OFFICE OF THE PRESIDENT OF MONGOLIA

MINISTRY OF EDUCATION, CULTURE, SCIENCE AND SPORTS

MINISTRY OF HEALTH

MONGOLIAN NATIONAL UNIVERSITY OF MEDICAL SCIENCES

MONGOLIAN ACADEMY OF SCIENCES

MONGOLIAN FOUNDATION FOR SCIENCE AND TECHNOLOGY

MONGOLIAN NEUROSCIENCE SOCIETY

BRAIN SCIENCE-XXI CENTURY

September 24, 2018

Ulaanbaatar, Mongolia

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President's Office

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	Ministry of Education, Culture, Science, and Sports
	Ministry of Health, Mongolia
	Mongolian Academy of Sciences
	Mongolian National University of Medical Sciences
	International Brain Research Organization
	Mongolian Neuroscience Society
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GREETINGS FROM THE PRESIDENT OF MONGOLIA

Dear honored guests,

Ladies and gentlemen,

I believe the scientists and scholars who generate the new knowledge are key fundamental elements to lead Mongolia to development, and to become it a thriving progressive nation. We prioritize the sustainable development and aim to become an industrialized, producing country from a consumer nation. Therefore in order to enhance the domestic production, the role of science seems to be boundless where knowledge is alphabet to innovation.

Among many branches of science the "Brain science" or Neuroscience has thrived at the intersection of biology, mathematics and philosophy, and already became the frontier science of 21st century. This science has limitless potentials to answer many mysteries of science ranging from basic problems such as functions of brain, essence of human being to future science including space science, artificial intelligence, and unresolved problems of modern medicine. We Mongolians have conspicuous duties to collaborate and contribute to the world science, and especially roles of our young scientists and researchers are humongous.

This year as a president of this nation, I am hosting the "Brain Science-21st century" international conference under my auspices. I am honored to announce that 2014 Nobel laureate in Physiology or Medicine, world-renowned Norwegian scientist, Professor Edvard I, Moser has arrived to deliver the honorary lecture to our country for the first time. Professor Edvard I, Moser has discovered how our brain codes and analyzes own being's location and perspectives of residing in the environment. We hope that you will enjoy this wonderful honorary lecture and get inspired to thrive and research boundlessly. Also you may understand our current "location" in the sense of world level science from this lecture. It is a great pleasure that honorable guests, president of the International Brain Research Organization Pierre Magistretti, executive director Stephanie de La Rochefoucauld, and editor in chief of the Neuroscience journal Juan Lerma are visiting this year, as well.

We may catch up with the world development in science only by the true hardworking of our scientists, especially the "Brain Science" is crucially important for us to prosper. Because the Neuroscience can give answers to difficult questions such as "Who is a Mongolian and what are their intelligence potentials"? Lastly, I hope that our scientists can bring the brain of the "science", "Neuroscience" to our country, wishes you the greatest success of research.

TWENTY FOURTH OF SEPTEMBER,

YEAR OF TWO THOUSAND AND EIGHTEEN

PRESIDENT OF MONGOLIA BATTULGA KHALTMAA

GREETINGS FROM MONGOLIAN MINISTER FOR EDUCATION, CULTURE, SCIENCE AND SPORTS

Dear scholars and honorable guests,

It is my privilege to greet you at the Mongolian Neuroscience Society's "Brain Science - XXI Century" honored lecture and for the 5th annual meeting as the Minister of Education, Culture, Science and Sports. This event is magnificently important for two major fields of Education and Science. The government of Mongolia is implementing numerous structured and large projects to innovate educational system in our country. One example is the collaboration and support for the academic communities including Mongolian Neuroscience Society.

We honor the International Brain Research Organization allowing our young scientists to collaborate with world famous scientists and scholars. It is obvious that we should be congratulating current administration of the IBRO. This meeting is running successfully because of hard working of the local organizing committee and supporters as well as co-organizers.

I have no doubt that young scientists' community like Mongolian Neuroscience Society can bring definitive change to our country to make it well educated, smart, healthy and well disciplined society.

I wish you the very best of everything on behalf of the Mongolian Ministry of Education, Culture, Science and Sports.

Minister for Education, Culture, Science and Sports of Mongolia

Tsogzolmaa Tsedenbal

Ulaanbaatar

September 24th, 2018

CONGRATULATORY MESSAGE FROM MINISTER OF HEALTH OF MONGOLIA

Honorary guests and

Dear healthcare professionals and scientists,

I am honored to deliver congratulatory message to fifth annual meeting of the Mongolian Neuroscience Society on behalf of the Mongolian Minister of Health. Brain and neurological disorders including stroke remain leading cause for mortality in Mongolia as well as globally, and specifically in Mongolia stroke takes second place for mortality cause in adults. This statistics shows how significant is burden of neurological disorders in the world.

Neurodegenerative diseases and regenerating neuronal healthy function aspects are now at the epicenter of scientists vigorous investigations throughout the world. The government of Mongolia is implementing numerous well structured projects to improve the health status of our citizens and specially to reduce the non-communicable diseases that are the bases of stroke and other harmful diseases at the same time.

This year the annual meeting is entitled “Brain Sciences-XXI century” to remark the frontier science and I am delighted to witness honorary public lectures of Nobel laureate, world renowned scientist Edvard Moser; professor Pierre Magistretti, president of the International Brain Research Organization; chief editor of the Neuroscience professor Juan Lerma. I hope that this meeting will discuss many important issues to bring innovation and improvement to our healthcare for brain disorders and I entrust you to discuss in detailed regarding this direction.

We wish you a brilliant success to your academic journey and may your journey be fruitful to reveal the secrets of human brain!

Warmest greetings
SARANGEREL Davaajantsan
Minister of Health of Mongolia

Ulaanbaatar,
September 24, 2018

CONGRATULATORY MESSAGE OF PRESIDENT OF MONGOLIAN NATIONAL UNIVERSITY OF MEDICAL SCIENCES

Ladies and gentlemen,

It is my greatest pleasure to congratulate Mongolian Neuroscience Society for successfully holding 4th annual conference titled "Multidisciplinary Bran Science" on behalf of the Mongolian National University of Medical Sciences. In recent years Mongolian Neuroscience Society has grown tremendously under the support of International Brain Research Organization and others as well. Mongolian Neuroscience Society is full of talented researchers who are committed to develop the neuroscience in Mongolia and there is no doubt that the society will nurture the next generation of scientists onto the next stage.

Brain mysteries are now being unlocked and knowledge of it has already begun to become innovation alleviating the suffered ones from neurodegenerative incurable diseases. The future of neuroscience is infinite and advances of modern technology are enabling us to witness the beginning of thy future including artificial intelligence. Therefore I would like to mention that Mongolian Neuroscience Society is the soul of brain research bridging the world level scientist and our people in order to collaborate towards the bright intelligent future of Mongolia.

This year's annual meeting is extraordinarily fruitful because the Mongolian Neuroscience Society is proudly hosting the very first Neuroscience School in Mongolia. It is as important as water and sun for the crop to enhance young scientists' skills to conduct basic laboratory studies. It is also my pleasure to host the Neuroscience school at our institution that we wish to host many other neuroscience schools in Mongolia.

One occasion is making this annual meeting a historic remark that is the official visit of Nobel laureate in Physiology or Medicine ever to visit in our beautiful country. Professor Moser has been honored 2014 Nobel Prize for discoveries of brain's navigational function and conscience of one's location. We hope that many young people will enjoy professor Moser's lecture and get motivated to become scientists who will become the first Mongolian Nobel laureates.

I wish you the most fruitful conference and meeting to Mongolian Neuroscience Society and to all delegates who will witness the current understanding of brain research in the world. The Mongolian National University of Medical Sciences will support scientists in neuroscience for every aspect and wishes you to flourish magnificently.

Best regards,
Tsolmon Jadamba,
President, Mongolian National University of Medical Sciences

WELCOMING MESSAGE FROM PRESIDENT OF THE MONGOLIAN ACADEMY OF SCIENCES TO HONORED PUBLIC LECTURE BY NOBEL LAUREATE

Your Excellency Mr. President of Mongolia,

Distinguished guests, Friends of the science,

On behalf of the Mongolian Academy of Sciences, I am delighted and honored to give opening speech for the "Brain Science-XXI Century" Nobel Laureate's Honored Public Lecture organized by Mongolian Neuroscience Society, under auspices of the his Excellency the President of Mongolia.

The role of science is enormous for the wellbeing of humanity and modern society, and there are many issues and topics we should be focusing on these days. Among these, however I would like to take your attention to the top 3 mysteries. These are the evolution of the universe, origin of life, and rational explanation of consciousness.

There is no doubt that frontier science of the 21st century, the Brain science is rapidly becoming recognized and admired by the all mankind. I hope that explaining the deep structure and mechanisms of brain and essence of consciousness or mind is no miracle for the modern neuroscience.

Mongolian scientists are working hard to generate new knowledge to the world level science and we are seeing many achievements.

We hope the Mongolian government auspices and support will be fruitful and generous, to promote international cooperation for the sustainable development of Mongolia and the region.

I honorably salute to Nobel Laureate Edvard Moser, president of the International Brain Research Organization Pierre Magistretti, and editor in chief of Neuroscience journal Juan Lerma, who are the honorary lecturers of this meeting on behalf of the Mongolian Academy of Sciences and from myself.

I wish you a great advancement and success to your research and precious duty of revealing the mysteries of brain.

President,

Regdel Duger,
Mongolian Academy of Sciences
September 24th, 2018

GREETINGS FROM PRESIDENT OF INTERNATIONAL BRAIN RESEARCH ORGANIZATION

Dear Delegates,

On behalf of the International Brain Research Organization (IBRO) it is my great honor and pleasure to welcome you to this special event that will focus on neuroscience in the XXIst Century. Since half a Century IBRO is committed to the promotion of Neuroscience. The mission of IBRO is to support training and education in neuroscience worldwide, and to foster scientific exchanges across borders. This special session taking place in the National Parliament attests to the commitment of the Republic of Mongolia to neuroscience. It is a previlege for my colleagues neuroscientists and myself to participate in this unique event. Understanding our brain and developing novel approaches to prevent and cure its diseases is undoubtdly one of the last frontiers of human knowledge for the XXIst century. I wish you all a stimulating session, full of informations and discussions that hopefully will even further raise the interest and passion for the study of the brain.

Pierre J. Magistretti, MD, PhD

President, International Brain Research Organization (IBRO)

GREETINGS FROM THE PRESIDENT OF MONGOLIAN NEUROSCIENCE SOCIETY

Distinguished guests,

and Dear colleagues

The Mongolian Neuroscience Society is proudly holding the 5th annual meeting "Multidisciplinary Brain Science-MNS 2018", and welcoming you with the warmest greetings in Ulaanbaatar, Mongolia. First of all I must recognize the Brain Science for bringing all these beautiful people under one umbrella, allowing us to witness this wonderful moment. Our community is growing tremendously, however we have responsibilities to develop Neuroscience in our beloved country and there is no point of return to reach the academic success.

I must thank to each and everyone who is taking part in IBRO APRC Associate School in Ulaanbaatar, Multidisciplinary Brain Science-MNS 2018, and Honored public lecture, "Brain Science-XXI Century" from bottom of my heart. Especially to Professor Pierre Magistretti, with your enormous support we are organizing these three brilliant events in the very heart of Asia. On behalf of the Mongolian Neuroscience Society I would like to express my most sincere gratitude to Nobel Laureate Professor Edvard Moser, Editor in chief of Neuroscience Journal, Professor Juan Lerma, and executive director Stephanie de La Rochefoucauld. We also thank to our dear invited speakers and kind international guests.

We must acknowledge the kind and most sincere support of his Excellency President of Mongolia and his office, Government of Mongolia, and Mongolian National University of Medical Sciences we would not have been able to organize without your assistance. I would also like to express my kindest gratitude to our sponsor organizations and people.

Lastly I wish you the most fruitful conference experience and pleasant journey in Mongolia.

Let us develop Brain Science in Mongolia!

Battuvshin
President,

BATTUVSHIN Lkhagvasuren
The President of Mongolian Neuroscience Society

DISTINGUISHED GUESTS

PIERRE MAGISTRETTI

- Dean, Biological and Enviromnental Sciences Engineering
- King Abdula University of Science and Technology
- Pressident of the International Brain Research Organization
- Member of Academia Europeae, Switzerland Academy of Medical Science
- Professor Emeritus of University of Lausanne

Biography

Pierre J. Magistretti is an internationally-recognized neuroscientist who has made significant contributions in the field of brain energy metabolism. His group has discovered some of the cellular and molecular mechanisms that underlie the coupling between neuronal activity and energy consumption by the brain.

This work has considerable ramifications for the understanding of the origin of the signals detected with the current functional brain imaging techniques used in neurological and psychiatric research (see for example Magistretti et al, Science, 283: 496 497, 1999). He is the author of over 100 articles published in peer-reviewed journals. He has given over 80 invited lectures at international meetings or at universities in Europe and North America, including the 2000 Talairach Lecture at the Functional Mapping of the Human Brain Conference. In November 2000 he has been a Mc Donnel Visiting Scholar at Washington University School of Medicine.

Pierre J. Magistretti is the President-Elect (2002-2004) of the Federation of European Neuroscience Societies (FENS) which has a membership of over 15000 European neuroscientists. He has been first president of the Swiss Society for Neuroscience (1997-1999) and the first Chairman of the Department of Neurosciences of the University of Lausanne (1996-1998).

Awards and honors

MAIN HONORS AND AWARDS

- 1997 Recipient of the Theodore-Ott Prize of the Swiss Academy of Medical Sciences
- 2001 Elected Member of Academia Europaea
- 2001 Elected Member of the Swiss Academy of Medical Sciences, ad personam
- 2002 Recipient of the Emil Kraepelin Guest Professorship, Max Planck Institute für Psychiatry, Münich
- 2006 Elected Professor at Collège de France, Paris, International Chair 2007-2008
- 2009 Goethe Award for Psychoanalytic Scholarship, Canadian Psychological Association
- 2011 Camillo Golgi Medal Award, Golgi Fondation
- 2011 Elected Member of the American College of NeuroPsychopharmacology (ACNP)

Education profile

Ph.D., Biology, University of California, San Diego, U.S., 1982
M.D. Doctorate en Médecine, University of Geneva, Switzerland, 1979
Diplôme Fédéral de Médecin, University of Geneva, Switzerland, 1977
Educational Commision for Foreign Medical Graduates Examination, 1977
Maturité Fédérale Type A (Classical Studies), 1977

Publications

Cotte Y, Toy F, Jourdain P, Pavillon N, Boss D, Magistretti P, Marquet P, Depeursinge C (2013) Marker-free phase nanoscopy. Nature Photonics 7:113-117.

Lee Y, Morrison BM, Li Y, Lengacher S, Farah MH, Hoffman PN, Liu YT, Tsingalia A, Jin L, Zhang PW, Pellerin L, Magistretti PJ, Rothstein JD. (2012) Oligodendroglia metabolically support axons and contribute to neurodegeneration. Nature 487:443-U1502.

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Wyss MT, Jolivet R, Buck A, Magistretti PJ, Weber B (2011) In vivo evidence for lactate as a neuronal energy source. Journal of Neuroscience 31:7477-7485.

Allaman I, Gavillet M, Bélanger M, Laroche T, Viertl T, Lashuel HA, Magistretti PJ (2010) Amyloid beta-aggregates cause alterations of astrocytic metabolic phenotype: Impact on neuronal viability. Journal of Neuroscience 30:3326-3338.

Pellerin, L, Magistretti PJ (1994) Glutamate uptake into astrocytes stimulates aerobic glycolysis: A mechanism coupling neuronal activity to glucose utilization. Proc Natl Acad Sci (USA) 91:10625-10629.

DISTINGUISHED GUESTS

EDVARD MOSER

- Professor
- Founding director of Kavli Institute for Systems Neuroscience
- Centre for Neuronal Computation
- Norwegian Science and Technology University
- Member of Norwegian Scientific Academy
- Member of Royal Norwegian of Society of Sciences and Letters

Biography

Edvard Ingjald Moser is a Norwegian psychologist and neuroscientist, who is a scientific member of the Norwegian University of Science and Technology (NTNU) in Trondheim. He shared the Nobel prize in Physiology or Medicine in 2014 with his then-wife May-Britt Moser and their mentor John O'Keefe for their work identifying the place cells that make up the brain's positioning system.

Moser was born to German parents who had moved to Norway in the 1950s, and grew up in Elesund. He studied psychology at the University of Oslo, was appointed as associate professor in psychology at the Norwegian University of Science and Technology (NTNU) in 1996 and was promoted to professor of neuroscience in 1998. He later became head of department of the Institute for Systems Neuroscience at NTNU.

Edvard Moser was awarded the cand.psychol. degree in psychology from the University of Oslo in 1990 and the dr.philos. doctoral research degree in the field of neurophysiology in 1995. He also has studied mathematics and statistics. Early in his career, he worked under the supervision of Per Andersen. Moser went on to undertake postdoctoral training with Richard G. Morris at the Centre for Neuroscience, University of Edinburgh, from 1995 to 1997, and was a visiting postdoctoral fellow at the laboratory of John O'Keefe at the University College, London for two months.

Awards and honors

- 1999 Prize for young scientists awarded by the Royal Norwegian Society of Sciences and Letters
- 2005 28th annual W. Alden Spencer Award (College of Physicians and Surgeons of Columbia University)
- 2006 14th Betty and David Koetser Award for Brain Research (University of Zьrich)
- 2006 10th Prix "Liliane Bettencourt pour les Sciences du Vivant" 2006 (Fondation Bettencourt, Paris)
- 2008 30th Eric K. Fernstrцm's Great Nordic Prize (Fernstrцm Foundation, University of Lund)
- 2011 Louis-Jeantet Prize for Medicine
- 2011 Anders Jahre Award (with May-Britt Moser)
- 2012 Perl-UNC Neuroscience Prize (with May-Britt Moser)
- 2013 Louisa Gross Horwitz Prize (with May-Britt Moser and John O'Keefe)
- 2014 Karl Spencer Lashley Award (with May-Britt Moser)
- 2014 Foreign associate of the National Academy of Sciences.
- 2014 Kцrber European Science Prize
- 2014 Nobel Prize in Physiology or Medicine (with May-Britt Moser and John O'Keefe)
- 2018 Grand Cross of the Order of St. Olav (with May-Britt Moser)

Education profile

1991-1995 PhD, University of Oslo
1990 Neurobiology, University of Oslo
1985-1990 Psychology, University of Oslo
1984-1985 Mathematics, Statistical analysis, University of Oslo

Research field

Animal behavioral studies, psychology
Memory function of the brain
Spatial perception, grid cells, navigational function of brain

Publications

Shearing-induced asymmetry in entorhinal grid cells. Stensola T, Stensola H, Moser M-B, Moser EI (2015). Nature, 518, 207-212 (Article).

A prefrontal-thalamo-hippocampal circuit for goal-directed spatial coding. Ito HT, Zhang S-J, Witter MP, Moser EI, Moser M-B (2015). Nature, 522, 50-55 (Article).

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Moser EI, Roudi Y, Witter MP, Kentros C, Bonhoeffer T, Moser M-B (2014). Nature Reviews Neuroscience, 15, 466-481.

DISTINGUISHED GUESTS

JUAN LERMA

- Professor
- CSIC-UMH Neuroscience Institute
- Spanish Research Council (CSIC)
- Chief Editor, Neuroscience Journal
- Chair of The Pan-European Regional
- Committee of IBRO.
- Secretary General of Fens Member of COSCE

Biography

Juan Lerma is Professor at the Spanish Research Council (CSIC) at the Neuroscience Institute of Alicante (CSIC-UMH) (Director, 2007-2016). He joined CSIC Scientific Staff in 1990 after a stay in the USA at the Albert Einstein College of Medicine (NY) and since then he has been working on the molecular basis of neuronal communication, specifically elucidating the properties and signalling mechanisms of Glutamate Receptors and their role in health and disease.

He was elected EMBO member in 2000 and belongs to the DANA Alliance and the Academia Europaea. He is Secretary General of FENS and past Chair of the PanEuropean Regional Committee of IBRO.

Awards and honors

- 2013 Distinction to the Scientific Merit. Government of Valencia Community.
- 2010 "Highest distinction to the investigative career". Universidad Nacional Mayor de San Marcos. Peru
- 2010 Member of Academia Europaea (The Academy of Europe)
- 2005 XI Award "Alberto Sols" to the Best Research Activity
- 2005 Member of European Dana Alliance for the Brain (EDAB) 2004.
- 2004 CEOE Foundation Award to the Sciences
- 2002 Santiago Grisolнa Chair Award
- 2002 Award to the Scientific Excellence "Alonso Gabriel de Herrera"
- 2000 Member of European Molecular Biology Organization (EMBO)
- 1998 Distinction Award by Heath Science Foundation.

Education profile

1983. Doctor in Sciences, Universidad Autynoma, Madrid.
1979-1985 Associate Researcher. Department of Research, Hospital "Ramyn y Cajal"
1978. M. S. Biology, Universidad Complutense, Madrid.

Publications

Marques JM, Rodrigues RJ, Valbuena S, Rozas JL, Selak S, Marin P, Aller MI, and Lerma J (2013). CRMP2 Tethers Kainate Receptor Activity to Cytoskeleton Dynamics During Neuronal Maturation, J. Neurosci. 33, 18298 –18310.

Lerma J., and Marques JM (2013) Kainate Receptors in Health and Disease, Neuron, 80, 292-311.

Selak S, Paternain AV, Aller IM, Picy E, Rivera R, and Lerma J. (2009) A role for SNAP25 in internalization of kainate receptors and synaptic plasticity. Neuron 63, 357-71
Rivera R, Rozas JL and Lerma J (2007) PKC-dependent Autoregulation of Membrane Kainate Receptors. EMBO Journal, 26, 4359-67.

Rozas, J. L., Paternain A. V. and Lerma J. (2003) Non-canonical signaling by ionotropic kainate receptors. Neuron 39, 543–553.

Lerma, J. (2003). Roles and rules of kainate receptors in synaptic transmission. Nature Rev Neurosci 4, 481-95.

INVITED SPEAKERS

TOMOMI SHIMOGORI

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Phone: 81-48-467-9779;
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E-mail: tomomi.shimogori@riken.jp
Education: B.A. Hoshi Collage of Pharmacy, Tokyo, Japan 1993
Ph.D., Pharmaceutical Sciences, Graduate School, Chiba University, Chiba, Japan 1998

Academic appointment

1998 to 2004 Dept. Neurobiology, Pharmacology and Physiology, University of Chicago, USA Laboratory of Dr. Elizabeth A. Grove
2004 to 2010 RIKEN BSI Unit Leader of Shimogori Research Unit
2010 to 2018 RIKEN BSI Team Leader of Lab for Molecular Mechanisms of Thalamus Development
2018 to present RIKEN CBS Team Leader of Lab for Molecular Mechanisms of Brain Development

Publications

- Yamanaka T, Tosaki A, Kurosawa M, Shimogori T, Hattori N, Nukina N. (2016) Genome-wide analyses in neuronal cells reveal that USF transcription factors regulate lysosomal gene expression. FEBS J. doi: 10.1111/febs.13650.
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- Yamanaka T, Tosaki A, Miyazaki H, Kurosawa M, Koike M, Uchiyama Y, Maity SN, Misawa H, Takahashi R, Shimogori T, Hattori N, Nukina N. (2016) Differential roles of NF-Y transcription factor in ER chaperone expression and neuronal maintenance in the CNS. Sci Rep. 6:34575. doi: 10.1038/srep34575.
- Kino Y, Washizu C, Kurosawa M, Yamada M, Doi H, Takumi T, Adachi H, Katsuno M, Sobue G, Hicks GG, Hattori N, Shimogori T, Nukina N. (2016) FUS/TLS acts as an aggregation-dependent modifier of polyglutamine disease model mice. Sci Rep. 6:35236. doi: 10.1038/srep35236.
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- A. (2016) Brain/MINDS: A Japanese National Brain Project for Marmoset Neuroscience. Neuron 92:582-590. doi: 10.1016/j.neuron.2016.10.018.
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Invited presentations

- IBENS, Ecole Normale Superieure, Paris, France (2017 Mar)
- Montreal Neurological Institute, McGill University, Montreal, Québec, Canada (2017 May)
- Institut de Recherches Cliniques de Montrйal, Montrйal, Québec, Canada (2017 May)
- Depts of Cell Biology and Neurobiology, Duke university, North Carolina, USA (2017 May)
- Boston Children's Hospital, Harvard University, Boston, USA (2017 June)
- The 48th NIPS symposium, Okazaki, Japan (2017 Oct)
- McGill University, Department of Physiology, Montreal, Canada (2017 Nov)
- Indiana University, Linda and Jack Gill Chair of Neuroscience Department of Biology, Indiana, USA (2017 Nov

INVITED SPEAKERS

KHATANBAATAR KHANDSUREN

Phone: +976 8811-9200
E-mail: khatanbaatar@mastermind.mn

- Dean, Biological and Enviromnental Sciences Engineering
- King Abdula University of Science and Technology
- Pressident of the International Brain Research Organization
- Member of Academia Europeae, Switzerland Academy of Medical Science
- Professor Emeritus of University of Lausanne

Accomplishments

2011 - Silver Medal from the World Memory Championship
2015 - State Honored Educator Medal from the Government of Mongolia
2016 - Accomplisher Bronze Medal from Mongolian Youth Federation
2016 - Labor Excellence Award from the Government of Mongolia
2016 - Khangarid Medal from Ulaanbaatar City Council

Education

2015 - 2016 Public Administration, Masters Degree, Academy of Administration of Mongolia
2002 - 2008 Law Degree, Gazi University, Turkey
2000 - 2002 Political Studies, Social Science Department, National University of Mongolia

INVITED SPEAKERS

TETSUYA HIRAMATO

Chief Doctor of the Department of Psychosomatic Medicine, National Hospital Organization, Fukuoka Hospital, Fukuoka, Japan (since 04/2013)

Board certification

- Board Certified Specialist of the Japanese Society of Internal Medicine
- Board Certified Specialist of the Japanese Society of Psychosomatic Medicine
- Board Certified Specialist of the Japanese Society of Oriental Medicine

Education and degrees

- Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan: PhD 2009
- Medical Sciences Hiroshima University, Hiroshima, Japan: BA 1994, MA 1996 Medical Sciences

Publications

- Hiramoto T, Yoshihara K, Asano Y, Sudo N. (2017) Protective Role of the Hepatic Vagus Nerve against Liver Metastasis in Mice. Neuroimmunomodulation. 24:341-7.
- Sawamoto R, Nagano J, Kajiwara E, Sonoda J, Hiramoto T, Sudo N. (2016) Inhibition of emotional needs and emotional wellbeing predict disease progression of chronic hepatitis C patients: an 8-year prospective study. Biopsychosoc Med. 10:24.
- Yoshihara K, Hiramoto T, Oka T, Kubo C, Sudo N. (2014) Effect of 12 weeks of yoga training on the somatization, psychological symptoms, and stress-related biomarkers of healthy women. Biopsychosoc Med. 8:1.
- Nishino R, Mikami K, Takahashi H, Tomonaga S, Furuse M, Hiramoto T, Aiba Y, Koga Y, Sudo N. (2013) Commensal microbiota modulate murine behaviors in a strictly contamination-free environment confirmed by culture-based methods. Neurogastroenterol Motil. 25:521-8.
- Zhao P, Hiramoto T, Asano Y, Kubo C, Sudo N. (2012) Chronic psychological stress exaggerates the compound 48/80-induced scratching behavior of mice. Pharmacology, Biochemistry and Behavior. 105:173–6
- Asano Y, Hiramoto T, Nishino R, Aiba Y, Kimura T, Yoshihara K, Koga Y, Sudo N. (2012) Role of gut microbiota in the production of biologically active, free catecholamines in the gut lumen of mice. American Journal of Physiology Gastrointesitinal and Liver Physiology. 303:G1288-95.
- Yoshihara K, Hiramoto T, Sudo N, Kubo C. (2011) Profile of mood states and stress-related biochemical indices in long-term yoga practitioners. Biopsychosocial medicine 5:6.
- Hiramoto T, Oka T, Yoshihara K, Kubo C. (2009) Pyrogenic cytokines did not mediate a stress interview-induced hyperthermic response in a patient with psychogenic fever: a case report. Psychosomatic Medicine 71:932-936.
- Hiramoto T, Chida Y, Sonoda J, Yoshihara K, Sudo N, Kubo C. (2008) The hepatic vagus nerve attenuates Fas-induced apoptosis in the mouse liver via α7 nicotinic acetylcholine receptor. Gastroenterology 134:2122-2131.

OTGONBAYAR UUYE

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Current positions

- Director, Institute of Mathematics, National University of Mongolia
- Head of AI, And Global Pte. Ltd
- President, Mongolian Mathematical Society

Experience

- Associate Professor, Department of Mathematics, National University of Mongolia
- Research Associate & EPSRC postdoctoral fellow, School of Mathematics, Cardi University
- Postdoctoral Researcher, Department of Mathematical Sciences, Copenhagen University

Education

- Ph.D. in Mathematics, Pennsylvania State University
- M.Sc. in Mathematics, University of Tokyo
- B.Sc. in Mathematics, University of Tokyo

Achievements

- 2017–2019 Advanced Research Grant, Mongolian Science and Technology Foundation
- 2016 TWAS prize for Young Scientists in Developing Countries
- 2014–2015 Advanced Research Grant, National University of Mongolia
- 2011–2014 EPSRC Postdoctoral Research Fellowship, EP/I026703/1
- 2006 Robert and BetsyWilson Scholarship
- 2005 MASS Teaching Award
- 2005–2006 JSPS Research Fellowship for Young Scientists
- 2004 Nissho-Iwai Foundation Scholarship
- 2004 Vollmer-Kleckner Fellowship
- 2004 Graduate Scholars Fellowship
- 1997–2004 Japanese Government Scholarship
- 1995 First Place, Mongolian National Undergraduate Programming Olympiad
- 1995 First Place, Mongolian National Mathematics Olympiad for University Students and Teachers

INVITED SPEAKERS

BATTUVSHIN LKHAGVASUREN

President, Mongolian Neuroscience Society

Education

- Kyushu University, Japan, PhD.
- Health Sciences University, Mongolia, MD.
- Mainz University, Germany

Field of specialization

Medicine, Psychiatry, Psychosomatic Medicine, Neuroscience

Research interests

Thermoregulation, stress, autonomic nervous system, psychosomatic medicine, evolutionary neuroscience, psychiatry, social psychology

Awards

- HRF fellowship – International Brain Research Organization
- Ikemi Memorial Award – Japanese Society of Psychosomatic Medicine
- Japanese Government Academic Scholarship – Doctoral course
- Research grant – World Health Organization

Publications

1. Chijiwa T, Oka T, Lkhagvasuren B, Yoshihara K, Sudo N. Prior chronic stress induces persistent polyI:C-induced allodynia and depressive-like behavior in rats: Possible involvement of glucocorticoids and microglia. Physiol Behav. 2015 Aug 1;147:264-73. PMID: 25936823
2. Oka T, Tanahashi T, Chijiwa T, Lkhagvasuren B, Sudo N, Oka K. Isometric yoga improves

the fatigue and pain of patients with chronic fatigue syndrome who are resistant to conventional therapy: a randomized, controlled trial. Biopsychosoc Med. 2014 Dec 11;8(1):27. PMID: 25525457
3. Lkhagvasuren B, Tanaka H, Oka T. Characteristics of orthostatic cardiovascular response in adolescent patients with psychogenic fever. Psychother Psychosom. 2014;83(5):318-9. PMID: 25116930
4. Lkhagvasuren B, Oka T, Nakamura Y, Hayashi H, Sudo N, Nakamura K. Distribution of Fos-immunoreactive cells in rat forebrain and midbrain following social defeat stress and diazepam treatment. 2014 Jul 11;272:34-57. PMID: 24797330
5. Lkhagvasuren B, Masuno T, Kanemitsu Y, Sudo N, Kubo C, Oka T. Increased Prevalence of Postural Orthostatic Tachycardia Syndrome in Psychogenic Fever Patients. Psychotherapy & Psychosomatics. 2013; 82:269-270 PMID: 23735890
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Publications in Japanese

1. Lkhagvasuren B, Oka T, Kawai K, Takii M, Kanemitsu Y, Sudo N. Postural orthostatic tachycardia syndrome in patients visiting outpatient settings at the Kyushu university hospital. Japanese Journal of Psychosomatic Medicine 52(9), 863-864, 2012-09-01; ID: 9000017293543
2. Lkhagvasuren B, Oka T, Kawai K, Takii M, Kanemitsu Y, Sudo N, Kubo C. Prevalence of postural orthostatic tachycardia syndrome in patients visiting the outpatient ward of psychosomatic medicine. Japanese Journal of PsychosomaticMedicine 51(6), 566, 2011-06-01; ID: 9000018668456
3. Lkhagvasuren B, Oka T, Kawai K, Takii M, Kanemitsu Y, Sudo N. Prevalence of postural orthostatic tachycardia syndrome in patients with psychosomatic disorders. Japanese Journal of Psychosomatic Medicine 50(6), 565, 2010-06-01; ID: 9000002698102
4. Lkhagvasuren B. Autonomic failure and orthostatic dysregulation in patients visited psychosomatic medicine department. Nihon Shinrynaikagakkai 14(2), 98-101, 2010-05-20; ID:9000002698102

Publications in Mongolian

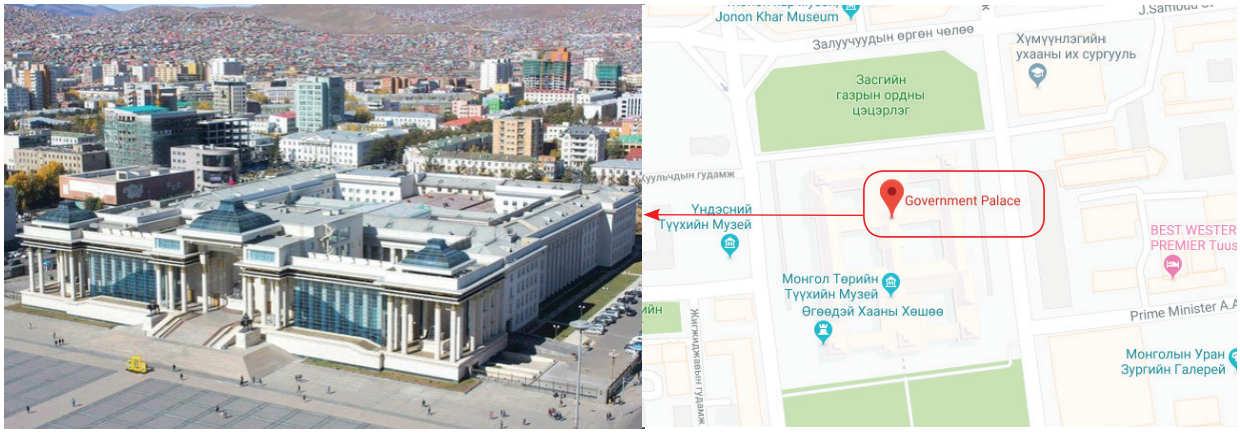
1. Lkhagvasuren B, Dolgorsuren S, Ganzorig Z, Gantsetseg T. Review in somatoform disorders. Journal of mental health dedicated to the 60th anniversary meeting. 2007;12:185-190
2. Lkhagvasuren B, Tserenkhuu L, Sandag B. Clinical features of somatoform disorders in Mongolia (a case report). Journal of mental health dedicated to the 60th anniversary meeting. 2007;12:241-247
3. Gantsetseg T, Lkhagvasuren B, Dolgorsuren S, Tuya S. Psychopathology of common mental and behavioral disorders in Mongolia. Journal of mental health dedicated to the 60th anniversary meeting. 2007;12:38-43
4. Sandag B, Lkhagvasuren B (2007), A 60 years historical review of department of mental health. In: Erdenebayar L, Khishigsuren Z. (eds.) History of psychiatry in Mongolia. Dedicated to the 60th anniversary of the department of mental health. pp.126-144. Ulaanbaatar, Munkhiin Useg Press.

VENUE MAP

Honored Public Lecture

September, 24th 2018

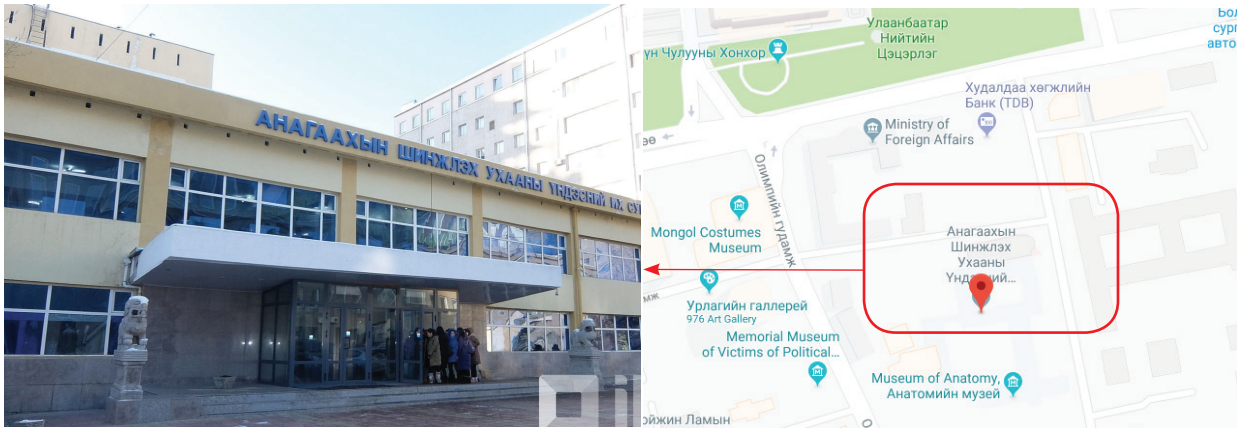
Government Palace



Let's Develop Brain Science in Mongolia Discussion

24th September, 2018

Mongolian National University of Medical Sciences



HONORED PUBLIC LECTURE

NEUROSCIENCE - FRONTIER SCIENCE OF THE XXI CENTURY

Pierre J. Magistretti
King Abdullah University of Science and Technology, Saudi Arabia
Brain Mind Institute, EPFL, Lausanne, Switzerland
Department of Psychiatry, University Hospital, Lausanne, Switzerland

The last 50 years have witnessed a series of significant advances in our understanding of the human brain. Major milestones include the understanding of the means by which neurons communicate with each other through chemical signals and cogent receptors. Discovery of these mechanisms has provided an understanding of how psychotropic drugs act and open novel insights into the development of better drugs. The mechanisms that allow us to sense our environment, in particular through vision and olfaction are now well known. As far as the visual system is concerned, we know now that during its development, critical periods exist for establishing neural connectivity. This knowledge has resulted for example in a better management of visual conditions in neonates presenting ocular problems. Communication between neurons at the level of synapses, where information transfer occurs, is not constant and can vary with activity providing the basis of learning and memory. Synaptic plasticity endows the brain with remarkable adaptive capacities. Loss of this capacity is an hallmark of neurodegenerative diseases that impact long term memory among others. The mechanisms that underlie complex functions such as spatial positioning and orientation have been unraveled. Advanced biophysical methodologies have been developed that allow visualizing brain areas activated by a particular behavioral situation, cognitive or even affective.

Yet despite these remarkable progresses there are still some fundamental challenges that need to be addressed. The management of neurological and psychiatric disorders is still largely unsatisfactory: while some progress has been made in the treatment of diseases such as multiple sclerosis and epilepsy, no significant progress has occurred over the past 30 years in the development of new drugs for psychiatric disorders such as depression, schizophrenia or autism. In addition to the personal suffering, society will have to face an increasing burden from patients that suffer from neurodegenerative disorders, in particular Alzheimer's disease, for which no disease-modifying drug has yet been developed. Overall the cost of neuropsychiatric disorders accounts for approximately 30% of all healthcare costs. Yet, because of this lack of significant progress in developing new therapies, the last decade has witnessed a retraction of the major pharmaceutical companies from neuroscience research

Where can we go from here and impulse some progress? First, as far as finding new therapeutic approaches there is an urgent necessity to better connect basic neuroscientists with clinicians. While keeping a vibrant, blue-sky type of fundamental research is an absolute requirement, the gap that exists between basic neuroscientists and clinicians needs to be filled, if we want to develop new treatments for diseases of the brain. For these translational efforts to succeed clinical excellence is necessary, in particular through the recent developments of the tools that allow for personalized medicine such as imaging, genomics and proteomics, in order to provide researchers with leads into the molecular mechanisms of diseases. In addition to this dialogue between clinicians and basic scientists, a key contribution needs to be provided by engaging players from the pharmaceutical sciences to develop new molecules, as well as to also engage bioengineers and computer scientists to leverage the phenomenal developments in the nano and digital technologies. An example of such concerted effort is the National Center of Competence of Research (NCCR) SYNAPSY funded by the Swiss National Science Foundation, that has brought together such multidisciplinary competences in a 12-year program to tackle psychiatric diseases. In addition to funding, progress in any discipline hinges upon identifying and nurturing human talent. This is one of the key roles of the International Brain Research Organization (IBRO) whose mission is to support training and education in neuroscience worldwide.

Much remains to be discovered about the brain, not the least how the 80 billion or so neurons, along with as many glial cells, can produce the human mind. The community of neuroscientists worldwide is expanding and so must its support, to push the limit of one of the last frontiers of human knowledge during the XXIst century.

HONORED PUBLIC LECTURE

SPACE AND TIME IN THE BRAIN

Edvard Moser
Kavli Institute for Systems Neuroscience, Trondheim, Norway

The ability to map space is critical to survival. In mammals, space is mapped by neural networks in the hippocampus and the medial entorhinal cortex. These brain areas contain specialized position-coding cell types, including grid cells, which we discovered in the medial entorhinal cortex in 2005. Grid cells are active only when animals are at certain locations, locations that tile environments in a periodic hexagonal pattern. More recently, we have found that the medial entorhinal cortex contains a variety of specialized cell types, including not only grid cells but also cells that monitor direction, speed and local borders, and cells that encode the animals location relative to discrete objects in the environment. I will present these cell types and their properties in the first part of the talk. In the second part, the focus will be on the representation of time, which is less well understood. I will show how episodic temporal information is encoded across scales from seconds to hours within the overall population state of the lateral part of entorhinal cortex. I will also demonstrate that the representation of time in this region depends on the structure of experience and so may diverge from clock time. In the hippocampus, the task-dependent representation of time in lateral entorhinal cortex may be integrated with spatial inputs from medial entorhinal cortex, allowing the hippocampus to store a unified representation of experience. Deficiencies in the function of the hippocampal-entorhinal system may be at the core of neurological diseases where spatial orientation is affected, such as Alzheimers disease.

HONORED PUBLIC LECTURE

CELULAR AND MOLECULAR BASES OF BEHAVIOUR

Juan Lerma
Instituto de Neurociencias, Consejo Superior de Investigaciones Cientнficas &
Miguel Hernбndez University. San Juan de Alicante, Espaca.

The brain is probably the most perfect and complicated machine in Nature. We are currently witnessing an explosion in knowledge related to the brain and its functioning. Probably, science has contributed to the understanding of the brain more in recent years than the whole 20th century, despite last century has been enormously prolific. Although we are witnessing a real revolution, the brain diseases (mental or degenerative) still represent an important social and economic burden and their understanding is one of the greatest social challenges. Only in Europe, the annual costs of brain diseases amounted 768 billion euros in 2010. Despite the long way run, we are still far from the overall understanding of the human brain. There is little doubt that without advancing in the most fundamental aspects of brain organization and function, we will not be able to find remedies to brain diseases.

One of the most exciting objectives of Neuroscience is to understand how behaviour is generated. What are the intricate mechanisms that make us think, love, hate, be happy or sad. Revealing the cellular and molecular bases of behaviour has been a myth for more than a century, and is now when we are starting to reveal how this is possible, how the activity of certain neural circuits makes us to behave in one or another way and how aberrant operations produce various mental illnesses, how slight alterations of neuronal communication produce the brain learn better or worse, suffer from depression, anxiety or alter the sociability of the individuals. The development of new techniques is allowing to analyse the human brain and are providing data that help further understanding obtained in experimental animals. The manipulation of genes critical for neuronal communication, for example, summarizes perfectly some of the most outstanding features of mental illness, opening a window to its treatment. There is no doubt that all this knowledge will reveal the functioning of the human brain and generate cues capable of altering the societal relationships and structure. At this Conference, I will review some of these key findings and their implications for the present and future of society.

APPROACH TO INTELLIGENCE

EARLY LIFE EXPERIENCE SHAPES NEURONAL CIRCUIT FORMATION

Tomomi Shimogori
Team Leader
RIKEN Center for Brain Science (CBS)
Lab for Molecular Mechanisms of Brain Development

Experience-dependent structural changes in the developing brain are fundamental for proper neural circuit formation. Here, we show that during the development of the sensory cortex, dendritic field orientation is controlled by the BTB/POZ domain-containing 3 (BTBD3). In developing mouse somatosensory cortex, endogenous Btbd3 translocated to the cell nucleus in response to neuronal activity and oriented primary dendrites toward active axons in the barrel hollow. Btbd3 also directed dendrites toward active axon terminals when ectopically expressed in mouse visual cortex or normally expressed in ferret visual cortex. BTBD3 regulation of dendrite orientation is conserved across species and cortical areas and shows how high-acuity sensory function may be achieved by the tuning of subcellular polarity to sources of high sensory activity.

APPROACH TO INTELLIGENCE

INTRODUCTION OF MONGOLIAN INTELLECTUAL ACADEMY

Khatanbaatar Khandsuren
Founder & CEO at Mongolian Intellectual Academy

Being founded in 2010, the mission of Mongolian Intellectual Academy is to unlock the limitless creativity and cognitive capacity of and help develop global citizens, whom to lead and adapt effectively to the fast changing new era through suits of specialized programs. Our multifaceted programs are craft-fully developed through years of research and practical trainings to mature strong "learning method" in the hands of our students.

We have organized pro-bono training sessions and lectures reaching 35,000 learners in all 21 provinces of Mongolia and trained about 6,000 students of all ages facilitated special trainings for over 280 enterprises at their locations and organized 80 local tournaments involving over 10,200 participants.

In addition, Mongolian mind-sport athletes have attended 50 international scale tournaments gaining 861 medals in countries, such as USA, UK, China, Taiwan, Germany, Malaysia, India, Japan, Singapore, Korea, and Turkey. Mongolian mind-sport athletes are leading globally with holding World records in 9 out of 17 types of adult, 14 out of 17 youth types of records. In the recent months, in March, our twin international masters Enkhshur.N and Munkhshur.N were recognized in the Guinness for their World-records.

APPROACH TO INTELLIGENCE

CROSSTALK BETWEEN BRAIN AND LIVER: ROLE OF AUTONOMIC NERVOUS SYSTEMS IN LIVER PATHOPHYSIOLOGY

Tetsuya Hiramoto
Department of Psychosomatic Medicine, National Hospital Organization

The liver reciprocally communicates with the brain via a mechanism which is regulated by complex networks of the endocrine and autonomic nervous systems. Through these pathways, the brain regulates several liver functions, such as, metabolism, hepatic circulation, liver regeneration, bile formation, and hepatic immune response.

Previous studies indicated that the brain-liver crosstalk was involved in not only normal physiological function but also pathological condition of the liver. It is also reported that psychosocial stress was significantly correlated with the exaggeration of inflammatory, fibrosing changes in alcoholic liver injury and with a higher incidence of hepatobiliary cancer. These findings suggest that hepatic nervous systems may play an important role in regulation of hepatic diseases.

Recently, much research progress regarding brain-liver crosstalk has been made and several new findings have been reported. Especially, the novel function of efferent parasympathetic (vagus) nerve in regulation of inflammatory response has been well studied. In this regard, we also found that the hepatic nervous systems play a crucial role in mouse model of fulminant hepatitis.

In this presentation, I would like to present our experimental data regarding how hepatic autonomic nervous systems control a series of events in the mouse model of 1) Fas-induced liver injury (fulminant hepatitis) and 2) liver cancer metastasis.

APPROACH TO INTELLIGENCE

THE RISE OF ARTIFICIAL INTELLIGENCE

Otgonbayar Uuye
The Institute of Mathematics, National University of Mongolia,

Whether you notice or not, artificial intelligence is all around us, changing society one learning algorithm at a time. From the search engines of Google and the targeted ads of Facebook to the recommendation systems of Netflix to self-driving cars of Waymo and autonomous robots of Boston Dynamics, many of the recent technological advances disrupting business and society are powered by self-learning "intelligent" computers. Traditionally, the only way to get a computer to do something was to write down an algorithm explaining how, in painstaking detail. But machine learning algorithms, such as artificial neural networks inspired by the human brain, are different: they figure it out on their own, by making inferences from data. And the more data they have, the better they get.

In this talk, we will discuss how artificial intelligence is remaking science, technology, business, politics, and war. We will explore the search for artificial general intelligence: the challenges, approaches and the advances.

APPROACH TO INTELLIGENCE

LET'S DEVELOP BRAIN SCIENCE IN MONGOLIA

Battuvshin Lkhagvasuren
Head, Department of Science and Technology
Mongolian National University of Medical Sciences

The prevalence of psychiatric and neurological disorders including stress-related behavioral disorders, stroke, and epilepsy has been dramatically increasing since recent economic pressures. Furthermore, most of neuroscientists who graduated in developed countries are pursuing entirely different career paths, since there is no place to work as a neuroscientist. Since Mongolian Neuroscience Society was established in 2014, neuroscience researchers have been working hard to raise the awareness of brain science throughout the country by organizing satellite meetings with key holders every year during our annual meetings. However, there has not been any academic institute or affiliate institute which carries out research on brain and nervous system. To address the importance of brain science institute in Mongolia, we would like to deliver a strong advocacy to the government by organizing a National Forum for Brain Science with a motto "Let's Develop Brain Science in Mongolia" in the House of Parliament. The National Forum for Brain Science will bring scientists, government representatives, physicians, psychologists, and the general public together to discuss the importance of brain science in the academia and the public in order to develop a direct advocacy to the government. The National Forum will be broadcast nationwide and disseminated through television, radio, newspapers and public lectures and actively engage attention of both the general public and the government, a social media contest in conjunction with the forum will be launched prior to it. Increasing demand from the experts and public awareness of the importance of brain science will eventually let us found an academic institute for brain science in Mongolia. We aim to establish a Brain Science Institute, as a nation, in order to support basic research on neurological and psychiatric disorders, training of young scientists, and integration of scientists into a multidisciplinary research platform.

BRAIN SCIENCE-XXI CENTURY

wishes to express our sincere appreciation for financial support provided by

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Mongolian Academy of Sciences
Mongolian Foundation for Science and Technology
Mongolian Society of Psychiatry
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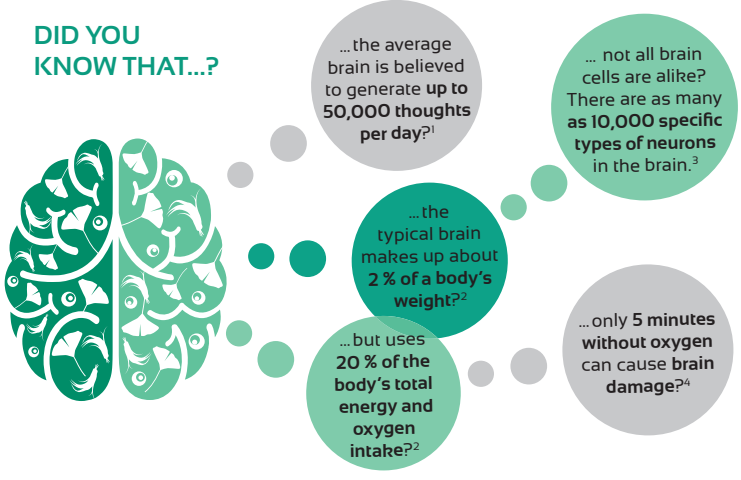
- ✓ With high pharmaceutical quality **gingko biloba extract** and **omega-3 fatty acids** for **normal brain function.**
- ✓ With **pantothenic acid (vitamin B5)** and **caffiene** for a **normal mental performance** and **reduction of fatigue**.
- ✓ To support the **cognitive function** in **stressed** and **elderly people.**

DID YOU KNOW THAT...?



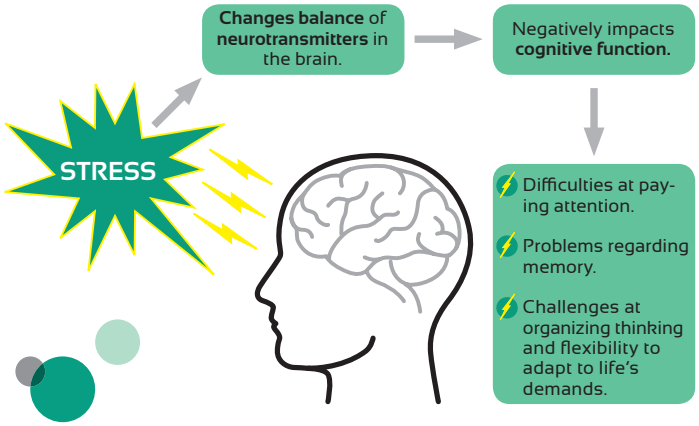
INGREDIENTS

Composition	Per daily intake (= 1 tablet)
Gingko biloba extract	100 mg
Lemon balm extract	100 mg
Caffeine	25 mg
Pantothenic acid (vitamin B5)	5 mg

Composition	Per daily intake (= 1 capsule)
Docosahexaenoic acid (DHA)	250 mg
Eicosapentaeonic acid (EPA)	30 mg

brain active
- 1 tablet and 1 capsule per day
- 30 tablets and 30 capsules – for a monthly supply

THE EFFECTS OF CHRONIC STRESS ON THE BRAIN[5]



Ginkgo biloba extract contains flavonoids and terpenoids as antioxidative compounds. It improves cognitive function because it promotes blood circulation in the brain.[6]

Lemon balm extract modulates mood and cognitive performance.[7]

Caffeine has a positive effect on cognitive and physical function, mood and energy. It stimulates the brain and delays the onset of sleep.[8,9]

Pantothenic acid (vitamin B5) contributes to a normal mental performance and to the reduction of tiredness and fatigue.[10]

Docosahexaenoic (DHA) is an important omega-3 fatty acid. It is a major structural fat in the human brain and contributes to maintenance of normal brain function.[10]

Tel: 99114587, 99084222, 89003868

[1] Marano, H.E. (2001): Depression doing the Thinking. Psychology Today.
[2] Raichle, M.E. (2002): Appraising the brain's energy budget. PNAS. 99 (16)
[3] R. Stufflebeam (2008): Neurons, Synapses, Action Potentials, and Neurotransmission. CCSI.
[4] Shelat, A.M. (2016): Cerebral hypoxia. Medline Plus.
[5] Lupien, S.J. (2009): Effects of stress throughout the lifespan on the brain, behavior and cognition. Nat. Rev Neurosci. Ausgabe 10 (6): 434-45.
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[8] Bittencourt Lda S et al. (2014): Prevents β-amyloid aggregation, generation of advanced Glycation-end Products (AGEs), and acrolein-induced cytotoxicity on human neuronal-like cells. Phytother Res.28 (11): 1615-24.
[9] Bertil B. et al. (1999): Actions of Caffeine in the Brain with Special Reference to Factors That Contribute to Its Widespread Use. Pharmacological Reviews. 51 (1): 83-133.
[10] European Commission (2012): Commission regulation (EU) No 432/2012.

BWP

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