ISHN2024 Program and Abstracts

28th Annual Meeting of the

International Society for the History of the Neurosciences (ISHN)

Online/Remote/Virtual via Zoom
Tuesday 25 June - Thursday 27 June 2024 (Los Angeles/Pacific Daylight Time)

The 2024 annual meeting of ISHN will be held in an Online/Remote/Virtual format via Zoom. There is no registration fee for the conference.

The Zoom links for the Program and the Business Meeting are distributed to ISHN full and student members through the society's listserv, ISHN-L. Other interested historians, scientists, medical personnel, students, and independent scholars should request the Zoom link by contacting the conference organizer, ISHN President Russell Johnson, by email at: **rjohnson AT library.ucla.edu**

The Zoom link will be active starting 15 minutes before the scheduled program time. When the presentation starts, please mute your microphone. Questions and answers can be done after each presentation using the "Raise Your Hand" function, but may also be written in Zoom's Chat window during the presentation. Each presentation is scheduled for 30 minutes, which combines presentation time and question/answer/discussion time.

Attendance is limited; please do not post the Zoom links on listservs, websites, messaging, chat, etc.

Each program segment, below, is accompanied by its simultaneous timing represented across 10 different time zones. We hope this will be more useful than confusing.

See the ISHN homepage for membership and other details: http://www.ishn.org

Day 1

Welcome from Los Angeles
Russell A. Johnson, ISHN President

Tuesday, June 25
7:45-8:00am Los Angeles (PDT) = 8:45-9:00am Calgary (MDT) = 9:45-10:00am St Louis (CDT) = 10:45-11:00am Florida/New York/Ottawa (EDT) = 3:45-4:00pm London (BST) = 4:45-5:00pm Paris/Amsterdam/Rome (CEST) = 5:45-6:00pm Vilnius (EEST) = 5:45-6:00pm Moscow (MSK) = 11:45pm (Wed)-12:00am (Thurs) Tokyo (JST) =

Wednesday, June 26
12:45-1:00am Sydney (AEST)

UCLA acknowledges the Gabrielino/Tongva peoples as the traditional land caretakers of Tovaangar (the Los Angeles basin and South Channel Islands). As a land grant institution, we pay our respects to the Honuukvetam (Ancestors), 'Ahiihirom (Elders) and 'Eyoohiinkem (our relatives/relations) past, present and emerging.

Session 1

1.1 **Elisabetta Sirgiovanni**: *"A bright spot … between the cerebral hemispheres": Ugo Cerletti's theory of consciousness*

1.2 **Peter Devenyi**: *Neuroscientific interpretations of Italian Renaissance art*

1.3 **Sultana Banulescu**: *Pioneering minds: Women's path to psy- and neuroscience in unified Italy, 1875-1921*

1.4 **Céline Cherici**: *From biological psychiatry to neuroscience: The research of Daniel X. Freedman (1921-1993)*

Tuesday, June 25
8:00-10:00am Los Angeles (PDT) = 9:00-11:00am Calgary (MDT) = 10:00am-12:00pm St Louis (CDT) = 11:00am-1:00pm Florida/New York/Ottawa (EDT) = 4:00-6:00pm London (BST) = 5:00-7:00pm Paris/Amsterdam/Rome (CEST) = 6:00-8:00pm Vilnius (EEST) = 6:00-8:00pm Moscow (MSK)

Wednesday, June 26
12:00-2:00am Tokyo (JST) = 1:00-3:00am Sydney (AEST)

Break

Tuesday, June 25
10:00-10:30am Los Angeles (PDT) = 11:00-11:30am Calgary (MDT) = 12:00-12:30pm St Louis (CDT) = 1:00-1:30pm Florida/New York/Ottawa (EDT) = 6:00-6:30pm London (BST) = 7:00-7:30pm Paris/Amsterdam/Rome (CEST) = 8:00-8:30pm Vilnius (EEST) = 8:00-8:30pm Moscow (MSK)

Wednesday, June 26
2:00-2:30am Tokyo (JST) = 3:00-3:30am Sydney (AEST)

Session 2

2.1 **Karen G. Langer and Julien Bogousslavsky**: *"Looking At or Away": J.L. Prévost, eye deviation, and spatial lateralization*

2.2 **Bijal K. Mehta**: *History of stroke: From apoplexy to cerebrovascular disease*

Tuesday, June 25
10:30-11:30am Los Angeles (PDT) = 11:30am-12:30pm Calgary (MDT) = 12:30-1:30pm St Louis (CDT) = 1:30-2:30pm Florida/New York/Ottawa (EDT) = 6:30-7:30pm London (BST) = 7:30-8:30pm Paris/Amsterdam/Rome (CEST) = 8:30-9:30pm Vilnius (EEST) = 8:30-9:30pm Moscow (MSK)

Wednesday, June 26
2:30-3:30am Tokyo (JST) = 3:30-4:30am Sydney (AEST)

Social Hour

Members will be invited to host or attend break-out rooms in Zoom. A short list of hosted rooms will be posted before the meeting. The main Zoom will be open for a larger discussion, if desired.

Tuesday, June 25
11:30am-12:30pm Los Angeles (PDT) = 12:30-1:30pm Calgary (MDT) = 1:30-2:30pm St Louis (CDT) = 2:30-3:30pm Florida/New York/Ottawa (EDT) = 7:30-8:30pm London (BST) = 8:30-9:30pm Paris/Amsterdam/Rome (CEST) = 9:30-10:30pm Vilnius (EEST) = 9:30-10:30pm Moscow (MSK)

Wednesday, June 26
3:30-4:30am Tokyo (JST) = 4:30-5:30am Sydney (AEST)

Day 2

ISHN Business Meeting (Full and Student Members)

Russell A. Johnson, ISHN President

Wednesday, June 26
7:45-8:15am Los Angeles (PDT) = 8:45-9:15am Calgary (MDT) = 9:45-10:15am St Louis (CDT) = 10:45-11:15am Florida/New York/Ottawa (EDT) = 3:45-4:15pm London (BST) = 4:45-5:15pm Paris/Amsterdam/Rome (CEST) = 5:45-6:15pm Vilnius (EEST) = 5:45-6:15pm Moscow (MSK) = 11:45pm (Wed)-12:15am (Thurs) Tokyo (JST) =

Thursday, June 27
12:45-1:15am Sydney (AEST)

Session 3

3.1 **Manon Auffret**: *Teaching neuroanatomy in the 19th century: Dr Auzoux's papier-mâché anatomical models*
3.2 **Nicholas J. Wade**: *Cajal's "Stereoscopic honeymoon"*
3.3 **Diane Friedman**: *Reel Hollywood neurosurgery 1950*

Wednesday, June 26
8:30-10:00am Los Angeles (PDT) = 9:30-11:00am Calgary (MDT) = 10:30am-12:00pm St Louis (CDT) = 11:30am-1:00pm Florida/New York/Ottawa (EDT) = 4:30-6:00pm London (BST) = 5:30-7:00pm Paris/Amsterdam/Rome (CEST) = 6:30-8:00pm Vilnius (EEST) = 6:30-8:00pm Moscow (MSK)

Thursday, June 27
12:30-2:00am Tokyo (JST) = 1:30-3:00am Sydney (AEST)

Break

Wednesday, June 26
10:00-10:30am Los Angeles (PDT) = 11:00-11:30am Calgary (MDT) = 12:00-12:30pm St Louis (CDT) = 1:00-1:30pm Florida/New York/Ottawa (EDT) = 6:00-6:30pm London (BST) = 7:00-7:30pm Paris/Amsterdam/Rome (CEST) = 8:00-8:30pm Vilnius (EEST) = 8:00-8:30pm Moscow (MSK)

Thursday, June 27
2:00-2:30am Tokyo (JST) = 3:00-3:30am Sydney (AEST)

Session 4

3.1 **Peter J. Koehler**: *Brain movements*
3.2 **Dmitriy Eliferov and Boleslav Lichterman**: *Treatment of gunshot head injuries during World War II in the Soviet army: Impact of TsIU's Department of Neurosurgery staff*
3.3 **Marina Podolskaya and Boleslav Lichterman**: *A man behind a specialty: Yakov Popelyansky as a founder of vertebroneurology*

Wednesday, June 26
10:30am-12:00pm Los Angeles (PDT) = 11:30am-1:00pm Calgary (MDT) = 12:30-2:00pm St Louis (CDT) = 1:30-3:00pm Florida/New York/Ottawa (EDT) = 6:30-8:00pm London (BST) = 7:30-9:00pm Paris/Amsterdam/Rome (CEST) = 8:30-10:00pm Vilnius (EEST) = 8:30-10:00pm Moscow (MSK)

Thursday, June 27
2:30-4:00am Tokyo (JST) = 3:30-5:00am Sydney (AEST)

Day 3

Session 5

5.1 **Yuri Zagvazdin**: *Walter Bradford Cannon (1871-1945): The great American physiologist and neuroscientist, and his humanitarian activities and principles*

5.2 **Frank W. Stahnisch**: *Adaptation, remigration, and rejection: The story and fate of the forced migrant neuroscientists and psychiatrists during the postwar period, 1945-1989*

5.3 **Anika Zaman and Frank W. Stahnisch**: *Sergey Federoff (1925-2012): A journey of political turmoil to neuroscientific leadership*

5.4 **Stanley Finger**: *Axel Munthe, Jean-Martin Charcot, and La Salpêtrière: Grievances and reminiscences in a best-selling autobiography*

Thursday, June 27
8:00-10:00am Los Angeles (PDT) = 9:00-11:00am Calgary (MDT) = 10:00am-12:00pm St Louis (CDT) = 11:00am-1:00pm Florida/New York/Ottawa (EDT) = 4:00-6:00pm London (BST) = 5:00-7:00pm Paris/Amsterdam/Rome (CEST) = 6:00-8:00pm Vilnius (EEST) = 6:00-8:00pm Moscow (MSK)

Friday, June 28
12:00-2:00am Tokyo (JST) = 1:00-3:00am Sydney (AEST)

Closing Comments and Adjournment

See you in Paris, France for ISHN2025!

29th ISHN Annual Meeting: The 200th Anniversary of the Birth of Jean-Martin Charcot
1-5 July 2025
Paris Brain Institute at Hôpital de La Salpêtrière (Paris, France)
https://charcot2025.fr

Organized and hosted by **Dr. Olivier Walusinski** (walusinski@charcot2025.fr)

Abstracts deadline 15 January 2025

Abstracts

“A bright spot … between the cerebral hemispheres”: Ugo Cerletti’s theory of consciousness

Elisabetta Sirgiovanni

Sapienza University of Rome, Department of Molecular Medicine, Section of the History of Medicine (Rome, Italy)
elisabetta.sirgiovanni@uniroma1.it

In the years following the success of his Electro-Convulsive Therapy (1938), the Italian neuropsychiatrist Ugo Cerletti (1877-1963) engaged in developing a theory of consciousness that would explain ECT mechanisms of action in the brain. Inspired by the definition given by Mikhail B. Kroll (1879–1939), Cerletti conceived the (epileptic-like) “shock” as a “loss of consciousness” of sudden onset, accompanied by neurovegetative reactions, and he compared this phenomenon with other similar phenomena such as sleep, coma, or apnea. In this paper, I will present and discuss Cerletti’s view, which localizes consciousness primarily in the meso-diencephalic area, rather than in the frontal cortex, as suggested by other scholars of the time. Supported by concurrent neurological research, Cerletti’s work on consciousness pioneered a series of disputes in the history of neuroscience. These include a critique of John Hughlings Jackson (1835-1911)’s hierarchical view of the brain and a rejection of the so-called liberation theory of seizures. Cerletti’s ideas influenced the work of his competitor in psychopharmacological research in France, Jean Delay (1907-1987), and insightfully anticipated approaches proposed by today’s neuroscientists (e.g., Christof Koch and colleagues). This research is conducted through bibliographical and archival sources between the US (Kansas) and Italy.

Session 1

Tuesday, June 25
8:00-8:30am Los Angeles (PDT) = 9:00-9:30am Calgary (MDT) = 10:00-10:30am St Louis (CDT) = 11:00-11:30am Florida/New York/Ottawa (EDT) = 4:00-4:30pm London (BST) = 5:00-5:30pm Paris/Amsterdam/Rome (CEST) = 6:00-6:30pm Vilnius (EEST) = 6:00-6:30pm Moscow (MSK)

Wednesday, June 26
12:00-12:30am Tokyo (JST) = 1:00-1:30am Sydney (AEST)

Neuroscientific interpretations of Italian Renaissance art

Peter Devenyi

Department of Cellular and Molecular Medicine (Neuroscience), University of Ottawa (Ontario, Canada)
pdeve030@uottawa.ca / peter.devenyi@carleton.ca

High medieval natural theology favoured deductive reasoning—to be countered by the inductive reasoning of the late medieval philosopher, William of Ockham. Scientific explanation of natural phenomena would depend on human perception of things, or the 'nominal'. In *The Mirror of the Artist*: *Northern Renaissance Art in its Historical Context* art historian Craig Harbison so remarks, "Thus, in a very general sense, the emphasis of fifteenth-century painting on particular details of the physical world can be said to coincide with the thrust of this new philosophic position." Artistic nominalism or naturalism of recent Northern European art influenced fifteenth-century art in Italy, because of the superior accuracy of its oil painting over fresco—toward the unprecedented representation hence of observable phenomena. This scientific influence as it developed from the quattrocento to the cinquecento is herein reasoned to have exercised human powers of observation and representation—to animate otherwise invisible biological phenomena of human physiology or psychology by which artistic subject matter is manifested. Sofonisba Anguissola interrogates the phenomena of neuroplasticity in a portrait, "The Game of Chess"; immunological beings populate preparatory drawings of Raphael Sanzio; Donatello dramatizes maternal behaviour in the manifold complexity of his stone relief for the Pazzi Chapel; Properzia de' Rossi immortalizes sympathetic behaviour in her relief for the Cathedral of Bologna; the paradoxical nature of dreaming fuses with waking reality and history, within a fresco by Piero della Francesca; and Leonardo da Vinci brings to fruition the physiology of interoception, through the enigmatic countenance of the "Mona Lisa".

Session 1

Tuesday, June 25
8:30-9:00am Los Angeles (PDT) = 9:30-10:00am Calgary (MDT) = 10:30-11:00am St Louis (CDT) = 11:30am-12:00pm Florida/New York/Ottawa (EDT) = 4:30-5:00pm London (BST) = 5:30-6:00pm Paris/Amsterdam/Rome (CEST) = 6:30-7:00pm Vilnius (EEST) = 6:30-7:00pm Moscow (MSK)

Wednesday, June 26
12:30-1:00am Tokyo (JST) = 1:30-2:00am Sydney (AEST)

Pioneering minds: Women's path to psy- and neuroscience in unified Italy, 1875-1921

Sultana Banulescu

City University of New York Graduate Center (New York, New York, USA)
sbanules@gmail.com

After Italy's unification in 1875, the Bonghi-Coppino Regulations allowed women university access, yet by 1902, only 26 had earned medical degrees, with female doctors during the Giolittian Era (1900-1914) constituting a mere 2% of medical students. Barred from practicing in public hospitals, women physicians could only treat impoverished women and children, often working unpaid. This paper argues that women found quicker entry into neurology and psychiatry, areas less restricted and more open to their participation. Case studies of Maria Bertolani Del Rio and Luisa Levi in psychiatry, and Lina Luzzani Negri and Giulia Baroncini Modena in neurology, highlight how women navigated these fields through mental asylum affiliations and collaboration with male spouses in research. World War I significantly altered the professional landscape for Italian women, introducing new roles and gradually shifting perceptions of women in medicine. The pivotal Ettore Sacchi bill of 1919 enabled women to fully practice medicine, leading to the establishment of a national medical association by 1921. This evolution underscores the exceptional motivation and resourcefulness required for women to enter and impact the medical profession in Italy, particularly in psy- and neuroscience, where their contributions were vital yet underrecognized. Examining the processes through which these women gained access to the professional practice of medicine, I ultimately find, is integral to understanding the success and limits of their work as healers and to approaching the broader question of who may be empowered to heal.

Session 1

Tuesday, June 25
9:00-9:30am Los Angeles (PDT) = 10:00-10:30am Calgary (MDT) = 11:00-11:30am St Louis (CDT) = 12:00-12:30pm Florida/New York/Ottawa (EDT) = 5:00-5:30pm London (BST) = 6:00-6:30pm Paris/Amsterdam/Rome (CEST) = 7:00-7:30pm Vilnius (EEST) = 7:00-7:30pm Moscow (MSK)

Wednesday, June 26
1:00-1:30am Tokyo (JST) = 2:00-2:30am Sydney (AEST)

From biological psychiatry to neuroscience: The research of Daniel X. Freedman (1921-1993)

Céline Cherici

University Picardie Jules Verne (UPJV) (Amiens, Hauts-de-France, France)
celine.cherici@live.fr

A pioneer in the field of biological psychiatry, Daniel X. Freedman (1921-1993) opened the field of mental medicine to an interdisciplinary mix of neuropharmacology, neurochemistry, psychology and neurophysiology. Without ever losing sight of the patient, he explored the possibilities of linking brain chemistry, medication, and behaviors (human and animal). Can we consider the scope and longevity of this work to have enabled a transition between biological psychiatry and neuroscience? In this presentation, we will explore avenues of research and provide some answers to this question, using Freedman's archives at the UCLA Research Library as a starting point. From biological psychiatry, marked by the polymorphism of its approaches, to the neurosciences, only one step has been taken between 1958 and 1980.

Session 1

Tuesday, June 25
9:30-10:00am Los Angeles (PDT) = 10:30-11:00am Calgary (MDT) = 11:30am-12:00pm St Louis (CDT) = 12:30-1:00pm Florida/New York/Ottawa (EDT) = 5:30-6:00pm London (BST) = 6:30-7:00pm Paris/Amsterdam/Rome (CEST) = 7:30-8:00pm Vilnius (EEST) = 7:30-8:00pm Moscow (MSK)

Wednesday, June 26
1:30-2:00am Tokyo (JST) = 2:30-3:00am Sydney (AEST)

“Looking At or Away”: J.L. Prévost, eye deviation, and spatial lateralization

Karen G. Langer[1] and Julien Bogousslavsky[2]

[1]NYU Grossman School of Medicine, New York University (New York, New York, USA)
karen.langer@nyulangone.org

[2]Neurocenter, Center for Brain and Nervous System Disorders, Swiss Medical Network, Clinique Valmont (Montreux, Switzerland)
jbogousslavsky@cliniquevalmont.ch

The Swiss neurologist Jean-Louis Prévost began his hospital service in Paris working with Alfred Vulpian, and later with Jean-Martin Charcot, where he developed interest in a curious neurological sign. Deviation of the eyes towards side of lesion was noted in patients with hemiplegia, often of apoplectic origin. Based on his observations of this neurological sign, along with those of senior colleagues, including Vulpian and Charcot, he presented his thesis in 1868, systematically describing a case series of patients with what he called “conjugate deviation of the eyes”. This ocular sign might additionally be accompanied by head rotation towards the nonparalyzed side. Soon thereafter, reports of these features continued to appear, with ipsilesional deviation consistently reported in cases of cortical or subcortical ‘paralytic’ lesions. In contrast, the more infrequent contralesional deviation was an indicator of lower brain region lesions, particularly of the pons, or potential irritative, excitatory influences (e.g., in Jacksonian epilepsy). Conjugate deviation, later frequently referred to as Prévost’s sign, was considered particularly useful for diagnostic and lateralization issues with cerebral lesions.

A century later, a possible relationship was proposed with the phenomenon of hyper- neglect, interestingly suggesting similarity to rotatory behaviors in lesioned animals, to which conjugate deviation bears resemblance. Complex oculomotor interconnections and the multidimensional relationships between space and self are important considerations in conjugate deviation, whose depiction remains relatively uniform since Prévost and his colleagues first described the phenomenon over 150 years ago.

Session 2

Tuesday, June 25
10:30-11:00am Los Angeles (PDT) = 11:30am-12:00pm Calgary (MDT) = 12:30-1:00pm St Louis (CDT) = 1:30-2:00pm Florida/New York/Ottawa (EDT) = 6:30-7:00pm London (BST) = 7:30-8:00pm Paris/Amsterdam/Rome (CEST) = 8:30-9:00pm Vilnius (EEST) = 8:30-9:00pm Moscow (MSK)

Wednesday, June 26
2:30-3:00am Tokyo (JST) = 3:30-4:00am Sydney (AEST)

History of stroke: From apoplexy to cerebrovascular disease

Bijal K. Mehta

Department of Neurology, Los Angeles County Harbor – UCLA Medical Center (San Pedro, California, USA)
bijal@ucla.edu

This paper will discuss the history of stroke but more specifically how the term stroke remains in use despite physiology and treatment of the condition have altered its initial meaning. Although the term or word "stroke" has ancient origins, and despite alternative terms preferred today that better describe the symptoms and physiology, it has remained the preferred term for acute cerebral ischemia. Despite multiple alternative terms proposed, "stroke" remains the preferred medical term for this neurological disease. A review of the terms used to describe this clinical entity will be discussed as well as those individuals who proposed alternatives as well as those who defended this term's continued use.

Session 2

Tuesday, June 25
11:00-11:30am Los Angeles (PDT) = 12:00-12:30pm Calgary (MDT) = 1:00-1:30pm St Louis (CDT) = 2:00-2:30pm Florida/New York/Ottawa (EDT) = 7:00-7:30pm London (BST) = 8:00-8:30pm Paris/Amsterdam/Rome (CEST) = 9:00-9:30pm Vilnius (EEST) = 9:00-9:30pm Moscow (MSK)

Wednesday, June 26
3:00-3:30am Tokyo (JST) = 4:00-4:30am Sydney (AEST)

Teaching neuroanatomy in the 19th century: Dr Auzoux's papier-mâché anatomical models

Manon Auffret

France Développement Electronique (FDE), Institut des Neurosciences Cliniques de Rennes (INCR), Université de Rennes (Rennes, France)
auffret.manon@gmail.com / manon.auffret@univ-rennes.fr

OBJECTIVE: To review and describe the anatomical models related to the brain and nervous system produced in the "Ateliers de l'anatomie clastique" (clastic anatomy workshops) founded by Dr Auzoux at Saint-Aubin-D'Ecrosville (Normandy, France) in 1828.

BACKGROUND: Dr Louis Thomas Jérôme Auzoux (1797–1880) was a French physician who specialized in the design, industrial production and sales of detachable anatomical models using his own innovative technique of papier mâché. His catalogue included a wide variety of human, animal, and botanical models. Our university's collections (Rennes) include a few examples of these models, including human brains.

DESIGN/METHODS: Nonsystematic database (PubMed, Google Scholar, JSTOR, Internet Archive, Gallica) search, antique postcards database search and screening of online newspapers archives (RetroNews®, Newspapers.com®), with the search terms (English & French) Dr Auzoux, papier mâché, clastic anatomy.

RESULTS: Auzoux's anatomy models were made of several solid parts that could be removed one by one, mimicking the dissection process: "a brain is constructed, in which, by means of numeroussections and the super-position of different parts, are shown all the details of its structure as well as the origin of the nerves in the whole extent of the cerebro-spinal axis" ("Catalogue of preparations of artificial anatomy", 1841). Auzoux's models of human neuroanatomy included different types of brains as well as the spinal marrow. His production also included the brain and the spinal marrow of several animals (rat, cat, goose, viper, tortoise, carp, molusca) and the nervous system of others (spider, crab, articulate & radiata).

CONCLUSIONS: During the 19th century, Dr Auzoux's brain anatomical models were used worldwide to teach neuroanatomy in different contexts, for both students (universities, schools) and the general public.

Session 3

Wednesday, June 26
8:30-9:00am Los Angeles (PDT) = 9:30-10:00am Calgary (MDT) = 10:30-11:00am St Louis (CDT) = 11:30am-12:00pm Florida/New York/Ottawa (EDT) = 4:30-5:00pm London (BST) = 5:30-6:00pm Paris/Amsterdam/Rome (CEST) = 6:30-7:00pm Vilnius (EEST) = 6:30-7:00pm Moscow (MSK)

Thursday, June 27
12:30-1:00 am Tokyo (JST) = 1:30-2:00 am Sydney (AEST)

Cajal's "Stereoscopic honeymoon"

Nicholas J. Wade

Department of Psychology, University of Dundee (Dundee, UK)
n.j.wade@dundee.ac.uk

Santiago Ramón y Cajal (1852-1934) was awarded the Nobel Prize for Physiology or Medicine in 1906 to mark his work on the microscopic structures within the nervous system. He developed an intense interest in art and photography early in his life. Photographic processes influenced his theories of neural function, particularly in the visual system. What is less widely known is his brief foray into the realm of stereoscopic vision when he was a medical student in the early 1870s. He later referred to it as his "stereoscopic honeymoon". Cajal described a method for concealing messages in two monocular images which could be revealed when viewed stereoscopically. A printed pattern of "dots, lines and scribbles" was placed some centimetres behind a transparent sheet with letters and words comprised of essentially the same pattern elements. The arrangement was then photographed with a stereo camera so that two slightly different composite patterns were formed. The words could not be read in either monocular image but emerged in depth when viewed in a stereoscope. These were essentially the first random dot stereograms and they fulfilled Wheatstone's dream of demonstrating stereoscopic depth perception without object recognition in the monocular images. Far from appreciating the significance of his demonstration, Cajal referred to it as a recreation: "My little invention is, in fact, a puerile game unworthy of publishing, but it really amused me at that time". In fact, it preceded the random dot stereograms of Julesz by almost 90 years.

Red/cyan viewers recommended for the anaglyphic illustrations.

Session 3

Wednesday, June 26
9:00-9:30am Los Angeles (PDT) = 10:00-10:30am Calgary (MDT) = 11:00-11:30am St Louis (CDT) = 12:00-12:30pm Florida/New York/Ottawa (EDT) = 5:00-5:30pm London (BST) = 6:00-6:30pm Paris/Amsterdam/Rome (CEST) = 7:00-7:30pm Vilnius (EEST) = 7:00-7:30pm Moscow (MSK)

Thursday, June 27
1:00-1:30am Tokyo (JST) = 2:00-2:30am Sydney (AEST)

Reel Hollywood neurosurgery 1950

Diane Friedman

Neuroscience nurse, retired (Indianapolis, Indiana, USA)
fd9263211@gmail.com

In the early 20th century, neurosurgeons were called to attend famous political figures—Otfrid Foerster with Vladimir Lenin in 1923, Harvey Cushing with General Leonard Wood in 1927 and Herbert Olivecrona with Joseph Stalin in 1937. These encounters were reported in the newspapers of the day and inspired the public and fiction writers.

In 1950 the neurosurgeon Tracy Putnam drew upon his familiarity with all three episodes as he served as script editor, technical advisor, and on-set coach for the MGM film *Crisis*- in which a kidnapped American neurosurgeon is compelled to operate on and save a murderous South American dictator, while he also experiences pressure by revolutionaries to let the dictator die.

Cary Grant played the surgeon for the dictator performed by Jose Ferrer. The daughter of Chicago neurosurgeon Loyal Davis, Nancy Davis, nearly was cast as the doctor's wife. There are fascinating historical, diagnostic and clinical details which will be demonstrated in clips from the film. For instance, in one moment, the dictator is treated with phenobarbital, although, there is strong clinical and dramatic support for that choice, as the co-discover of Dilantin was undoubtedly aware.

Session 3

Wednesday, June 26
9:30-10:00am Los Angeles (PDT) = 10:30-11:00am Calgary (MDT) = 11:30am-12:00pm St Louis (CDT) = 12:30-1:00pm Florida/New York/Ottawa (EDT) = 5:30-6:00pm London (BST) = 6:30-7:00pm Paris/Amsterdam/Rome (CEST) = 7:30-8:00pm Vilnius (EEST) = 7:30-8:00pm Moscow (MSK)

Thursday, June 27
1:30-2:00am Tokyo (JST) = 2:30-3:00am Sydney (AEST)

Brain movements

Peter J. Koehler

Faculty of Health, Medicine, and Life Sciences, University of Maastricht (Maastricht, The Netherlands)
pkoehler@neurohistory.nl

Cushing's experiments (1901-2) on intracranial pressure are well-known. In 2014, we published on investigators, who experimented before him.[1] Ernst von Leyden (1832–1910) published his experiments in 1866. He was not only interested in intracranial pressure, but also brain movements. The history of ideas on brain movements is quite old. Galen believed the brain expanded during inhalation and this had a dual function. His ideas went on for a long time. In the Early Modern Period one group of naturalists believed it was caused by movements of the dura mater, others thought it was due to movements of the brain proper. Antonio Pacchioni (1665-1726) attributed a contractile power to the dura mater. Giorgio Baglivi (1668-1707) even reasoned in terms of a *cor cerebri* (cerebral heart). Humphrey Ridley (1653-1708) was among the first to show that destruction of the dura mater did not cease brain movements. Jan Daniel Schlichting (1703-1765) contradicted Galen by explaining the brain swells on expiration.

A double movement, by heart and by lungs, was found by later experimenters. Trying to answer the question whether brain movements exist when the skull is completely closed, Franciscus Cornelis Donders (1818-1889) denied any movements of the brain if the skull remained closed. He made a small glass window in the skull to "spy on nature directly". Leyden confirmed this and the phenomenon was later explained by Leonard Hill (1866-1952).

Session 4

Wednesday, June 26
10:30-11:00am Los Angeles (PDT) = 11:30am-12:00pm Calgary (MDT) = 12:30-1:00pm St Louis (CDT) = 1:30-2:00pm Florida/New York/Ottawa (EDT) = 6:30-7:00pm London (BST) = 7:30-8:00pm Paris/Amsterdam/Rome (CEST) = 8:30-9:00pm Vilnius (EEST) = 8:30-9:00pm Moscow (MSK)

Thursday, June 27
2:30-3:00am Tokyo (JST) = 3:30-4:00am Sydney (AEST)

[1]Koehler PJ, Wijdicks EF. Fixed and dilated: the history of a classic pupil abnormality. J Neurosurg. 2015 Feb;122(2):453-63

Treatment of gunshot head injuries during World War II in the Soviet army: Impact of TsIU's Department of Neurosurgery staff

Dmitriy Eliferov and Boleslav Lichterman

Institute of Social Sciences, I.M. Sechenov First Moscow State Medical University (Sechenov University (Moscow, Russia)
stablo@mail.ru

Background: There is a lack of comparative studies of mortality and morbidity of head injuries in different armies during WWII. We are presenting the experience of Soviet neurosurgeons from 1941 (when USSR joined the war) to 1945.

Material and methods: We analyzed published materials on the subject, particularly volumes IV and V (Moscow, 1949 and 1953) of the multivolume "Experience of Soviet Medicine in the Great Patriotic War of 1941-1945".

Results: Head injuries comprised almost one third (30, 9%) of all lethal wounds. Gunshot head injuries prevailed. Shrapnel wounds were more frequent (82, 7%) than bullet wounds (17, 3%). The incidence of multiple injuries (combined head injury) was 30, 1%. Prof. I.S. Babchin suggested the following classification of gunshot head injuries: 1) scalp wounds; 2) non-penetrating skull injuries and 3) penetrating skull and brain injuries (with damage of dura). Penetrating head injuries were registered in 28,1%. Delayed surgical debridement was considered feasible and desirable. Sulfanilamides were widely used and antibiotics were introduced by the end of the war. The rate of complications was gradually decreasing due to improvement of neurosurgical care and accumulation of neurosurgeons' experience. Additionally, there are several topics (surgical treatment of gunshot head injuries and soft tissues wounds, traumatic hydrocephalus, traumatic epilepsy) made by TsIU's Department of Neurosurgery staff (N.N.Burdenko, A.A.Arendt, K.G.Terian).

Conclusions: During WWII an edifice of organization of specialized care to head injured patients was established in the Soviet Army. There was obligatory evacuation of such patients to special hospitals of the army area.

Session 4

Wednesday, June 26
11:00-11:30am Los Angeles (PDT) = 12:00-12:30pm Calgary (MDT) = 1:00-1:30pm St Louis (CDT) = 2:00-2:30pm Florida/New York/Ottawa (EDT) = 7:00-7:30pm London (BST) = 8:00-8:30pm Paris/Amsterdam/Rome (CEST) = 9:00-9:30pm Vilnius (EEST) = 9:00-9:30pm Moscow (MSK)

Thursday, June 27
3:00-3:30am Tokyo (JST) = 4:00-4:30am Sydney (AEST)

A man behind a specialty: Yakov Popelyansky as a founder of vertebroneurology

Marina Podolskaya[1] and Boleslav Lichterman[2]

[1]Kazan State Medical Academy

[2]Institute of Social Sciences, I.M. Sechenov First Moscow State Medical University (Sechenov University (Moscow, Russia)
lichterman@hotmail.ru

Professor Yakov Yurievich Popelyansky (1917-2003) was an outstanding neurologist and a founder of a new specialty – vertebroneurogy. However, his original ideas are almost unknown outside of former USSR. The aim of our presentation is to demonstrate their development and importance for international audience.

Materials and methods: Private archive of Ya.Yu. Polelyansky (in Seattle and Kazan) and his personal file at the Archive of Kazan State Medical University. Publications of Prof. Popelyansky, his correspondence, and memoirs of his colleagues.

Results: Prof. Polelyansky created a teaching on reflex clinical syndromes of dystrophic changes in vertebral column. He studied their pathogenesis, suggested their classification and coined a term “vertebrogenic diseases of nervous system”. He described 24 new clinical vertebrogenic syndromes, seven radiological signs and gave new interpretation to seven neurological syndromes. He supervised dozens of dissertations and created a school of neurologists. Popelyansky and his pupils introduced such methods of treatment of neurological syndromes of vertebral osteochondrosis as vertebral traction, Novocain blockades, manual therapy, osteopathy. Indications for medical treatment, physiotherapy, physical therapy and surgery were specified. Prof. Popelyansky authored 15 books including his opus magnum “Orthopedic Neurology (Vertebroneurology)” and 268 scientific articles.

Conclusions: Ya.Yu.Popelyansky proved the fallacy of the nosological form "sciatica" in vertebrogenic dystrophic clinical syndromes, substantiated the reflex nature of many vertebrogenic syndromes, which made it possible to clarify their diagnosis, examination of disability, develop pathogenetic and symptomatic methods of treatment. He created a new specialty, which was initially called neuroorthopedics and later on named vertebroneurology.

Session 4

Wednesday, June 26
11:30am-12:00pm Los Angeles (PDT) = 12:30-1:00pm Calgary (MDT) = 1:30-2:00pm St Louis (CDT) = 2:30-3:00pm Florida/New York/Ottawa (EDT) = 7:30-8:00pm London (BST) = 8:30-9:00pm Paris/Amsterdam/Rome (CEST) = 9:30-10:00pm Vilnius (EEST) = 9:30-10:00pm Moscow (MSK)

Thursday, June 27
3:30-4:00am Tokyo (JST) = 4:30-5:00am Sydney (AEST)

Walter Bradford Cannon (1871-1945): The great American physiologist and neuroscientist, and his humanitarian activities and principles

Yuri Zagvazdin

Department of Medical Education, Dr. Kiran C. Patel College of Allopathic Medicine, Nova Southeastern University (Ft. Lauderdale, Florida, USA)
yuri@nova.edu

Walter Bradford Cannon's contributions to physiology and neuroscience are numerous and include the development of our knowledge on the nervous regulation of gastrointestinal motility, effects of emotions on the activity of the sympathetic nervous system and adrenal glands, water balance, homeostasis, and neurotransmission. In addition, Cannon is known for his dedication to the promotion of international cooperation among scientists. The focus of this study is directed towards his humanitarian activities during the last ten years of his life. In his book, "The Way of An Investigator: A Scientist's Experiences in Medical Research," Cannon devoted three chapters titled "Possibilities of Cooperative Research", "Being a Citizen", and "Friendship at Home and Abroad" to his humanitarian efforts. He described his travel overseas and support for his Chinese colleagues during the Japanese occupation of Manchuria, his ability to maintain cordial ties with Japanese investigators at the same time, his tireless efforts to help his Spanish friends during a brutal civil war, and his unwavering belief in the importance of pursuing "deeper sympathy and understanding" between the Americans and the Russians".

Session 5

Thursday, June 27
8:00-8:30am Los Angeles (PDT) = 9:00-9:30am Calgary (MDT) = 10:00-10:30am St Louis (CDT) = 11:00-11:30am Florida/New York/Ottawa (EDT) = 4:00-4:30pm London (BST) = 5:00-5:30pm Paris/Amsterdam/Rome (CEST) = 6:00-6:30pm Vilnius (EEST) = 6:00-6:30pm Moscow (MSK)

Friday, June 28
12:00-12:30am Tokyo (JST) = 1:00-1:30am Sydney (AEST)

Adaptation, remigration, and rejection: The story and fate of the forced migrant neuroscientists and psychiatrists during the postwar period, 1945-1989

Frank W. Stahnisch

History of Medicine and Health Care, Cumming School of Medicine, University of Calgary (Calgary, Alberta, Canada)
fwstahni@ucalgary.ca

Most German-speaking émigré neuropsychiatrists, who had lost their positions after 1933 when the Nazis seized power in Germany, Austria, and the occupied countries, remained in the US and Canada after WWII. Yet a minority remigrated to central Europe during the postwar period. The data however shows that not more than 5% of all refugee researchers and physicians pondered remigrating and those émigrés who fully resettled in their previous home countries remained a handful of exceptions. Their process of remigration needs to be seen as a complex personal, social, and institutional development, though the exact number of émigré Jewish and oppositional physicians and researchers returning to central Europe remains unknown.

The imbalance between the analysis of western and eastern Germany also reflects an imbalance in the respective historiography since the end of the Cold War. All told, only limited remigration and resettlement opportunities existed for émigrés in the Allied Occupation Zones, and after 1949 in the newly founded FRG (West Germany) and GDR (East Germany). Their course of remigration proved to be a compounded one for the émigrés – whether they had remained connected or needed to reconnect with their central European peers in neuropsychiatry; whether they decided to visit institutions or became invited as visiting lecturers; or whether they returned permanently to the European side of the Atlantic. Based on select case examples, the working and living situation of remigrants is described, together with their important role for rebuilding international relationships and collaborations after a time of dreadful war and conflict.

Session 5

Thursday, June 27
8:30-9:00am Los Angeles (PDT) = 9:30-10:00am Calgary (MDT) = 10:30-11:00am St Louis (CDT) = 11:30am-12:00pm Florida/New York/Ottawa (EDT) = 4:30-5:00pm London (BST) = 5:30-6:00pm Paris/Amsterdam/Rome (CEST) = 6:30-7:00pm Vilnius (EEST) = 6:30-7:00pm Moscow (MSK)

Friday, June 28
12:30-1:00am Tokyo (JST) = 1:30-2:00am Sydney (AEST)

Sergey Federoff (1925-2012): A journey of political turmoil to neuroscientific leadership

Anika Zaman and Frank W. Stahnisch

History of Medicine and Health Care, Cumming School of Medicine, University of Calgary (Calgary, Alberta, Canada)
anika.zaman@ucalgary.ca and fwstahni@ucalgary.ca

Sergey Fedoroff (1925-2012), was a Latvian-born Canadian neuroscientist, best known for his foundational research in neural cell differentiation and development. Born to parents fleeing the Russian Revolution, he came of age during an era of political unrest, with his adolescence interrupted by the inception of World War II (1939-1945). Due to a complicated post-war climate, Fedoroff eventually migrated to Western Canada, where he continued his education at the University of Saskatchewan under the mentorship of Rudolf Altschul (1901-1963), another German-speaking neuroscientist émigré.

Fedoroff eventually succeeded Altschul as the head of the Department of Anatomy at the University of Saskatchewan (1964-1987). He was an integral member of many neuroscience societies, holding presidential roles in the Tissue Culture Association, Pan-American Association of Anatomy, Canadian Association of Neuroscience, and many more. Fedoroff greatly contributed to the development of an academic neuroscience community in Western Canada, leaving a legacy of educational, administrative, and scientific accomplishments.

This historical literature review utilizes archival fonds, scholarly articles, and academic books to communicate Fedoroff's experiences and accomplishments in the context of forced migration of German-speaking German-trained neuroscientists during WWII. Of notable interest is his relationship with Altschul, where both had similar shared forced migration experiences. This draws attention to the impacts forced migration had at the onset of Fedoroff's career and contextualizes his role in academic mentorship and community-building through scientific leadership positions.

Session 5

Thursday, June 27
9:00-9:30am Los Angeles (PDT) = 10:00-10:30am Calgary (MDT) = 11:00-11:30am St Louis (CDT) = 12:00-12:30pm Florida/New York/Ottawa (EDT) = 5:00-5:30pm London (BST) = 6:00-6:30pm Paris/Amsterdam/Rome (CEST) = 7:00-7:30pm Vilnius (EEST) = 7:00-7:30pm Moscow (MSK)

Friday, June 28
1:00-1:30am Tokyo (JST) = 2:00-2:30am Sydney (AEST)

Axel Munthe, Jean-Martin Charcot, and La Salpêtrière: Grievances and reminiscences in a best-selling autobiography

Stanley Finger

Department of Psychological and Brain Sciences, Washington University in St. Louis (St. Louis, Missouri, USA)
sfinger@wustl.edu

Axel Munthe was born in Sweden in 1857. He studied medicine at Uppsala and Montpellier before going to Paris, where he obtained a medical degree in 1880. He then treated patients in private practice and, a few years later, moved to the Island of Capri. In 1923, he published a book called *The Story of San Michele*, in which he described his travails in Paris and his life on Capri, where he built a villa and lived and saw patients before returning to Sweden late in life (dying in Stockholm in 1949). Munthe's book became an international bestseller, a work translated into over 60 languages. Of special interest to neurohistorians is how he chastised Charcot for how he treated patients and students (namely himself) in it. Moreover, he targeted how "the Master" was duped by hysterics, who performed like trained animals at his lectures, while criticizing his rigidity and inability to deal with criticisms, even those backed by hard facts (e.g., his belief that only hysterics and others with weak nervous systems could be hypnotized). Some of Munthe's claims about Charcot and La Salpêtrière were quickly challenged, most notably by physician and explorer Jean-Baptiste Charcot, Charcot's surviving son. This presentation examines what Munthe wrote, the Charcot *fils* rebuttal, and what seems true, since Munthe might have wanted to present Charcot negatively to bolster his own standing as an astute physician and to add additional color to his autobiography.

Session 5

Thursday, June 27
9:30-10:00am Los Angeles (PDT) = 13:00-11:00am Calgary (MDT) = 11:30am-12:00pm St Louis (CDT) = 12:30-1:00pm Florida/New York/Ottawa (EDT) = 5:30-6:00pm London (BST) = 6:30-7:00pm Paris/Amsterdam/Rome (CEST) = 7:30-8:00pm Vilnius (EEST) = 7:30-8:00pm Moscow (MSK)

Friday, June 28
1:30-2:00am Tokyo (JST) = 2:30-3:00am Sydney (AEST)