiatry and Behavioral Sciences, Stanford University

**David Li, M.D.**

Professor of Radiology, University of British Columbia

**Gladys Maestre, M.D., Ph.D.**

Professor of Neuroscience, Department of Neurosciences, University of Zulia, Maracaibo

**David Magnus, Ph.D.**

Director, Stanford Center for Biomedical Ethics, Stanford University

**Carlo A. Marra, Ph.D.**

Assistant Professor, Director of Collaboration for Outcome Research, University of British Columbia

**Anthony Phillips, Ph.D., F.R.S.C.**

Scientific Director, Institute of Neurosciences, Mental Health and Addiction, CIHR, and Professor of Psychiatry, University of British Columbia

**Rémi Quirion, Ph.D., O.C.**

Scientific Director, Douglas Hospital Research Centre, McGill University

**Eric Racine, Ph.D.**

Director, Neuroethics Research Unit, Institute de recherches cliniques de Montréal, Adjunct Professor, McGill University and Université de Montréal, Montréal

**Barbara J. Sahakian, Ph.D.**

Professor of Clinical Neuropsychology, Department of Psychiatry, University of Cambridge

**Allan Schatzberg, M.D.**

Professor and Chairman, Department of Psychiatry, Stanford University

**Phil Upshall, L.L.B.**

President, Mood Disorders Society of Canada

**Hendrik F.M. Van der Loos, Ph.D.**

Associate Professor, Division of Mechanical Engineering, University of British Columbia



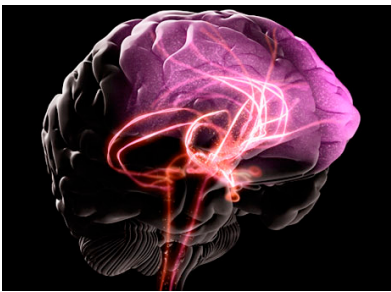


# THE YEAR IN REVIEW



## Advances in Neuroimaging

To enrich the 605 survey responses collected in early 2009, we held focus groups and interviews with more than 50 investigators in Canada and the USA whose research involves neuroimaging. We found that ethics is a growing interest for these neuroscientists, but that their time and interest has been dominated by administrative overhead and institutional ethics reviews. We are now developing evidence-based strategies to improve communication between the neuroscience community and ethics review boards, collaborations between neuroscientists and biomedical ethicists, and ethics training in graduate neuroscience programs to revitalize mutual goals and interests.



## Indigenous Concepts of Wellness and Cognitive Decline in Aging and Dementia

We are conducting research in collaboration with a remote First Nations community in which a novel gene mutation places members of a large family at risk for early-onset familial (inheritable) Alzheimer's Disease (AD). Our goal is to work with the community to learn how the genetic determination of this form of AD fits within their holistic model of health that includes a balance of mind, body and spirit. Using a community-based research approach, we are developing research questions, analysis and dissemination methods together with members of the Nation. One of the research outcomes that members of the community seek is a way to bridge traditional understandings of dementia so that they are better equipped to make decisions around disease prediction, diagnosis and care. Understanding First Nations' perspectives on aging and dementia will guide health care researchers and providers, educators, and policy makers in developing programs and policies that integrate the community's values.





## Bioethical Landscape of Neurodegenerative Diseases Research and Treatment

We conducted 19 interviews with principal investigators in the United States working on drug discovery and regenerative medicine in the area of aging and dementia. These new data supplement survey data we acquired in 2009 from 193 researchers, with the goal of understanding key ethics issues in neurodegenerative disease research and maximizing the utility and practicality of ethics resources.



## Stem Cells for Spinal Cord Injury: ELSI Issues

*"Put my voice in there, so it's actually not just doctors and physiotherapists doing all the research stuff, without having input from the people with actual spinal cord injuries"*

The aim of this project is to harness the voices of people with spinal cord injury to inform the development of clinical trials, and to identify likely candidates for whom therapy may have an early and maximum benefit. We have completed focus groups with chronic spinal cord injury participants, members of their families and support networks, and physicians/allied health providers in acute hospital and rehabilitation centres. Interviews with participants whose injury is considered sub-acute and their support networks are in progress. We are discovering that the early target time points for clinical trials which seek to enroll newly injured people within 7-14 days post injury, do not align with the perspectives of primary stakeholders. Since the scientific procedures will be difficult to time shift, we argue that this incongruity will have to be addressed via a focus on the end-beneficiaries. At present, we are developing recommendations for revising consent guidelines to include consideration of the full risks and benefits with regard to stakeholders' goals, values and life situation, and a staged consent process that takes into account both the need for speed and injured persons' ability to appreciate risk and benefit.

## Neuroethics for NeuroDevNet - Neurodevelopmental Network Inc.

NeuroDevNet - Canada's newest Network of Centres for Excellence (NCE) - is the first trans-Canadian initiative dedicated to studying a spectrum of disorders that affect brain development. It is a collaboration of clinical and basic researchers, industry and community partners, and public sector institutions committed to enabling children with neurodevelopmental disorders to live productive and fulfilling lives. With \$19m CAD for the first five years of research, the network will initially focus on Fetal Alcohol Spectrum Disorder (FASD), Cerebral Palsy (CP) and Autism Spectrum Disorder (ASD). NeuroDevNet is led by Dr. Daniel Goldwitz, Principal Investigator, at the University of British Columbia (UBC) Centre for Molecular Medicine and Therapeutics at the Child & Family Research Institute.



The Neuroethics Core, co-led by Dr. Judy Illes (UBC) and Dr. Eric Racine (IRCM), will provide ethics partnership for NeuroDevNet researchers through the infrastructure they have created for robust research collaboration, training, and outreach. They are working closely with their Associate Researchers, Dr. Nina Di Pietro (UBC) and Dr. Emily Bell (IRCM), to encourage critical ethical thinking in all NeuroDevNet project proposals, and to provide guidance and participation throughout the life of NeuroDevNet research projects. Toward this goal, a key objective is to identify intersecting and unique ethical and social challenges for FASD, CP and ASD. In NeuroDevNet's first year, they have already begun to determine receptivity and barriers to emerging research on neurotechnology from the perspective of affected individuals and those who care for them, and are examining how the products of research move into the open marketplace. Some critical questions are: What effects will cultural diversity have on receptivity? Are barriers ubiquitous? How are new products promoted in the open marketplace and are the claims about them supported by scientific evidence? Taken together, the immediate and long-term results of their work will culminate in recommendations and guidelines for best practices for NeuroDevNet projects.



## Canadian Dementia Knowledge Translation Network

Meaningful translation of dementia research findings from the bench to the bedside is dependent both on the quality of knowledge and the skills and availability of investigators to engage in the knowledge translation process.

While there has been no shortage of high impact research on dementia, successful translation has been more challenging. Results from our CDKTN-UBC web-based survey of 173 dementia researchers across



Canada suggest that face-to-face training through workshops and self-paced online learning in dementia KT (DKT) are needed to close this gap. We are working to develop a robust curriculum in DKT that will include both of these components, and will test it over the coming year. Improved sharing of information among professionals and with the public, and actionable messages for policy makers, are primary goals.

## Clinical Neuroethics

Under the clinical neuroethics initiative, members of the Core meet regularly with medical residents in Neurology, Neurosurgery, and Psychiatry in the Vancouver Coastal Health Authority, and engage them in discussions about cutting edge topics at the interface of ethics, neuroscience and medicine. Our didactic and interactive sessions give particular attention to “tough cases” submitted by residents reporting ethically provocative situations that occur in daily clinical practice. Responding to many residents’ interest in beginning Clinical Neuroethics projects, we also offer them a diverse range of research opportunities to explore neuroethics issues under the guidance of UBC faculty members. An inaugural project, carried out by Neurology resident Dr. Jason Valerio, focused on the application of various neuroimaging modalities in cases of mild traumatic brain injury in sport. Dr. Valerio presented his research at the first annual Neurology Resident Research Day and is currently writing up his findings for publication.



We also hosted screenings of the British radio drama *Interior Traces*, with commentary from one of the writers, visiting research fellow Dr. Louise Whiteley. Resident and faculty feedback on our case-based educational sessions, research projects, Grand Rounds presentations, and special events such as *Interior Traces* has been overwhelmingly positive. We have been delighted by the enthusiasm and insight generated around Clinical Neuroethics, and look forward to sustaining this momentum in the upcoming academic year.

## Neuroscience Communication

Building on the success of last year's NeuroTalk science communication program at the Banff Centre, the Core is leading new projects to evaluate the current state of neuroscience communication in various spheres of society. In a first project, we are exploring science communication in the media at the intersection of law and neuroscience. Our data show a large increase in the reporting of issues surrounding neurology- and psychiatry-based explanations for criminal responsibility and call for a review of how these issues are communicated in the general press. A second project is aimed at assessing the relationship between neuroscientists and the media. This study will allow us to establish the priorities, challenges and motivators for neuroscience communication from the perspective of both scientists and journalists. Our third project is focused on brain-health information available to healthy older adults through easily accessible means such as the Internet, and the brain-health information that physicians believe should be communicated. Our goal is to deliver evidence-based recommendations to improve the quality of information available to the general public, and the means by which it is conveyed, and thus to positively impact health outcomes.

## Neuroethics of Enhancement

In collaboration with Dr. Thomas Metzinger of Johannes Gutenberg University Mainz, we are studying physician attitudes to prescribing cognitive enhancers to persons without pathology. Although the ethical dimensions of pharmacological cognitive enhancement have been widely discussed in academic circles and the popular media, the views of the general public on the issue remain largely unheard. Under the leadership of Dr. Reiner, the team sought to gather data on public perspectives on cognitive enhancement, starting with physicians - key decision makers in the adoption of new technologies into medical practice. We queried over 200 physicians currently residing and practising in the USA or Canada with the aim of understanding their attitudes towards cognitive enhancement. Our hypothesis was that

physicians would favour the restorative use of cognitive enhancers over explicit enhancement. Our data support the hypothesis: respondents overwhelmingly reported increasing comfort with prescribing cognitive enhancers as patient age increases. An unanticipated finding from open comments was that safety is not offset by benefit. The results forewarn that as pharmacological cognitive enhancement moves from prospective discourse to reality, it will be increasingly important to move the academic debate to engage those individuals who are most likely to be affected.





## **National Core for Neuroethics - Johannes Gutenberg University Collaborators Meeting on Cognitive Enhancement**

The National Core for Neuroethics hosted some of their collaborators on the Neuroethics of Cognitive Enhancement grant in October 2009. The presenters were:

- Prof. Dr. Thomas Metzinger (Mainz)
- Dr. Lara Huber (Mainz)
- Dr. Elisabeth Hildt (Mainz)
- Prof. Judy Illes (Vancouver)
- Dr. Kate Tairyan (Vancouver)
- Dr. Dr. Andreas Franke (Mainz)
- Lara Kutschenko (Mainz)
- Prof. Peter Reiner (Vancouver)
- Yemi Banjo (Vancouver)
- Daniel Buchman (Vancouver)

The meeting was held over a 3-day period and covered misuse of neurocognitive enhancers by pupils, students, and retired persons; the shaping of clinical research strategies via imaging technologies; classification of dementia and the “Alzheimerisation” of cognitive aging; autonomy and functionality in cognitive enhancement; ethics at the interface of research and clinical neuroscience with respect to imaging genetics and what the world would look like if we were all neuroessentialists.

Representatives from the Core will be attending a reciprocal conference in Mainz, Germany in fall 2010 to further expand on previous discussions and collaborations.





# VOLUNTEERING & PUBLIC EVENTS



## Brain Awareness Week

This year at the Core, we celebrated Brain Awareness Week (BAW) with a series of lectures by Patricia Churchland, Professor of Philosophy at the University of California and the Salk Institute, San Diego, CA. Professor Churchland spoke on “Mammalian Brains and Moral Values” at the UBC Brain Research Centre, and on “Issues Concerning Decision-making and Control” to an equally full and captivated audience at the Core. Professor Churchland is a tremendous thinker, speaker, and mentor. We were honoured to have her, and thank the Dana Foundation for its generous support in enabling us to host a distinguished Neuroethics Lecture on the occasion of BAW each year.



## Women in World Neuroscience

Women in World Neuroscience (WWN) is a committee of the International Brain Research Organization (IBRO) chaired by Dr. Judy Illes. It was formed in 2007, with the vision to “improve the environment for career advancement for women in all regions of the world”. In 2009, WWN awarded several small grants to encourage young women working in the neurosciences to organize events in their home countries.

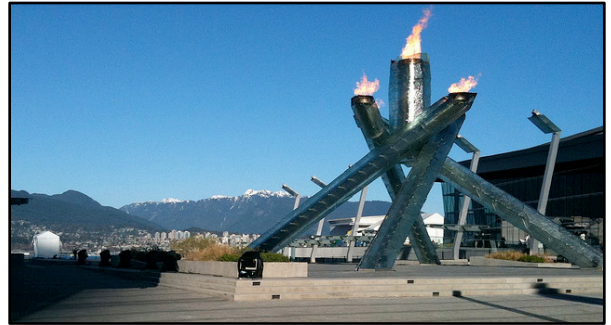


Professor Max Cynader, Head of the Brain Research Centre, generously shared his conference space for a standing room only WWN event “Secrets of the Female Mind” held in June 2010. The event was organized by BC neuroscience trainees Katja Gadzik and Anastasia Kuzmin, and featured Professor Teresa Liu-Ambrose (UBC Department of Medicine), Professor Liisa Galia (UBC, Department of Psychology), and UBC Neuroscience Graduate Student Pamela Arstikaitis. We were honoured to have the Honourable Kevin Falcon, Minister of Health Services, British Columbia, open the event and share his perspectives with us.

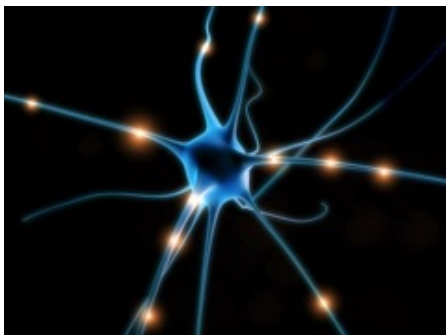
## 2010 Winter Games

As part of the 2010 Winter Olympics, the Core took part in several exciting events.

In December 2009, the Core hosted a panel discussion in collaboration with Professor Sue Cox from the W. Maurice Young Centre for Applied Ethics on *Ethics and the 2010 Olympic and Paralympic Games: Dismissing the Dis in Disability*. Panelists addressed this topic by exploring questions such as: In these modern times, what is the value of drawing the distinction between able-bodied and disabled athletes? Do the disability categories of the Paralympics showcase their abilities or discriminate against them? A second panel in January 2010 focused on *Boosting or Banning: Enhancers for the Body and Brain*.



The Providence Heart and Lung Institute at St. Paul's Hospital hosted a public forum to explore questions about peak performance. The event featured scientists and psychologists who work directly with the world's elite athletes, professional sports teams, and 2010 Olympians. As part of this exciting event, Dr. Judy Illes gave a talk entitled "*Not All that is Unfair is Unethical*", in which she explored the different ethics frameworks needed to evaluate on-brain (i.e., outside body) and in-brain enhancement.



## DISTINGUISHED VISITORS

The Core was privileged to welcome to Vancouver:

- **Grant Gillett**, M.A., M.B., Ch.B., Ph.D., F.R.A.C. - University of Otago, under the auspices of the Cecil and Ida Green Visiting Professorship
- **Patricia Churchland**, Ph.D. - University of California
- **William Stubing** - The Greenwall Foundation

## AWARDS AND HONOURS

### *Students and Fellows*

**Daniel Buchman**, Frederick Banting and Charles Best CIHR Doctoral Fellowship Award, September 2010-August 2013

**Alex Garnett**, International Partial Tuition Scholarship, UBC Faculty of Graduate Studies, 2010

**Roland Nadler**, UBC Interdisciplinary Studies Graduate Program, Graduate Entrance Scholarship, September 2010

**Roland Nadler**, International Partial Tuition Scholarship, UBC Faculty of Graduate Studies, 2010

**Louise Whiteley**, Wellcome Trust Medical History and Humanities Travel Grant, supporting Research Fellowship at the Core, Summer 2010

### *Core Faculty*

**Judy Illes**, Member, IBRO US-Canada Regional Committee, National Academy of Sciences, January 2010 – present

**Judy Illes**, Advisor, Body World/Brain Exhibit, Science World, Vancouver, BC, June 2010 - January 2011

**Judy Illes**, Nature Mentorship Award Nominee, June 2010

**Judy Illes**, Member, Stem Cell Network, Research Management Committee, August 2010 - present



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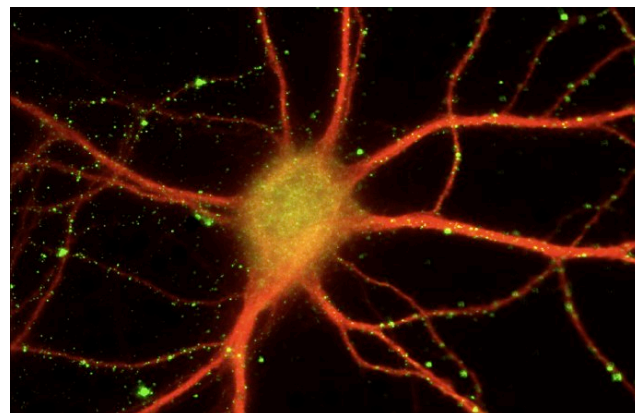




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## PHOTOGRAPHY CREDITS

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