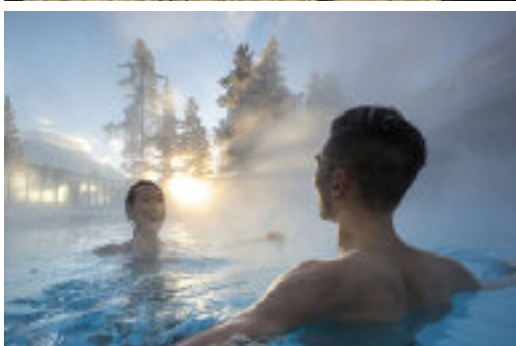
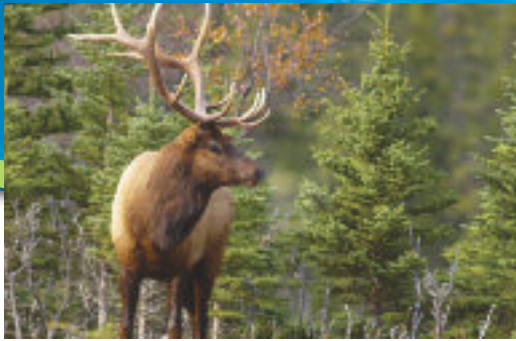


6th International Conference on Auditory Cortex



International
Conference on
Auditory Cortex

September 10-15, 2017

The Banff Centre
Banff, Alberta
Canada



auditorycortex.org

Program Contents

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About ICAC

The 6th meeting of the **International Conference on Auditory Cortex**, which consists of approximately 300 scientists of diverse expertise all of whom work on the auditory cortex, will convene on September 10-15, 2017 at the Banff Centre in Alberta, Canada, to discuss and debate new findings in hearing-research and auditory-cortex function. The meeting will consist of four Keynote Lectures, 21 invited talks, and 21 talks from trainees (graduate students and postdoctoral fellows) that are selected from submitted abstracts, and poster sessions.

The ICAC offers a unique combination of features, including: breadth of research, cutting-edge emphasis, mingling of investigators from all ranks (and diverse sub-fields and locales), intimate size, and extended discussion time allowing for sustained interactions. Some of these features arise from unique qualities of the hearing-research field and others from the tradition of the International Conference on Auditory Cortex. Different model systems and technologies are spread throughout the sessions, so that each session has something for everyone – encouraging cross-fertilization across disciplines. The clinical importance of auditory research will be highlighted with presentations that consider the mechanisms underlying human disorders and translational efforts to correct these disorders.

Finally, the 2017 ICAC is unique because this is the first time, since the meeting's inception in 2003, that it will be held in North America.

Our Goal

The goal of the 6th ICAC is to understand the neurophysiological mechanisms that underlie auditory perception and cognition and to use this knowledge to mitigate hearing disorders. In particular, the organizers of ICAC are interested in attracting scientists that employ methodologies and conceptual/theoretical paradigms that are often novel to studies of auditory cortex; and whose research focuses on studying the structure and function of the auditory cortex through a synthesis of both human and animal research.



Welcome

to the 6th International Conference on Auditory Cortex

It is our distinct pleasure to welcome you to Banff and the 6th International Conference on Auditory Cortex! This vibrant and exciting meeting has continued to grow since our first meeting in 2003 in Magdeburg. This year's registration has passed the 300 mark – a new record for the conference! We have registrants from 22 countries representing all corners of the globe. With a fundraising effort that has exceeded \$100,000, we were pleased to offer 63 travel awards to trainees in addition to financial support of all the keynote and invited speakers. We also have a record number of posters, surpassing 200 submissions.

We are grateful to the Program Committee for all their hard work in organizing an exciting scientific program. The success of this meeting is, in large part, due to their tremendous efforts. The Program Committee was led by Jennifer Bizley and Robert Liu and included Mounya Elhilali, Ingrid Johnsrude, Andrej Kral, Manuel Malmierca, Lizbeth Romanski, Chris Stecker, and Robert Zatorre. From their efforts, we have four keynote speakers, 21 invited speakers, and 21 oral presentations selected from the over 200 abstract submissions. Papers related to these and other topics of the conference will appear in a Special Issue of *Hearing Research*.

This year's meeting also features a pre-conference satellite meeting on hearing loss and tinnitus. This satellite celebrates Jos Eggermont's work on these two important topics in hearing science. "JosFest", as it has become known, features 10 international-recognized speakers and will occur on Sunday, just prior to the kick-off of the main meeting.



Yale Cohen



Steve Lomber

Please enjoy the wonder that is Banff National Park and the excellent facilities of the Banff Centre. Rocky Mountain peaks, turquoise glacial lakes, a picture-perfect mountain town and village, abundant wildlife and scenic drives come together in Banff National Park – Canada's first national park and the flagship of Canada's park system. Over three million visitors a year make the pilgrimage to the park for a variety of activities including hiking, biking, skiing and camping in some of the world's most breathtaking mountain scenery. Banff is part of the Canadian Rocky Mountain Parks UNESCO World Heritage Site. Wednesday afternoon there are a number of excursions to choose from. If you have not already registered for an excursion, please visit the registration desk and decide among the opportunities.

Another unique aspect of this year's meeting is that it is occurring in 2017 – the 150th anniversary of Canada. 2017 is the sesquicentennial anniversary of Canadian Confederation, which occurred in 1867. To celebrate this event, admission to all national parks is complementary in 2017. Therefore, if you are fortunate enough to spend time in the area after the meeting, be sure to enjoy some of the other nearby national parks including Jasper, Yoho, and Kootenay.

We are grateful for all the behind the scenes work by Marischal De Armond and Podium Conference Specialists. They have been wonderful partners in putting the conference together and planning over the past few years.

Warm Regards,

Steve Lomber and Yale Cohen
Conference Co-Chairs

ICAC Leadership

Organizers / Co-Chairs

Steve Lomber, University of Western Ontario
Yale Cohen, University of Pennsylvania

Program Committee Co-Chairs

Jenny Bizley, University College London
Robert Liu, Emory University

Program Committee

Mounya Elhilali, Johns Hopkins University
Ingrid Johnsrude, University of Western Ontario
Andrej Kral, Medical University Hannover
Manuel Malmierca, University of Salamanca
Liz Romanski, University of Rochester
Chris Stecker, Vanderbilt University
Robert Zatorre, McGill University

Conference Management Services

Podium Conference Specialists

Marischal De Armond
Laurie De Armond

A brief history of the International Conference on Auditory Cortex (ICAC)

In 2002, Henning Scheich, founding director of the Leibniz Institute for Neurobiology in Magdeburg, proposed that it was time to bring together scientists working on the auditory cortex of humans with those working on that part of the brain in animals. An international meeting would enable these scientists to learn and benefit from each other's knowledge and experience by exchanging concepts, approaches, and thoughts. The researchers studying the human auditory cortex, mainly using noninvasive techniques such as functional magnetic resonance imaging, magneto- and electroencephalography, often seemed rather unaware of the progress made by the researchers studying the auditory cortices of animals, mainly using invasive anatomical and physiological methods and vice versa. Henning Scheich's idea fell on fertile grounds and, after a short survey among several local and outside experts, the ICAC was born.

In 2003, more than 200 participants from all over the world attended the first ICAC in Magdeburg, hosted by the Leibniz Institute for Neurobiology. Taking up Henning Scheich's idea, it consequently carried the subtitle "Towards a Synthesis of Human and Animal Research". The conference agenda covered three main themes: (i) auditory cortical fields and their functions, (ii) coding of sounds, and (iii) plasticity, learning, and cognition. The presentations of the 35 invited talks and more than 100 posters were excellent, the discussions were lively, and the social events facilitated increased communication between the participants. The scientific outcome resulted in the publication of the 500-page book *The Auditory Cortex – A Synthesis of Human and Animal Research*.

The success of this first conference triggered a second one; in fact, it started a series. In 2006, the second conference took place in Grantham, east of Nottingham (UK). It was organized by Dave Moore, Alan Palmer, Deborah Hall, Chris Sumner, Lisa Fretwell, Angie Killoran, and colleagues of the MRC Institute of Hearing Research. The meeting was subtitled "The Listening Brain" to indicate both the importance of active engagement with acoustic signals, an issue that has already emerged from the 2003 meeting, and the advances that had been made in understanding the role of the auditory cortex in "active hearing" or "listening". Some 160 participants discussed the 20 invited talks and 80 posters, which covered three main topics: (i) the distributed, (ii) the computational, and (iii) the cognitive auditory cortex. Papers related to these and other topics of the conference appeared in a Special Issue of *Hearing Research*.

Returning to Magdeburg, the subtitle of the 2009 conference "Current Concepts in Human and Animal Research" again reflected our main goal: to bring together scientists who study the auditory cortex in humans with those who study it in animals. The conference was arranged around five sessions comprising 33 invited talks: (i) how to define auditory cortex, (ii) coding principles in the auditory cortex,



(iii) the adaptive auditory cortex, (iv) processing of vocalizations, speech, and music, and (v) functional circuitry in the auditory cortex. During a round table discussion, seven renowned experts contrasted concepts of auditory functions together with 200 attendees. About 120 posters, some also advertised in short oral presentations, completed the scientific program. A collection of papers based on the invited talks of the conference was again published in a Special Issue of *Hearing Research*.

In 2012, the scientific organizers of the fourth conference (Daphne Bavelier, Stephanie Clarke, Jonathan Fritz, Troy Hackett, Andrew King, Micah Murray, David Poeppel, Shihab Shamma, Mark Wallace) in Lausanne (Switzerland) decided to organize the meeting on the basis of submitted proposals for scientific symposia. The five proposals winning the competition were: (i) integrating behavior and neurophysiology, (ii) dynamic spatial processing in the auditory cortex, (iii) shedding light on auditory cortex, (iv) computational principles of auditory cortex, and (v) perceptual operations and underlying mechanisms in the primate auditory cortices. These five symposia comprised 23 talks and were complemented by a graduate students' award symposium, a moderated (heated) debate, and about 170 posters. In March 2015, some of the contributions were available as papers in a Special Issue of *Brain Topography*.

In order to avoid temporal overlap with the International Symposium on Hearing, it was agreed upon to deviate from the 3-year interval and to hold the fifth ICAC in 2014, again in Magdeburg. The 5th Conference was the largest ICAC to date. The subtitle of the 5th International Conference on Auditory Cortex was again "Towards a Synthesis of Human and Animal Research" because of the continued intention to join the two fields. The scientific program reflected current topics studied in both fields and was arranged around the six sessions: (i) auditory cortex in different species, (ii) the hearing action cycle, (iii) auditory cortex: it's about time, (iv) auditory cortex: clinical aspects, (v) multisensory interplay in auditory cortex, and (vi) learning in auditory cortex. Invited speakers from each of these sessions agreed to contribute to a Special Issue of the *European Journal of Neuroscience*.

This year, the 6th ICAC takes place in Banff (Canada), and it has been organized by Steve Lomber from the University of Western Ontario (Canada) and Yale Cohen from the University of Pennsylvania (USA).

In 2020, the 7th ICAC conference will return to Magdeburg.

Adapted from Budinger et al (2015) *European Journal of Neuroscience* 41: 515–517.

General Conference Information

Conference Venue

The Banff Centre
107 Tunnel Mountain Drive
Banff, Alberta, Canada T1L 1H5

Please review the floor plan on page 5 of this program for further details

Conference Registration

Registration for the conference includes admission to all sessions, the Welcome Dinner, breakfast, lunch and daily coffee breaks during the conference, the Offsite BBQ Dinner, 3 Poster Sessions and the Farewell Dinner.

Additional Tickets

Tickets can be purchased separately for your guests and/or children for the following items:

- Daily Breakfasts and Lunches
- Welcome Dinner
- MountView BBQ Dinner (offsite)
- Farewell Dinner
- Voyager Canoe Tour
- Distillery Tour
- Airport Shuttle

Please visit the Registration and Information Desk to purchase additional tickets.

Name Badges

Your name badge is your admission ticket to the conference sessions, coffee breaks, meals and special events. Please wear it at all times. At the end of the conference we ask that you return your badge to the registration desk, or at one of the badge recycling stations.

ICAC Leadership, Exhibitors and Staff will be identified by appropriate ribbons.

Dress Code

Dress is casual for all ICAC meetings and social events.

Registration and Information Desk Hours

The Registration and Information Desk, located in the Kinnear Centre 100 Galleria (1st floor), will be open during the following dates and times:

| | | |
|-----------|---------|--------------------|
| Sunday | Sept 10 | 5:00 PM – 7:00 PM |
| Monday | Sept 11 | 7:30 AM – 4:00 PM |
| Tuesday | Sept 12 | 8:00 AM – 4:00 PM |
| Wednesday | Sept 13 | 8:00 AM – 12:30 PM |
| Thursday | Sept 14 | 8:00 AM – 4:00 PM |

Speaker Information

The main meeting room is equipped with the following:

- 1 PC laptop
- 3 projectors
- 3 screens
- 1 podium microphone
- 1 lapel microphone
- 2 floor microphones (for questions)

Poster Information (Set-up and Removal)

Poster presentations have been divided into 3 sessions and arranged based on poster themes. All posters will be available to view on the 2nd and 3rd floors of the Kinnear Centre (KC 201/203/205 & 303/305) for the duration of the conference. Poster presenters must set up and remove their posters during the following times:

Poster Set-up:

Sunday, September 10 from 5:00 PM – 7:00 PM
Monday, September 11 from 7:30 AM – 8:30 AM

Poster Removal:

Thursday, September 14 from 6:00 PM – 7:00 PM

Dedicated Poster Session times are as follows:

Poster Session 1:

Monday, September 11 from 3:30 PM – 6:00 PM

Poster Session 2:

Tuesday, September 12 from 3:30 PM – 6:00 PM

Poster Session 3:

Thursday, September 14 from 3:30 PM – 6:00 PM

Information on Poster Authors (Lead), Poster Numbers, and Poster Titles begins on page 27. For a complete copy of all the poster abstracts, please visit the ICAC website, where you can download an electronic copy.

Poster floor plans can be found on page 39.

Staff

ICAC staff from Podium Conference Specialists can be identified by the orange ribbons on their name badges. Feel free to ask any one of our staff for assistance.

Internet Services

ICAC attendees have access to complimentary Wi-Fi while on campus at The Banff Centre. Simply connect once to the network called **Banff Centre** and you should stay connected for the duration of your stay.

Wildlife

With 6641-square kilometres of protected wilderness, **Banff National Park** is a haven for wildlife. While the likelihood of an encounter with an animal is unpredictable, when it does happen – and the animal is viewed from a safe distance – it can be a magical experience.

Banff is home to black and grizzly bears, wolves, cougars, elk, deer, bighorn sheep, bald eagles and many other mammal and bird species. It is important you are aware of how to help protect both yourself and the animals. **Please review the following safety tips:**

- Do not disturb the wildlife; observe silently and keep a safe distance (100 meters +)
- Never feed the wildlife; properly store and dispose of your food and garbage
- Keep pets and small children close
- If you see a wild animal, do not run away; remain calm
- If you are approached by a wolf, coyote or cougar, act aggressively (stomp, yell, throw something)
- If you are approached by a bear, try to appear non-threatening and speak in a calm voice

Banff Centre Map



JosFest

Sunday, September 10

8:30 AM – 5:00 PM

Kinnear Centre Room 301 (KC 301)

International Symposium on Hearing Loss and Tinnitus – Celebrating the Work of Jos J. Eggermont

Jos Eggermont PhD is Professor Emeritus, University of Calgary, Departments of Physiology and Pharmacology, and Psychology. He received his PhD in Physics at Leiden University in his native country, The Netherlands, in 1972. He has been retired since July 1st, 2013. His research in Calgary comprised most aspects of audition with an emphasis on the electrophysiology of the auditory system in test animals, and was specifically focused on the role played by neural synchrony in the coding of complex sounds in the auditory

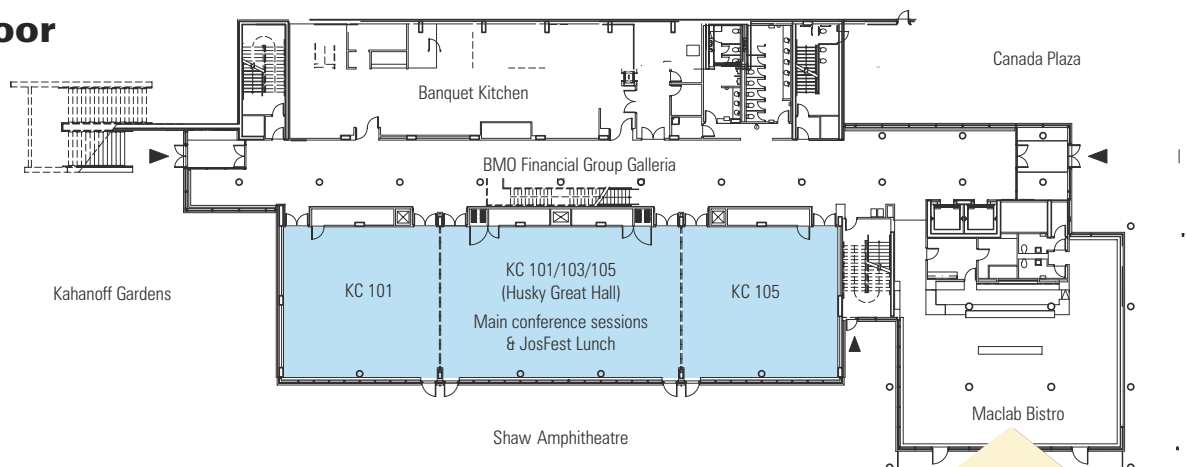


cortex. His group developed an animal model of noise-exposure induced tinnitus to further understanding of this disorder and, by comparison with the effects of external sounds of similar nature, to investigate how normal and pathological sound sensations are encoded in the central nervous system and the role of cortical reorganization played herein. Lately, he has focused on the effects of long-term non-traumatic sound exposure on cortical activity and organization. In 2014, Jos was named a Fellow of the Royal Society of Canada.

A detailed JosFest Schedule is on page 10.

Kinnear Centre Floor Plans

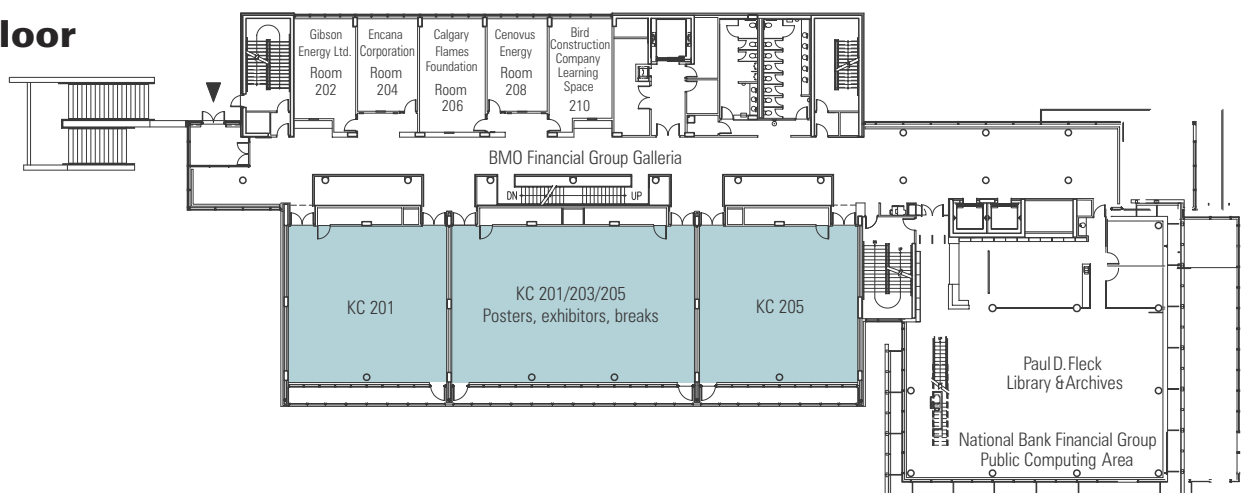
1st Floor



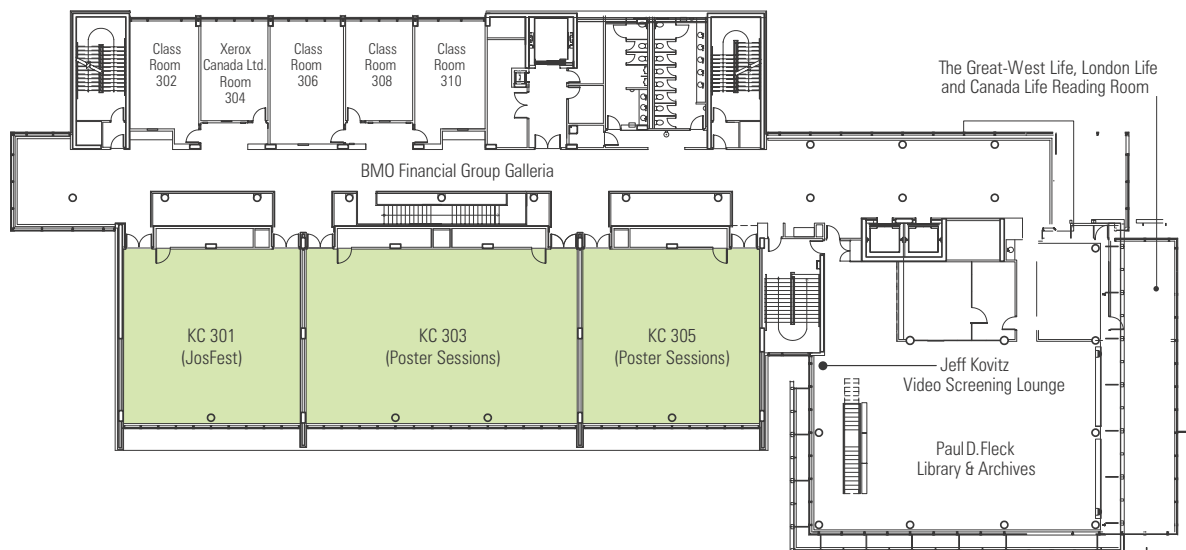
Maclab Bistro - Kinnear Centre

Grab a meal with friends, or meet up for a lively evening on the fireside patio with views extending out over the Bow Valley. **Hours: 7 AM – midnight**

2nd Floor



3rd Floor



ICAC Excursions

The ICAC 2017 organizing committee has created a conference program that provides for half a day of exploration on Wednesday, September 13. Join in one of the suggested tours below, or explore the beautiful town of Banff on your own.



Voyager Canoe Tour

Enjoy the serenity of the Bow River and marvel at the surroundings whilst on a Big Canoe Tour. As you journey upstream, our guides will entertain you with stories of the past, history of canoeing and interesting local facts. Every tour includes life jackets and paddles plus instruction on how to paddle as a team.

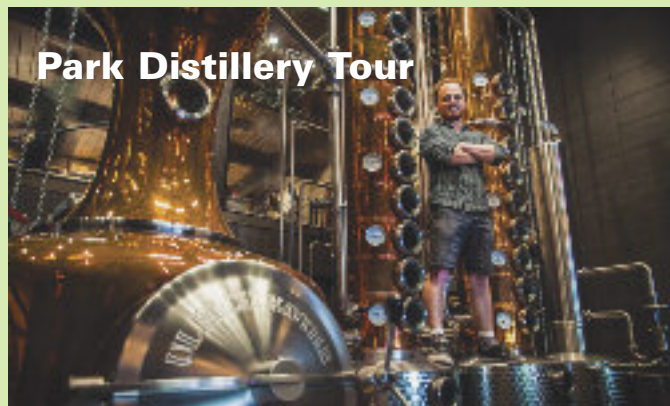
Wednesday, September 13 • 3:30 PM or 4:45 PM

Duration: 1 hour • Cost: \$42



Meeting Point: Banff Adventures. Corner of Wolf Street and Bow Avenue. Participants are responsible for their own transportation to and from the meeting point. It is a 25-minute walk from The Banff Centre.

Capacity for this tour is limited so book early! Visit the Registration Desk to book.



Park Distillery Tour

Take a tour of the only distillery within a national park. Their water originates at six glaciers high in the Rocky Mountains and gains minerality as it travels across rich limestone deposits. Their grains are sourced from high-altitude family farms in the Alberta foothills. They hand-mill, hand-mash and hand-distill to preserve the purity of their ingredients. Park Distillery's line of craft spirits are only available at a small store outside the distillery and a handful of restaurants and stores around the province of Alberta. Stay a while after your tour and enjoy dinner on your own in the attached restaurant – reservations are recommended.

Wednesday, September 13 • 7:00 PM or 8:30 PM

Duration: 30 minutes • Cost: \$30



Meeting Point: Park Distillery Restaurant & Bar.

219 Banff Ave. Participants are responsible for their own transportation to and from the meeting point. It is a 25-minute walk from The Banff Centre.

Capacity for this tour is limited so book early! Visit the Registration Desk to book.

Banff Gondola



As a delegate of ICAC 2017, you save 20% on Brewster's Banff Gondola and associated packages. This excursion can be booked at your leisure using the code ICAC2017.

Journey to the top of the Banff Gondola to see a whole new side of Sulphur Mountain and the Canadian Rockies. We've completely rebuilt, redesigned and reimagined our mountaintop experience, creating a world-class indoor experience that equals the awe-inspiring ridgetop boardwalk 2900 ft. above Banff. From new restaurants and interactive exhibits to a multisensory theatre and a breathtaking 360-degree rooftop observation deck, the all-new Banff Gondola experience heightens every sense.

For more information regarding the Banff Gondola, Mountaintop Dining and Brewster's deal and packages, contact Brewster directly.

Brewster

Phone: 1.888.285.0376
Website: www.brewster.ca
Booking Code: ICAC2017

Dining

The following restaurants have offered discounts to ICAC delegates. Simply show your name badge when you arrive to receive your discount.



Rose & Crown

202 Banff Ave.
Website: www.roseandcrown.ca
Phone: 403.762.2121

20% discount* on regular menu food items

*does not apply to our daily food special

High Rollers Banff

110 Banff Ave.
Lower Level
www.highrollersbanff.com
Phone: 403.762.BOWL
(2695)

High Rollers
♦ Pints, Pints + Pizza! ♦

10% discount on all regularly priced food and drinks

Special Meetings & Events



International
Conference on
Auditory Cortex
Banff 2017

JosFest

Sunday, September 10

8:30 AM – 5:00 PM
The Banff Centre
Kinneir Centre Room 301

Welcome Dinner

Sunday, September 10

7:00 PM – 10:00 PM
The Banff Centre
Kinneir Centre – Husky Great Hall

Join us to celebrate ICAC! Enjoy good food while catching up with old friends and making new ones to start off the 6th International Conference.

Group Photo

Monday, September 11

12:00 PM – 12:15 PM
The Banff Centre
Shaw Amphitheatre

MountView BBQ Dinner

Tuesday, September 12

7:00 PM – 10:00 PM
Buses depart The Banff Centre - Professional Development Centre at 6:30 PM

MountView Barbecue offers a truly unique, western Canadian experience. You will enjoy a delicious, hearty meal, featuring our famous Alberta hip of beef. The central bonfire of the roundhouse provides warmth and atmosphere to mingle and dance the night away! Get ready for an unforgettable evening, and a highlight of your visit to the mountains.

Please note, transportation will be provided. We recommend casual comfortable clothes and shoes so you can be ready for some line dancing!

Farewell Dinner

Thursday, September 14

6:00 PM – 9:00 PM
The Banff Centre
Kinneir Centre – Husky Great Hall

Keynote Speakers

Monday, September 11
9:00 AM – 10:00 AM

Dexter Irvine

Bionics Institute and Monash University
Melbourne, Australia

Dexter Irvine is an Emeritus Professor in the School of Psychological Sciences at Monash University and has an appointment at the Bionics Institute (Melbourne, Australia) as a Professorial Research Fellow and Senior Research Advisor.



Learning to hear: Auditory perceptual learning and changes in the conceptualization of auditory cortical function

The last 30 or so years have seen profound changes in our conceptualization of auditory cortical function, driven by the demonstration of various forms of plasticity in the auditory system. Auditory perceptual learning (APL), improvement in discriminative ability as a consequence of training, provides an instructive example of the findings responsible for these changes. Although perceptual learning had been studied in various sensory modalities for many years, it was generally assumed to involve changes in task performance rather than in sensory processing mechanisms themselves. The recognition that many forms of visual perceptual learning are specific to the region of the retina to which the training stimuli are presented or to a particular stimulus attribute led to the view that it involved changes in sensory representation at early stages of cortical processing (in primary visual cortex). "Early-stage" models of this sort have been contrasted with "late-stage" models that propose the changes take place in areas associated with decision making and the allocation of attention. A number of studies of APL in animals have described changes in sensory representation in primary auditory cortex, but in other studies such changes were not observed. A possible reconciliation of these conflicting results is provided by evidence that changes in sensory representation constitute a transient stage in the processes underlying perceptual learning. Human neuroimaging studies provide some support for this suggestion, but also indicate that auditory training (e.g., in musicians) results in long-term changes in auditory cortical function. Psychophysical evidence suggests that the level at which changes occur depends on the nature of the discrimination task and the stage of training. The characteristics of APL reflect the fact that auditory cortex forms part of distributed networks that integrate the representation of auditory stimuli with attention, decision, and reward processes.

Tuesday, September 12
8:30 AM – 9:30 AM

Stephanie Clarke

Centre Hospitalier Universitaire Vaudois
(CHUV), Lausanne, Switzerland

Stephanie Clarke is the Head of the Neuropsychology and Neurorehabilitation Clinic at CHUV and a Professor in the Faculty of Biology and Medicine at the Université de Lausanne, Switzerland.



Through the jungle of sounds

In complex auditory surroundings we rely on our expertise to recognize objects, animals and people by their sounds; on the combination of the meaning of a sound and its location; and on attending to sound objects in different parts of space. Neural

representations which underlie these aptitudes and their relationship to the influential dual-stream model of auditory processing were investigated in a series of recent studies.

Several lines of evidence indicate that recognition of environmental sounds involves the ventral auditory stream and proceeds through discrimination steps from broad to more narrow categories. Recent studies have investigated how high-level expertise involving fine-grained discrimination within narrow categories is acquired and how it impacts on specific steps of auditory processing. Their results highlight the importance of supramodal semantic representations in fine-grained discrimination and hence the role of top-down afferents.

A series of human behavioral, activation and lesion studies strongly suggests that in addition to the position-independent representation of the meaning in the ventral auditory stream and to the spatial representation in the dorsal stream, specific neural populations respond to sound objects as a function of their specific position.

Activation studies have shown that auditory-spatial attention, similarly to visuo-spatial attention, relies on the right-dominant ventral attentional system. Its lesions are often associated with visuo-spatial and auditory neglect. One therapeutic intervention which alleviates visuo-spatial and auditory neglect symptoms consists of visuo-motor adaptation via rightward-deviating prisms. In the visual modality this effect is due to a shift of hemispheric dominance within the ventral attentional system. Recent studies indicate that similar neural mechanisms underlie the effect on auditory neglect symptoms and suggest that auditory-spatial attention is modulated by supramodal afferents.

Wednesday, September 13
8:30 AM – 9:30 AM

Michael Brainard

University of California, San Francisco
San Francisco, CA, USA

Michael Brainard is a Professor of Physiology and Psychiatry and the Director of the Center for Integrative Neuroscience at the University of California, San Francisco.



Auditory and vocal learning in the songbird

Adult birdsong in many species is 'crystallized' in that song is highly stereotyped in its structure and normally changes little over time. In this talk I will focus on the effects of auditory feedback perturbation on the songs of adult finches. These experiments indicate that given appropriate instruction adult birds can rapidly and adaptively modify the structure of their songs. Song modification can be elicited both by a process of externally guided reinforcement and by a process of self driven error correction. These experiments demonstrate that the remarkable stability of adult song does not reflect an incapacity for adaptive vocal modification. Rather, they indicate that adult song remains fixed due to an ongoing process of feedback evaluation in which birds match their songs to a stable sensory target. Much of the neural circuitry that subserves song production and song plasticity has been well-elucidated. Previous work has identified a primary song motor pathway that is required throughout life for normal song production and that is the presumed locus of much of the plasticity that reflects modification of song. In addition, songbirds have a simplified but conserved cortical-basal ganglia circuit (the anterior forebrain pathway, AFP) that is specialized for song. I will describe work indicating that the AFP is not required for the production of well-learned adult song. However, disruptions of the AFP prevent a variety of forms of adult vocal plasticity, indicating a

Invited Speakers

crucial role for this pathway in feedback-dependent adult vocal learning. Because the AFP is a simplified cortico-basal ganglia circuit that contributes to a single, quantifiable behavior, it may prove to be a useful system for further testing mechanism whereby such circuits contribute to auditory vocal learning and to learning more generally.

Thursday, September 14
8:30 AM – 9:30 AM

Barbara Shinn-Cunningham

Boston University
Boston, MA, USA



Barbara Shinn-Cunningham is a Professor of Biomedical Engineering at Boston University, Director of the CELEST NSF Science of Learning Center, and Director of the Center for Computational Neuroscience and Neural Technology.

Cortical control of auditory attention

In many social settings, there are multiple, competing sounds vying for attention. The ability to separate sound streams coming from different sources and focus on whatever source you want to understand is critical for communication in such environments. This talk reviews behavioral, EEG, and fMRI studies that explore how listeners control auditory attention. Results show that when listeners decide to focus attention on a sound stream from a particular direction or from a particular talker, there is preparatory activity in various brain networks. Once the sound stimuli begin to play, the cortical representation of the competing sound streams is modulated, such that responses to an attended stream of sound is strong relative to streams that are being ignored. Importantly, if attention is focused on a sound from a particular direction vs. focused on sound with particular non-spatial sound features, seemingly similar behavioral tasks actually engage very different brain networks. The network engaged by spatial auditory attention includes prefrontal and parietal areas, while non-spatial attention engages regions associated with high-level auditory processing. By contrasting fMRI activity during comparable auditory and visual selective attention tasks, we find that the cortical networks engaged by spatial auditory attention map directly to regions that are commonly assumed to comprise a visuo-spatial attention network. Conversely, the prefrontal regions that appear to be preferentially engaged during auditory processing are recruited during visual tasks that require analysis of stimulus timing. Together, these results support the view that auditory inputs are naturally processed differently from visual inputs, but that the brain has the capacity to recruit different brain networks to process the same inputs, based on task demands.

Pascal Belin

Aix-Marseille Université, Marseille, France

Maria Chait

University College London, London, United Kingdom

Rhodri Cusack

Trinity College Dublin, Dublin, Ireland

Yi Du

Chinese Academy of Sciences, Beijing, China

Maria Geffen

University of Pennsylvania, Philadelphia, PA, USA

Karen Gordon

Hospital for Sick Children, Toronto, Canada

Steffen Hage

University of Tübingen, Tübingen, Germany

Lori Holt

Carnegie Mellon University, Pittsburgh, PA, USA

Robert Liu

Emory University, Atlanta, GA, USA

Christoph Kayser

Bielefeld University, Bielefeld, Germany

Jennifer Linden

University College London, London, United Kingdom

Matthew McGinley

Baylor College of Medicine, Houston, TX, USA

Uta Noppeney

University of Birmingham, Birmingham, United Kingdom

Daniel Polley

Massachusetts Eye and Ear Infirmary, Boston, MA, USA

Gregg Recanzone

University of California, Davis, Davis, CA, USA

Liz Romanski

University of Rochester, Rochester, NY, USA

Jan Schnupp

City University of Hong Kong, Hong Kong, China

Marc Schoenwiesner

University of Leipzig, Leipzig, Germany

Shihab Shamma

University of Maryland, College Park, MD, USA

Michael Wehr

University of Oregon, Eugene, OR, USA

Sarah Woolley

Columbia University, New York, NY, USA

For presentation details, please see the Detailed Program following.

ICAC Detailed Daily Program

6th ICAC • September 10-15, 2017
The Banff Centre • Banff, Alberta, Canada

All sessions will be held in the Kinnear Centre (KC).
Please note that the program is subject to change.



Sunday, September 10

JosFest Program • KC 301

- 8:30 – 9:00 **Opening Remarks**, Steve Lomber
- MORNING SESSION • Moderator: Steve Lomber**
- 9:00 – 9:30 **Congenital deafness affects corticocortical effective connectivity**
Andrej Kral, Medical University Hannover
- 9:30 – 10:00 **Loud and clear: the rat auditory system is robust to long term ambient noise exposure**
Boris Gourévitch, CNRS, Paris-Saclay Institute of Neuroscience
- 10:00 – 10:30 Coffee Break • KC 3rd Floor Galleria
- 10:30 – 11:00 **Can long-term exposure to non-damaging noise lead to tinnitus and hyperacusis?**
Martin Pienkowski, Salus University
- 11:00 – 11:30 **Differences in capillary network structure between primary and non-primary auditory cortex**
Robert V. Harrison, The Hospital for Sick Children/University of Toronto
- 11:30 – 12:00 **Is hidden hearing loss really hidden? A perspective**
Frank Musiek, University of Arizona
- 12:00 – 1:30 Celebration Lunch • KC 103
- AFTERNOON SESSION • Moderator: Larry Roberts**
- 1:30 – 2:00 **Neuromodulation reverses dorsal cochlear nucleus circuit plasticity to reduce tinnitus**
Susan R. Shore, University of Michigan
- 2:00 – 2:30 **Tinnitus pathology and auditory thalamus**
Donald M. Caspary, Southern Illinois University School of Medicine
- 2:30 – 3:00 Coffee Break • KC 3rd Floor Galleria
- 3:00 – 3:30 **“Hidden” hearing loss in individuals with tinnitus and normal audiograms**
Brandon T. Paul, Université de Montréal
- 3:30 – 4:00 **Sensory precision in tinnitus: a unifying framework for understanding, modelling and treatment?**
William Sedley, University of Newcastle
- 4:00 – 4:30 **Auditory and extra-auditory networks implicated in tinnitus: evidence from fMRI studies**
Fatima Husain, University of Illinois
- 4:30 – 5:00 **JosFest Concluding Remarks**, Larry Roberts
- 7:00 – 10:00 ICAC Welcome Dinner • Husky Great Hall (KC 101/103/105)

ICAC Conference Program

Monday, September 11

- 7:00 – 8:30 Breakfast • Vistas Dining Room (Sally Borden Building, top floor)
- 8:30 – 9:00 **Opening Remarks**
- SESSION 1 • Chair: Jennifer Bizley**
- 9:00 – 10:00 **Keynote Speaker** – Dexter Irvine, Bionics Institute and Monash University
Learning to hear: Auditory perceptual learning and changes in the conceptualization of auditory cortical function
- 10:00 – 10:30 Coffee Break • KC 201/203/205 & 303
- SESSION 2 • Chairs: Robert Liu and Molly Henry**
- 10:30 – 11:00 **Invited Speaker - Matthew McGinley**, Baylor College of Medicine
Neuromodulation of auditory perception during brain states and behaviors
- 11:00 – 11:30 **10 Minute Trainee Talks**
Stephen Town, University College London
Egocentric and allocentric representations in auditory cortex
Janani Sundararajan, Duke University
Mechanisms of movement-related changes in auditory detection thresholds
Omer Gulban, Maastricht University
Mapping functional and anatomical connections within the human auditory pathway with ultra-high field MRI
- 11:30 – 12:00 **Invited Speaker - Marc Schoenwiesner**, University of Leipzig
In-ear modification of spatial hearing
- 12:00 – 12:15 Group Photo
- 12:15 – 1:30 Lunch • Vistas Dining Room
- SESSION 3 • Chairs: Chris Stecker and Michael Ortiz Rios**
- 1:30 – 2:00 **Invited Speaker - Maria Geffen**, University of Pennsylvania
Neuronal mechanisms for dynamic auditory perception
- 2:00 – 2:30 **Invited Speaker - Uta Noppeney**, University of Birmingham
How the brain forms spatial representations from vision and audition
- 2:30 – 3:00 **10 Minute Trainee Talks**
Alice Milne, Newcastle University
Auditory and visual sequence learning in humans and monkeys
Yishai Elyada, Hebrew University
Stability and plasticity of sensory representation in the auditory cortex
Björn Hermann, University of Western Ontario
Altered adaptation to sound-level statistics in the auditory cortex of older adult humans
- 3:00 – 3:30 **Invited Speaker - Gregg Recanzone**, University of California, Davis
Hearing and listening with an aged auditory cortex
- 3:30 – 6:00 **Poster Session 1 • KC 201/203/205 & 303/305**

ICAC Detailed Daily Program

Tuesday, September 12

- 7:00 – 8:30 Breakfast • Vistas Dining Room
- SESSION 4 • Chair: Robert Zattore**
- 8:30 – 9:30 **Keynote Speaker – Stephanie Clarke**, Centre Hospitalier Universitaire Vaudois (CHUV)
Through the jungle of sounds
- 9:30 – 10:00 **Invited Speaker - Liz Romanski**, University of Rochester
The role of the ventral prefrontal cortex in processing, integrating, and remembering face and vocal information
- 10:00 – 10:30 Coffee Break • KC 201/203/205 & 303
- SESSION 5 • Chairs: Elia Formisano and Max Happel**
- 10:30 – 11:00 **Invited Speaker - Christoph Kayser**, Bielefeld University
Contributions of local speech encoding and functional connectivity to audio-visual speech integration
- 11:00 – 11:30 **10 Minute Trainee Talks**
Vladimir Jovanovic, University of California, San Diego
A comparison of marmoset frontal cortex neuron responses to acoustic stimuli in multiple behavioral contexts
Katherine Molloy, University College London
Auditory scene segregation can be impaired under high visual load
Nicolas Michalski, Institut Pasteur
Auditory cortex interneuron development requires cadherins operating hair-cell mechanoelectrical transduction
- 11:30 – 12:00 **Invited Speaker - Sarah Woolley**, Columbia University
Vocal learning drives auditory development
- 12:00 – 12:15 **Dr. Amy Poremba and Dr. Janet Cyr**, NIDCD, Bethesda, Maryland
Funding and Training Opportunities with NIDCD
- 12:15 – 1:30 Lunch • Vistas Dining Room
- 1:30 – 2:00 **Invited Speaker - Rhodri Cusack**, Trinity College Dublin
Why does language not emerge until the second year?
- SESSION 6 • Chairs: Fred Dick and Sam Norman-Haignere**
- 2:00 – 2:30 **Invited Speaker - Daniel Polley**, Massachusetts Eye and Ear Infirmary
Turtles all the way down: reorganized sound processing in the cholinergic basal forebrain drives cortical plasticity during learning
- 2:30 – 3:00 **10 Minute Trainee Talks**
Brian Monson, University of Illinois, Urbana-Champaign
Microstructural development of human primary and nonprimary auditory cortex during the perinatal period
Todd Mowery, New York University
GABAA receptor activation during developmental hearing loss leads to a broad recovery of cellular properties in adults
Meenakshi Asokan, Harvard University
Visualizing homeostatic normalization in the output of long-range auditory subcortical projection neurons following a sudden drop in peripheral afferent drive

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|--------------|--|
| 3:00 – 3:30 | Invited Speaker - Karen Gordon , Hospital for Sick Children Can cortical plasticity compensate for abnormal hearing in childhood? |
| 3:30 – 6:00 | Poster Session 2 • KC 201/203/205 & 303/305 |
| 6:00 – 6:30 | Break |
| 6:30 | Buses leave for MountView BBQ • Professional Development Centre |
| 7:00 – 10:00 | MountView BBQ Dinner |

Wednesday, September 13

| | |
|---------------|--|
| 7:00 – 8:30 | Breakfast • Vistas Dining Room SESSION 7 • Chair: Liz Romanski |
| 8:30 – 9:30 | Keynote Speaker – Michael Brainard , University of California, San Francisco Auditory and vocal learning in the songbird |
| 9:30 – 10:00 | Invited Speaker - Pascal Belin , Aix-Marseille Université The vocal brain: cerebral processing of voice information |
| 10:00 – 10:30 | Coffee Break • KC 201/203/205 & 303 SESSION 8 • Chairs: Edmund Lalor and Kerry Walker |
| 10:30 – 11:00 | Invited Speaker - Steffen Hage , CIN, University of Tübingen Neural networks underlying vocal behavior in primates |
| 11:00 – 11:30 | 10 Minute Trainee Talks Steven Eliades , University of Pennsylvania Role of auditory cortex in self-monitoring and feedback-dependent vocal control Claudia Roswadowitz , Max Planck Institute for Human Cognitive and Brain Sciences Obligatory and facultative brain regions for voice-identity recognition Kelly Chong , Georgia Institute of Tech, Emory University Behavioral relevance enhances responses at the offset of natural vocalizations in auditory cortex |
| 11:30 – 12:00 | Invited Speaker - Yi Du , Chinese Academy of Sciences Lips and tongue are close to ears: Motor contribution to speech perception |
| 12:00 – 12:30 | Invited Speaker - Jennifer Linden , University College London Putting sounds in context |
| 12:30 – 2:00 | Lunch • Vistas Dining Room |
| 2:00 | Individual Activities & Group Excursions |

Thursday, September 14

| | |
|-------------|--|
| 7:00 – 8:30 | Breakfast • Vistas Dining Room SESSION 9 • Chair: Ingrid Johnsrude |
| 8:30 – 9:30 | Keynote Speaker – Barbara Shinn-Cunningham , Boston University Cortical control of auditory attention |

continues next page

SESSION 9 • continued

9:30 – 10:00 **Invited Speaker - Jan Schnupp**, City University of Hong Kong
What can we learn from statistical models of auditory cortex neurons

10:00 – 10:30 Coffee Break • KC 201/203/205 & 303

SESSION 10 • Chairs: Manolo Malmierca and Manon Grube

10:30 – 11:00 **Invited Speaker – Robert Liu**, Emory University
From learning to memory: New insights from auditory neuroethology

11:00 – 11:30 **10 Minute Trainee Talks**
Corrie Camalier, NIMH, National Institutes of Health
Single-neuron correlates of spatial attention and choice in auditory and prefrontal cortex
Yaneri Aguilar Ayala, Instituto de Neurobiologia, UNAM
Monkeys share with humans the neurophysiological basis for encoding sound periodicities as captured by the frequency following response (FFR)
Jennifer Lawlor, Ecole Normale Supérieure, PSL Research University
Mapping the cortical representations of statistical changes from auditory cortices to frontal cortex

11:30 – 12:00 **Invited Speaker - Maria Chait**, University College London
How the human brain detects, represents and uses patterns in sound sequences

12:00 – 1:30 Lunch • Vistas Dining Room

SESSION 11 • Chairs: Lee Miller and Catherine Perrodin

1:30 – 2:00 **Invited Speaker - Michael Wehr**, University of Oregon
A cortico-collicular amplification mechanism for gap detection

2:00 – 2:30 **Invited Speaker - Lori Holt**, Carnegie Mellon University
Incidental auditory category learning

2:30 – 3:00 **10 Minute Trainee Talks**
Liberty Hamilton, University of California, San Francisco
Parallel streams define the temporal dynamics of speech processing across human auditory cortex
Daniel Abrams, Stanford University
Intrinsic functional architecture of Wernicke's, Broca's, and Geschwind's areas of the human speech comprehension network
Kirill Nourski, University of Iowa
Functional organization of human auditory cortex: An intracranial electrophysiology perspective

3:00 – 3:30 **Invited Speaker - Shihab Shamma**, University of Maryland
Emergence of category percepts in auditory cortex

3:30 – 6:00 **Poster Session 3 • KC 201/203/205 & 303/305**

6:00 – 9:00 Farewell Dinner • Husky Great Hall (KC 101/103/105)

Friday, September 15

8:00 AM **ICAC Airport Shuttle departs • Professional Development Centre**

ICAC Delegates

This list was compiled on August 26, 2017.

| First Name | Last Name | Affiliation | Country |
|--------------|-----------------|---|----------------|
| Daniel | Abrams | Stanford University | United States |
| Yaneri | Aguilar Ayala | Instituto de Neurobiologia, UNAM | Mexico |
| Caroline | Alencar | University of Western Ontario | Canada |
| Emily | Allen | University of Minnesota | United States |
| Christian | Altmann | Kyoto University | Japan |
| Carly | Anderson | Action on Hearing Loss | United Kingdom |
| Nicole | Angenstein | Leibniz Institute for Neurobiology | Germany |
| Meenakshi | Asokan | Harvard University | United States |
| Ryszard | Auksztulewicz | University of Oxford | United Kingdom |
| Khurshid Ali | Bangash | CMH Multan Cantt | Pakistan |
| Matthew | Banks | University of Wisconsin School of Medicine and Public Health | United States |
| Xiaohan | Bao | Cumming School of Medicine, University of Calgary | Canada |
| Mehran | Barari | Pejvak Clinic | Iran |
| Tania | Barkat | Basel University | Switzerland |
| Edward | Bartlett | Purdue University | United States |
| Sara | Beach | Harvard University & MIT | United States |
| Monique | Beaudoin | US Office of Naval Research (ONR) Global | United Kingdom |
| Adam | Bednar | Trinity College Dublin | United States |
| Pascal | Belin | Aix-Marseille University | France |
| Daniel | Bendor | University College London | United Kingdom |
| Eva | Berlot | University of Western Ontario | Canada |
| Kasia | Bieszczad | Rutgers University | United States |
| Alexander | Billig | University of Western Ontario | Canada |
| Céllian | Bimbard | École Normale Supérieure - ENS Paris, PSL Research University | France |
| Jennifer | Bizley | University College London | United Kingdom |
| Jennifer | Blackwell | University of Pennsylvania | United States |
| Dana | Boebinger | Harvard University | United States |
| Yves | Boubenec | École Normale Supérieure | France |
| Catherine | Boucher | University of Western Ontario | Canada |
| Michael | Brainard | University of California, San Francisco / HHMI | United States |
| André | Brechmann | Leibniz Institute for Neurobiology | Germany |
| Christian | Brodbeck | University of Maryland | United States |
| Michael | Broderick | Trinity College Dublin | Ireland |
| Marcel | Brosch | Leibniz Institute for Neurobiology | Germany |
| Michael | Brosch | Leibniz Institute for Neurobiology | Germany |
| Michael | Brunk | Systems Physiology of Learning | Germany |
| Eike | Budinger | Leibniz Institute for Neurobiology Magdeburg | Germany |
| Blake | Butler | University of Western Ontario | Canada |
| Maude | Cadieux-Laurin | Lobe | Canada |
| Corrie | Camaller | NIMH/National Institutes of Health | United States |
| Daniel | Cameron | Georgetown University | United States |
| Francesco | Caprini | Birkbeck, University of London | United Kingdom |
| Melissa | Caras | New York University | United States |
| Hannalice | Cavalcanti | UFPB | Brazil |
| Maria | Chait | UCL | United Kingdom |
| Jordan | Chambers | University of Melbourne | Australia |
| Bharath | Chandrasekaran | The University of Texas at Austin | United States |
| Kelly | Chong | Georgia Institute of Tech / Emory University | United States |
| Mike | Cisneros-Franco | McGill University | Canada |
| Stephanie | Clarke | Centre Hospitalier Universitaire Vaudois (CHUV) | Switzerland |

ICAC Delegates

| First Name | Last Name | Affiliation | Country |
|------------|-------------------|--|-----------------------------|
| H Ruth | Clemo | Virginia Commonwealth University School of Medicine | United States |
| Emily | Coffey | Montreal Neurological Institute, McGill University | Canada |
| Yale | Cohen | University of Pennsylvania | United States |
| Jonathan | Cote | McGill University | Canada |
| Rodica | Curtu | University of Iowa | United States |
| Rhodri | Cusack | Trinity College Dublin | Ireland |
| Janet | Cyr | NIH | United States |
| Sandra | Da Costa | CIBM, EPFL | Switzerland |
| Stephen | David | Oregon Health & Science University | United States |
| Etienne | de Villers-Sidani | Montreal Neurological Institute | Canada |
| Susann | Deike | Leibniz Institute for Neurobiology Magdeburg | Germany |
| Kiki | Derey | Maastricht University | Netherlands |
| Fred | Dick | Birkbeck College and UCL | United Kingdom |
| Niels | Disbergen | Maastricht University, Maastricht, The Netherlands | Netherlands |
| Joshua | Downer | UCSF | United States |
| Yi | Du | Institute of Psychology, Chinese Academy of Sciences | China, People's Republic of |
| Jos | Eggermont | University of Calgary | Canada |
| Steven | Eliades | University of Pennsylvania | United States |
| Gabriel | Elias | University of California Irvine | United States |
| Yishai | Elyada | Hebrew University | Israel |
| Crystal | Engineer | The University of Texas at Dallas | United States |
| Jenelle | Feather | MIT | United States |
| Martina | Feierabend | Department of Neurology, University of Tübingen | Germany |
| Justin | Fleming | Harvard University | United States |
| Elia | Formisano | Maastricht University | Netherlands |
| Neal | Fox | University of California, San Francisco | United States |
| Tom | Francart | University of Leuven - KU Leuven | Belgium |
| Jonathan | Fritz | University of Maryland | United States |
| Mathilde | Gagliardini | Institut Pasteur | France |
| Darik | Gamble | Johns Hopkins University | United States |
| Phillip | Gander | University of Iowa | United States |
| Jennifer | Gay | Northeast Ohio Medical University | United States |
| Maria | Geffen | University of Pennsylvania | United States |
| Jaimie | Gilbert | University of Northern Iowa | United States |
| Bruno | Giordano | Centre National de la Recherche Scientifique | France |
| Karen | Gordon | Hospital for Sick Children | Canada |
| Boris | Gourevitch | Inserm, Pasteur Institute | France |
| Jessica | Grahn | University of Western Ontario | Canada |
| Robin | Gransier | KU Leuven | Belgium |
| Anais | Gregoire | University Hospital of Saint Luc | Belgium |
| Timothy | Griffiths | Newcastle University | United Kingdom |
| Tiffany | Grisendi | Centre Hospitalier Universitaire Vaudois (CHUV) | Switzerland |
| Manon | Grube | TU Berlin | Germany |
| Omer Faruk | Gulban | Maastricht University | Netherlands |
| Dominik | Güntensperger | University of Zurich | Switzerland |
| Troy | Hackett | Vanderbilt University Medical Center | United States |
| Steffen | Hage | CIN, University of Tübingen | Germany |
| Aida | Hajizadeh | Leibniz Institute for Neurobiology | Germany |
| Liberty | Hamilton | University of California, San Francisco | United States |
| Natalie | Hansen | Air Force Research Labs | United States |
| Max | Happel | Leibniz Institute for Neurobiology | Germany |

| First Name | Last Name | Affiliation | Country |
|------------|--------------|---|----------------|
| Nicol | Harper | University of Oxford | United Kingdom |
| Robert | Harrison | The Hospital for Sick Children | Canada |
| Peggy | Hatzoulis | NexGen Hearing | Canada |
| Lars | Hausfeld | Maastricht University | Netherlands |
| Minoru | Hayashi | Meisei University | Japan |
| Peter | Heil | Leibniz Institute for Neurobiology | Germany |
| Molly | Henry | University of Western Ontario | Canada |
| Julia | Henschke | Leibniz Institute for Neurobiology | Germany |
| Björn | Herrmann | University of Western Ontario | Canada |
| Jens | Hjortkjær | Technical University of Denmark | Denmark |
| Emma | Holmes | University of Western Ontario | Canada |
| Lori | Holt | Carnegie Mellon University | United States |
| Natsumi | Homma | University of California San Francisco | United States |
| Peter | Hubka | Hannover Medical School | Germany |
| Mark | Hymers | University of York | United Kingdom |
| Dexter | Irvine | Monash University and Bionics Institute | Australia |
| Aleksandar | Ivanov | The University of Oxford | United Kingdom |
| Zahra | Jafari | Lethbridge University | Canada |
| Ingrid | Johnsrude | University of Western Ontario | Canada |
| Neha | Joshi | University of Maryland | United States |
| Vladimir | Jovanovic | University of California, San Diego | United States |
| Natalya | Kaganovich | Purdue University | United States |
| Christoph | Kayser | Bielefeld University | Germany |
| Stephanie | Kayser | University of Glasgow | United Kingdom |
| Alexander | Kell | MIT | United States |
| Abbas | Khani | University of Geneva | Switzerland |
| Andrew | King | University of Oxford | United Kingdom |
| Nina | Kraus | Northwestern University | United States |
| Jens | Kreitewolf | University of Lübeck | Germany |
| Jennifer | Krizman | Northwestern University | United States |
| Emilie | Lacroix | Cliniques universitaires Saint-Luc - UCL | Belgium |
| Edmund | Lalor | University of Rochester | United States |
| Jennifer | Lawlor | Ecole Normale Supérieure - PSL Research University | France |
| Jackson | Lee | Duke University | United States |
| Luis | Lemus | National Autonomous University of Mexico | Mexico |
| Alexandra | Levine | University of Western Ontario | Canada |
| Jennifer | Linden | University College London | United Kingdom |
| Robert | Liu | Emory University | United States |
| Wanyi | Liu | University of Maryland, College Park | United States |
| Diana | Lomber | University of Western Ontario | Canada |
| Stephen | Lomber | University of Western Ontario | Canada |
| Psyche | Loui | Wesleyan University | United States |
| Artur | Luczak | University of Lethbridge | Canada |
| Guangting | Mai | University College London | United Kingdom |
| Manuel | Malmierca | University of Salamanca | Spain |
| Ido | Maor | The Hebrew University of Jerusalem | Israel |
| Matthew | McGinley | Baylor College of Medicine | United States |
| M Alex | Meredith | Virginia Commonwealth University School of Medicine | United States |
| Michael | Metke | University of California, San Diego | United States |
| Nicolas | Michalski | Institut Pasteur | France |
| John | Middlebrooks | University of California at Irvine | United States |

ICAC Delegates

| First Name | Last Name | Affiliation | Country |
|------------|------------------|---|-----------------|
| Paul | Mihai | Max Planck Institute for Human Cognitive and Brain Sciences | Germany |
| Lee | Miller | University of California, Davis | United States |
| Alice | Milne | Newcastle University | United Kingdom |
| Adi | Mizrahi | Hebrew University | Israel |
| Michelle | Moerel | Maastricht University | Netherlands |
| Jennifer | Mohn | University of California Davis | United States |
| Brian | Monson | University of Illinois, Urbana-Champaign | United States |
| Todd | Mowery | NYU | United States |
| Frank | Musiek | University of Arizona | United States |
| Israel | Nelken | Hebrew University | Israel |
| Hartmut | Niekisch | Leibniz Institute for Neurobiology | Germany |
| Fernando | Nodal | University of Oxford | United Kingdom |
| Uta | Noppeney | University of Birmingham | United Kingdom |
| Jonatan | Nordmark | École Normale Supérieure, Paris | Sweden |
| Sam | Norman-Haignere | École Normale Supérieure | France |
| Kirill | Nourski | The University of Iowa | United States |
| Yulia | Oganian | University of California, San Francisco | United States |
| Michael | Ortiz Rios | Newcastle University | United Kingdom |
| Aisling | O'Sullivan | Trinity College Dublin and University of Rochester | United States |
| James | O'Sullivan | Columbia University | United States |
| Tobias | Overath | Duke University | United States |
| Min-Hyun | Park | Seoul National University, Boramae Medical Center | South Korea |
| Kristina | Penikis | New York University | United States |
| Catherine | Perrodin | University College London | United Kingdom |
| Mimi | Phan | Rutgers University | United States |
| Martin | Pienkowski | Salus University | United States |
| Daniel | Polley | Harvard Medical School / Mass. Eye and Ear Infirmary | United States |
| Melissa | Polonenko | The Hospital for Sick Children, The University of Toronto | Canada |
| Amy | Poremba | NIH | United States |
| David | Prete | McMaster University | Canada |
| Sebastian | Puschmann | Montreal Neurological Institute, McGill University | Canada |
| Jiyao | Qi | University of Calgary | Canada |
| Farhad | Qureshi | University of Calgary | Canada |
| Araceli | Ramirez-Cardenas | University of Iowa | United States |
| John | Ratnanather | Johns Hopkins University | United States |
| Gregg | Recanzone | University of California, Davis | United States |
| Rachel | Reetzke | University of Texas at Austin | United States |
| Jennifer | Resnik | Harvard Medical School | United States |
| Jonathan | Riley | University of Texas at Dallas | United States |
| John | Rinzel | New York University | United States |
| Francisco | Rodriguez Campos | University of Pennsylvania School of Medicine | United States |
| Lizabeth | Romanski | University of Rochester School of Medicine | United States |
| Claudia | Roswadowitz | Max Planck Institute for Human Cognitive and Brain Sciences | Germany |
| Sanne | Rutten | University Geneva | Switzerland |
| Srivatsun | Sadagopan | University of Pittsburgh | United States |
| Jessica | Sagers | Massachusetts Eye and Ear / Harvard Medical School | United States |
| Catia | Sameiro Barbosa | Centre Hospitalier Universitaire Vaudois (CHUV) | Switzerland |
| Iria | SanMiguel | University of Barcelona | Spain |
| Stefanie | Schelinski | Max Planck Society | Germany |
| Jan | Schnupp | City University of Hong Kong | Hong Kong |
| Marc | Schönwiesner | University of Leipzig; University of Montreal | Germany; Canada |

| First Name | Last Name | Affiliation | Country |
|----------------|------------------|---|-----------------------------|
| William | Sedley | Newcastle University | United Kingdom |
| Jermyn | See | UCSF | United States |
| Luke | Shaheen | Oregon Health & Science University | United States |
| Shihab | Shamma | University of Maryland and Ecole Normale Supérieure | United States |
| Martha | Shiell | Maastricht University | Netherlands |
| Barbara | Shinn-Cunningham | Boston University | United States |
| Tomoyo | Shiramatsu | The University of Tokyo | Japan |
| Jonathan | Simon | University of Maryland | United States |
| Yosef | Singer | University of Oxford | United Kingdom |
| Joel | Snyder | University of Nevada, Las Vegas | United States |
| Joseph | Sollini | University College London | United Kingdom |
| Magdalena | Solyga | Basel University | Switzerland |
| Barrett | St. George | The University of Arizona | United States |
| G. Christopher | Stecker | Vanderbilt University School of Medicine | United States |
| Gerry | Stefanatos | Temple University | United States |
| Hannah | Stewart | Cincinnati Children's Hospital | United States |
| Mitchell | Sutter | University of California, Davis | United States |
| Hirokazu | Takahashi | The University of Tokyo | Japan |
| Claire | Tang | University of California, San Francisco | United States |
| Huizhong | Tao | University of Southern California | United States |
| Gen-ichi | Tasaka | The Hebrew University of Jerusalem | Israel |
| Xiangbin | Teng | Max Planck Institute for Empirical Aesthetics | Germany |
| Emily | Teoh | Trinity College Dublin | United States |
| Hiroki | Terashima | NTT | Japan |
| Maryse | Thomas | McGill University | Canada |
| Jessica | Thompson | Université de Montréal | Canada |
| Shruti | Ullas | Maastricht University | Netherlands |
| Jonas | Vanthornhout | KU Leuven | Belgium |
| Sarah | Verhulst | Ghent University | Belgium |
| Mathias | Voigt | Hannover Medical School | Germany |
| Kerry | Walker | University of Oxford | United Kingdom |
| Qian | Wang | Sanbo Brain Hospital, Capital Medical University | China, People's Republic of |
| Stuart | Washington | University of Antwerp | Belgium |
| Mike | Wehr | University of Oregon | United States |
| Travis | White-Schwoch | Northwestern University | United States |
| Ross | Williamson | Massachusetts Eye and Ear Infirmary | United States |
| Carmen | Wong | University of Western Ontario | Canada |
| Sarah | Woolley | Columbia University | United States |
| Jan | Wouters | University of Leuven | Belgium |
| Jun | Yan | University of Calgary | Canada |
| Justin | Yao | New York University | United States |
| Han | Yi | University of California, San Francisco | United States |
| Pingbo | Yin | University of Maryland | United States |
| Robert | Zatorre | McGill University | Canada |
| Maria -Marina | Zempeltzi | Leibniz Institute for Neurobiology | Germany |
| Li | Zhang | University of Southern California | United States |
| Sijia | Zhao | University College London | United Kingdom |
| Jennifer | Zuk | Harvard University | United States |
| Nathaniel | Zuk | University of Rochester | United States |

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GORDON RESEARCH CONFERENCE 2018

**AUDITORY SYSTEMS
FUNCTION, DYSFUNCTION & RESTORATION**

Bryant University, Smithfield Rhode Island, USA



**CONFERENCE
JULY 8-13, 2018**

ORGANIZERS:

JEFF HOLT

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GORDON RESEARCH SEMINAR

For graduate students and post-docs

JULY 7-8, 2018

ORGANIZER: MELISSA CARAS *caras@nyu.edu*

ICAC 2017 Travel Award Recipients

The following delegates received travel awards to attend the International Conference on Auditory Cortex. These awards were made possible through generous donations by the **National Institute on Deafness and Other Communication Disorders** of the **U.S. National Institutes of Health**, the **Canadian Institutes of Health Research**, **Action on Hearing Loss**, and the **Wellcome Trust**.

Yaneri Aguilar Ayala, Instituto de Neurobiología, UNAM, Mexico

Emily Allen, University of Minnesota, United States

Meenakshi Asokan, Harvard University, United States

Ryszard Auksztulewicz, University of Oxford, United Kingdom

Xiaohan Bao, University of Calgary, Canada

Jennifer Blackwell, University of Pennsylvania, United States

Christian Brodbeck, University of Maryland, United States

Blake Butler, University of Western Ontario, Canada

Francesco Caprini, Birkbeck, University of London, United Kingdom

Kelly Chong, Georgia Institute of Tech / Emory University, United States

Emily Coffey, Montreal Neurological Institute / McGill University, Canada

James Cooke, Univeristy College London, United Kingdom

Jonathan Cote, McGill, Canada

Gabriel Elias, University of California Irvine, United States

Gangyi Feng, The University of Texas at Austin, United States

Neal Fox, University of California, San Francisco, United States

Darik Gamble, Johns Hopkins University, United States

Jennifer Gay, Northeast Ohio Medical University, United States

Faruk Gulban, Maastricht University, Netherlands

Liberty Hamilton, University of California, San Francisco, United States

Molly Henry, University of Western Ontario, Canada

Björn Herrmann, University of Western Ontario, Canada

Natsumi Homma, University of California San Francisco, United States

Aleksandar Ivanov, The University of Oxford, United Kingdom

Zahra Jafari, University of Lethbridge, Canada

Neha Joshi, University of Maryland, United States

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The 7th International Conference on Auditory Cortex



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International
Conference on
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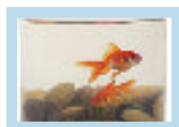
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Poster Sessions | Authors, Titles and Affiliations

The 6th International Conference on Auditory Cortex is pleased to present a wide range of current research through the poster sessions. Poster presentations have been divided into 3 sessions and arranged based on poster themes. All posters will be available to view for the duration of the conference.

Poster Session 1

Monday, September 11, 3:30 PM – 6:00 PM

Poster Session 2

Tuesday, September 12, 3:30 PM – 6:00 PM

Poster Session 3

Thursday, September 14, 3:30 PM – 6:00 PM

The poster numbers are divided first by session, then by theme and finally with a unique number:

Session – Theme – Board Number (eg. 1-A-1)

Themes

- A Novel Neurotechnologies
- B Thalamocortical Circuitry and Function
- C Multisensory Processes
- D Correlates of Auditory Behavior/Perception
- E Neuroethology and Communication
- F Brain Processing of Language
- G Hierarchical Sensory Organization
- H Subcortical Auditory Processing
- I Auditory Disorders
- J Auditory Memory and Cognition
- K Cross-Species Comparisons
- L Neural Coding

Session 1

Monday, September 11

3:30 PM – 6:00 PM

Posters are listed by theme.

1-A-1 VSAD: A new battery for the evaluation of visuo-spatial abilities in deafness

Emilie Lacroix¹, Naïma Deggouj¹, Martin Edwards²

¹Cliniques universitaires Saint-Luc - UCL, ²Université Catholique de Louvain

1-A-2 Mesoscopic topographically measurements of the auditory cortex with newly developed flexible and transparent multichannel electrodes

Marcel Brosch¹, Michael Lippert¹, Martin Deckert², Kentaroh Takagaki¹, Andreas Brose², Bertram Schmidt², Frank Ohl¹

¹Leibniz Institute for Neurobiology, ²Institute of Micro and Sensor Systems, University Magdeburg

1-A-3 Hearing loss and neurotechnology: New approaches to improve speech perception

Lee Miller¹, Andrew Kessler¹, Britt Yazel¹, Kristina Backer¹, Markham Anderson¹, Nathaniel Gutierrez¹, Laurel Lawyer¹, Sanjay Joshi¹, David Corina¹

¹Univ. California, Davis

1-B-8 Abnormal cortical spike timing in *Cdhr15*^{+/-} mutant mice displaying a reduced number of auditory cortex parvalbumin interneurons

Marie-Alexandra Strigalev¹, Typhaine Dupont¹, Baptiste Libé-Philippot¹, Nicolas Michalski¹, Christine Petit¹, Boris Gourevitch¹

¹Inserm, Pasteur Institute

1-B-9 Experience is required for development of longer-range, but less for local cortical connectivity

Peter Hubka¹, Jochen Tillein², Andrej Kral¹

¹Hannover Medical School, ²J.W. Goethe University

1-B-10 Spectrally-directed attention in human auditory cortex is topographically organized and related to myeloarchitecture

Frederic Dick¹, Matthew Lehet², Martina Callaghan³, Tim Keller², Martin Sereno⁴, Lori Holt²

¹Birkbeck College, University of London, ²Carnegie Mellon University, ³University College London, ⁴San Diego State University

1-C-19 Auditory N1 morphology associated with dynamic visual gestures

Jaimie Gilbert¹

¹University of Northern Iowa

1-C-20 Early sensory deprivation alters the morphology of supragranular pyramidal neurons in primary sensory cortices

Tamar Macharadze¹, Julia Henschke¹, Henning Scheich¹, Frank Ohl¹, Eike Budinger¹

¹Leibniz Institute for Neurobiology Magdeburg

1-C-21 Multisensory effects in natural audiovisual speech processing are reflected in EEG predictions

Aisling O'Sullivan¹, Michael Crosse², Edmund Lalor³

¹Trinity College Dublin and University of Rochester, ²Albert Einstein College of Medicine, ³University of Rochester

1-D-26 Prestimulus influences on auditory perception - Consistency along the life-span

Stephanie Kayser¹, Steven McNair¹, Christoph Kayser¹

¹University of Glasgow

1-D-27 Mapping frequency specific tone predictions in human auditory cortex at high spatial resolution

Eva Berlot¹, Elia Formisano², Federico De Martino²

¹University of Western Ontario, ²Maastricht University

1-D-28 Probing neural mechanisms of auditory streaming in humans by transcranial direct current stimulation

Susann Deike¹, Matthias Deliano¹, Patrick J.C. May¹, André Brechmann¹

¹Leibniz Institute for Neurobiology Magdeburg

1-D-29 Representation of pitch across spectral regions in human auditory cortex

Jens Hjortkjær¹, Federica Bianchi¹

¹Technical University of Denmark

1-D-30 How are familiar voices represented in auditory cortex?

Emma Holmes¹, Ingrid Johnsrude¹

¹University of Western Ontario

1-D-31 Preference test of sound among multiple alternatives in rats

Ryo Soga¹, Tomoyo Shiramatsu¹

¹The University of Tokyo

1-D-32 Developmental hearing loss impairs fast temporal processing

Justin Yao¹, Dan Sanes¹

¹New York University

1-D-33 Self-induction of sound motion does not attenuate the auditory motion-onset response

Christian Altmann¹, Daiki Yamasaki¹, Benoit Bucher¹

¹Kyoto University

1-D-34 Human auditory cortex representation of spatial separation between concurrent sounds

Martha Shiehl¹, Lars Hausfeld¹, Elia Formisano¹

¹Maastricht University

1-D-35 Spiking activity in auditory cortex to identity-preserving changes in sounds

Francisco Rodriguez Campos¹, Josh McDermott², Yale Cohen¹

¹University of Pennsylvania School of Medicine,

²Massachusetts Institute of Technology

1-D-36 A task-dependent gradient of spatial sensitivity in human auditory cortex

Kiki Derey¹, Josef Rauschecker², Elia Formisano¹, Giancarlo Valente¹, Beatrice De Gelder¹

¹Maastricht University, ²Georgetown University

1-D-37 Distinct temporal processing schemes for speech and music

Nathaniel Zuk¹, Jeremy Murphy², Edmund Lalor¹

¹University of Rochester, ²Trinity College

1-D-38 Prolonged development of temporal integration in auditory cortex

Jennifer Gay¹, Merri Rosen¹

¹Northeast Ohio Medical University

1-D-39 A freely-moving operant system for auditory discrimination in common marmosets

Michael Metke¹, Cory Miller¹

¹UC San Diego

1-D-40 Do oscillatory dynamics of pre-stimulus EEG predict trial-by-trial fluctuations in auditory pattern identification?

Natalie Hansen¹, Matthew Wisniewski¹, Nandini Iyer¹, Brian Simpson¹, Assaf Harel²

¹Air Force Research Laboratory, ²Wright State University

1-D-41 Multimodal assessment of training-induced plasticity of the cholinergic system

Miguel Cisneros-Franco¹, Maryse Thomas¹, Min-Su Kang¹, Pedro Rosa-Neto¹, Etienne de Villers-Sidani¹

¹McGill University

1-D-42 On the effect of interpersonal familiarity on auditory distance perception

Ozgen Demirkaplan¹, Huseyin Hacıhabiboglu²

¹Middle East Technical University, ²Middle East Technical University (METU)

1-D-43 Rapid plasticity in auditory cortical receptive fields can be reproduced in a neural network model by changing synaptic strengths

Jordan Chambers¹, Jonathan Fritz², Shihab Shamma², Anthony Burkitt¹, David Grayden¹

¹University of Melbourne, ²University of Maryland

1-E-81 Bilateral song processing in the zebra finch auditory forebrain reflects asymmetric sensitivity to temporal and spectral features

Lisbeth Van Ruijssevelt¹, Stuart Washington¹, Julie Hamaide¹, Marleen Verhoye¹, Georgios Keliris¹, Annemie Van der Linden¹

¹University of Antwerp

1-F-83 Lexical and audiovisual influences on phoneme boundary recalibration: an fMRI study

Shruti Ullas¹, Lars Hausfeld¹, Frank Eisner², Anne Cutler³, Elia Formisano¹

¹Maastricht University, ²Radboud University Nijmegen, ³Max Planck Institute for Psycholinguistics

1-F-84 Selective attention in a spectro-temporally complex auditory scene: a ferret cocktail party

Joseph Sollini¹, Stephen Town¹, Kath Wood², Jennifer Bizley¹

¹University College London, ²University of Pennsylvania

1-F-85 Neural encoding of attended speech in primary and non-primary human auditory cortices

James O'Sullivan¹, Jose Herrero², Sameer Sheth³, Guy McKhann³, Ashesh Mehta², Nima Mesgarani¹

¹Columbia University, ²Feinstein Institute for Medical Research, ³Department of Neurological Surgery, The Neurological Institute

1-F-86 Unique roles for delta and theta frequency bands in the cortical analysis of temporal speech structure

Jackson Lee¹, Aurelio Falconi¹, Tobias Overath¹

¹Duke University

1-F-87 Representations of amplitude modulations in auditory onsets, ramp tones, and speech in the human superior temporal gyrus

Yulia Oganian¹, Edward Chang¹

¹University of California, San Francisco

1-F-88 Development of timing of turn-taking from adolescence to adulthood

Lilla Magyari^{1,2}

¹Pázmány Péter Catholic University, ²Eötvös Loránd Tudomány Egyetem

1-G-102 Exploring the robustness of cortical sound encoding to real-world background noise

Alexander Kell¹, Josh McDermott¹

¹MIT

1-G-103 Frequency-selective sustained attention training modulates cortical and subcortical electrophysiological responses

Aeron Laffere¹, Frederic Dick², Adam Tierney¹

¹Dept of Psychological Sciences, Birkbeck College, ²Dept of Psychological Sciences, Birkbeck College, and Experimental Psychology, UCL

1-G-104 Using a V1 model to understand the disordered topography and "complex" pitch cells of A1

Hiroki Terashima¹, Masato Okada²

¹NTT, ²The University of Tokyo

1-G-105 Electrographic (ECoG) investigation of auditory predictive coding in the human brain across levels of consciousness

Matthew Banks¹, Kirill Nourski², Ariane Rhone², Mitchell Steinschneider³, Hiroto Kawasaki², Matthew Howard III²

¹University of Wisconsin School of Medicine and Public Health, ²The University of Iowa, ³Albert Einstein College of Medicine

1-G-106 Feedforward and feedback mechanisms governing sensory gating in mice auditory pathway

Abbas Khani¹, Florian Lanz¹, Karl Schaller¹, Christoph Michel¹, Charles Quairiaux¹

¹University of Geneva

1-H-116 Pitch and phonetic cues are coded by independent mechanisms in the subcortical auditory system

Travis White-Schwoch¹, Jennifer Krizman¹, Trent Nicol¹, Nina Kraus¹

¹Northwestern University

1-I-123 Altered expression of glutamic acid decarboxylase (GAD1) in the aging human inferior colliculus

Indra Pal¹, Tony Jacobe¹, Daya Bhardwaj¹, Rima Dada¹, Tara Roy¹

¹All India Institute of Medical Sciences, New Delhi

1-I-125 Relationship between speech-evoked neural responses in the auditory sensory system and perception of speech in noise in older adults

Guangting Mai¹, Jyrki Tuomainen¹, Peter Howell¹

¹University College London

1-I-126 Speech and non-speech cortical activation in children with listening difficulties using fMRI

Hannah Stewart¹, Kim Leiken¹, Scott Holland¹, Tom Maloney¹, Nicholette Sloat¹, Audrey Perdew¹, Lisa Hunter¹, Jennifer Vannest¹, David Moore¹

¹Cincinnati Children's Hospital Medical Center

1-I-127 Sensory precision in tinnitus: a unifying framework for understanding, modelling and treatment?

William Sedley¹, Sukhbinder Kumar¹, Phillip Gander², Karl Friston³, Timothy Griffiths¹

¹Newcastle University, ²University of Iowa, ³University College London

1-J-138 Extracellular matrix in auditory cortex of adult rodents: impact on remote memory control and learning flexibility

Hartmut Niekisch¹, Julia Steinhardt², Julia Berghäuser³, Jana Kasper¹, Erika Kaschinski¹, Sara Bertazzoni¹, Judith Weber¹, Renato Frischknecht⁴, Max Happel¹

¹Leibniz Institute for Neurobiology, ²University of Lübeck, ³Technical University Dresden, ⁴Friedrich Alexander University Erlangen-Nürnberg

1-J-139 Imaging neural correlates of learning in awake ferrets using functional UltraSound

Célian Bimbarb¹, Charlie Demené², Shihab Shamma¹, Mickael Tanter², Yves Boubenec¹

¹École Normale Supérieure - ENS Paris, PSL Research University, CNRS, ²Institut Langevin, ESPCI, PSL Research University, CNRS, Inserm

1-J-140 Behavioural evidence for a relationship between auditory object grouping and speech-in-noise processing

Phillip Gander¹, Inyong Choi¹, Bob McMurray, Tim Griffiths²

¹University of Iowa, ²Newcastle University

1-J-141 Rhythmic perceptual prior revealed by iterated reproduction

Nori Jacoby¹, Josh McDermott²

¹Columbia University, ²Massachusetts Institute of Technology

1-K-117 Phasic pupil-linked arousal reduces decision biases in mice and humans

Jan Willem de Gee¹, Konstantinos Tsetsos¹, David A McCormick², Matthew McGinley³, Tobias H Donner¹

¹Department of Neurophysiology and Pathophysiology, University Medical Center Hamburg-Eppendorf, ²Department of Neurobiology, Kavli Institute for Neuroscience, Yale University School of Medicine, ³Duncan Neurological Research Institute, Baylor College of Medicine

1-L-151 A perceptual model of timbre in human auditory cortex

Emily Allen¹, Michelle Moerel², Elia Formisano², Andrew Oxenham¹

¹University of Minnesota, ²Maastricht University

1-L-152 Reverberant sound processing in the auditory system

Aleksandar Ivanov¹, Benjamin Willmore¹, Andrew King¹, Kerry Walker¹, Nicol Harper¹

¹The University of Oxford

1-L-153 The cortical representation of sounds with speech-like modulation rates tested with multi-dimensional scaling

Xiangbin TENG¹, David Poeppel¹

¹Max Planck Institute for empirical aesthetics

1-L-154 Looming enhanced frequency following responses in rats

Xiaohan Bao¹, Qian Wang², Liang Li³

¹Cumming School of Medicine, University of Calgary., ²Capital Medical University / Sanbo Brain Hospital, ³Peking University

1-L-155 On the neural representation of sound categories in human auditory cortex

Vittoria De Angelis¹, Federico De Martino¹, Michelle Moerel¹, Elia Formisano¹

¹Maastricht University

1-L-156 Physiological correlates of the effects of musical scale structures on learning syntactic regularities in melodies

Claire Pelofi¹, Mohsen Rezaeizadeh¹, Mary Farbood², Shihab Shamma¹

¹Institute for Systems Research, University of Maryland, ²Steinhardt school, New York University

1-L-157 Information processing by coordinated neuronal ensembles in the primary auditory cortex

Jermyn See¹, Craig Atencio¹, Vikaas Sohal¹, Christoph Schreiner¹

¹UCSF

1-L-158 Pattern classification of temporal cortex responses to self-delivered sounds and their omissions

Iria SanMiguel¹, Erich Schröger², Marc Schönwiesner²

¹University of Barcelona, ²Leipzig University

1-L-159 Encoding of irregular amplitude modulations in gerbil auditory cortex

Kristina Penikis¹, Malcolm Semple¹, Dan Sanes¹

¹New York University

Session 2

Tuesday, September 12

3:30 PM – 6:00 PM

Posters are listed by theme.

2-A-4 Behavioral impact of vagus nerve stimulation paired with speech sounds in rats

Jonathan Riley¹, Crystal Engineer¹, Kristofer Loerwald¹, Rachel Herd¹, Kimiya Rahebi¹, Manolo Rios¹, Jesse Bucksot¹, Alan Carroll¹, Michael Kilgard¹

¹University of Texas at Dallas

2-A-5 Human primary auditory cortex tonotopic map estimated with magnetoencephalography

Jonathan Cote¹, Jean-Pierre Falet, Etienne de Villers-Sidani¹

¹McGill

2-B-11 Distinct sensory and extra-sensory processing differences in two types of deep layer auditory cortex projection neuron

Ross Williamson¹, Daniel Polley¹

¹Massachusetts Eye and Ear Infirmary

2-B-12 Neurotransmitter receptor transcript expression by neurons and glia in the auditory forebrain: transcriptome-guided cellular phenotyping

Troy Hackett¹

¹Vanderbilt University Medical Center

2-B-13 Layer-specific modulation of vagus nerve stimulation on information representation of the sustained activities in rat auditory cortex

Tomoyo Shiramatsu¹, Kenji Ibayashi¹, Kensuke Kawai², Hirokazu Takahashi¹

¹The University of Tokyo, ²Jichi Medical University

2-B-14 Cortical plasticity with bimodal listening in children with asymmetric hearing loss

Melissa Polonenko¹, Blake Papsin¹, Karen Gordon¹

¹The Hospital for Sick Children, The University of Toronto

2-C-22 Optogenetic activation of the claustrum induces divisive normalization of tone evoked responses in the auditory cortex

Gal Atlan¹, Anna Terem¹, Noa Peretz-Rivlin¹, Guy Pozner¹, Kamini Sehrawat¹, Ben Gonzales¹, Gen-ichi Tasaka¹, Yael Goll¹, Ron Refaeli¹, Ori Zviran¹, Byungkook Lim², Maya Groysman¹, Inbal Goshen¹, Adi Mizrahi¹, Israel Nelken¹, Ami Citri¹

¹Hebrew University of Jerusalem, ²University of California, San Diego

2-C-23 Changes in audiovisual word perception during mid-childhood: an ERP study

Natalya Kaganovich¹, Elizabeth Ancel¹

¹Purdue University

2-D-45 Linking neuronal response properties to a decision variable in the auditory cortex

Rasmus Christensen¹, Mari Nakamura², Henrik Linden¹, Tania Barkat²

¹Copenhagen University, ²Basel University

2-D-46 Modification of the adult rat tonotopic map through passive sound exposure impairs performance on a tone discrimination task

Maryse Thomas¹, J. Miguel Cisneros-Franco¹, Saishree Badrinarayanan¹, Kristina Drudik¹, Etienne de Villers-Sidani¹

¹McGill University

2-D-47 Relating speech intelligibility to neural entrainment of the speech envelope

Tom Francart¹, Jonas Vanthornhout¹, Lien Decruy¹, Eline Verschueren¹, Damien Lesenfants¹, Jan Wouters¹

¹University of Leuven - KU Leuven

2-D-48 Circuit processing in rodent auditory cortex underlying auditory learning in cognitively demanding tasks

Maria -Marina Zempeltzi¹, Lina Schneider¹, Michael Brunk¹, Matthias Deliano¹, Frank W. Ohl¹, Max Happel¹

¹Leibniz Institute for Neurobiology

2-D-49 Pupil dilation responses to violation but not emergence of auditory patterns

Sijia Zhao¹, Maria Chait¹, Shigeto Furukawa², Hsin-I Liao²

¹University College London, ²NTT Communication Science Laboratories

2-D-50 Activity in the ferret auditory cortex during localisation and categorization judgements of multisensory stimuli

Amy Hammond-Kenny¹, Victoria Bajo¹, Andrew King¹, Fernando Nodal¹

¹University of Oxford

2-D-51 Linking tonotopy to myeloarchitecture: an in-vivo MRI investigation of the association between frequency selectivity and R1 relaxation rates in the human auditory cortex

Francesco Caprini¹, Micah Allen², Martina Callaghan², Sam Schwarzkopf³, Frederic Dick¹

¹Birkbeck, University of London, ²Wellcome Trust Centre for Neuroimaging, UCL, ³UCL

2-D-52 Separating stimulus-driven and entrained neural responses using musical rhythms

Molly Henry¹, Aaron Gibbings¹, Jessica Grah¹

¹The University of Western Ontario

2-D-53 Auditory-motor temporal recalibration: relationship between illusory reversal of action and sensation with auditory semantic representations

Catia Sameiro Barbosa¹, Eveline Geiser¹, Stephanie Clarke¹

¹Centre Hospitalier Universitaire Vaudois (CHUV)

2-D-54 Perceptual alternation in auditory streaming as an evidence accumulation process

Rodica Curtu¹, Anh Nguyen¹, John Rinzel²

¹University of Iowa, ²New York University

2-D-55 Effects of feature selective attention in single neurons in primary and belt auditory cortex

Jennifer Mohn¹, Joshua Downer¹, Kevin O'Connor¹, Mitchell Sutter¹

¹University of California Davis

2-D-56 Streaming music in the brain: Investigating the top-down modulation of auditory stream segregation and integration with polyphonic music.

Niels Disbergen¹, Giancarlo Valente¹, Robert Zatorre², Elia Formisano¹

¹Maastricht University, ²McGill University

2-D-57 The effect of musical experience on the organization of neural stimulus selectivity in human auditory cortex

Dana Boebinger¹, Josh McDermott², Nancy Kanwisher²

¹Harvard University, ²MIT

2-D-58 Multivariate fMRI and MEG responses to vocalizations reveal temporally and spatially segregated representations of emotion categories and dimensions

Bruno Giordano¹, Caroline Whiting², Nikolaus Kriegeskorte, Sonja Kotz³, Pascal Belin⁴, Joachim Gross²

¹Centre National de la Recherche Scientifique, ²University of Glasgow, ³Maastricht University, ⁴Aix-Marseille Université

2-D-59 Cortical responses reveal individual differences in speech-in-noise understanding ability

Inyong Choi¹, Subong Kim¹, Adam Schwalje², Phillip Gander², Robert McMurray¹, Timothy Griffiths³

¹University of Iowa, ²University of Iowa Hospitals and Clinics, ³Newcastle University

2-D-60 Steady state-evoked potentials reflect context-induced perception of musical beat in an ambiguous rhythm

Karli Nave¹, Erin Hannon¹, Joel Snyder¹

¹University of Nevada Las Vegas

2-D-61 Neural responses in auditory cortex predict motion processing thresholds in deaf and hearing individuals

Alexandra Levine¹, Charlotte Codina², David Buckley², Heidi Baseler³

¹University of Western Ontario, ²The University of Sheffield, ³Hull York Medical School (HYMS)

2-D-62 A three-dimensional digital atlas of the mustached bat brain

Stuart Washington¹, Julie Hamaide¹, Gwendolyn Van Steenkiste¹, Ben Jeurissen¹, Jan Sijbers¹, Geert De Groof¹, Sayuan Liang¹, Johan Van Audekerke¹, Jeffrey Wenstrup², Annemie Van der Linden¹, Susanne Radtke-Schuller³, Marleen Verhoye¹

¹University of Antwerp, ²Northeast Ohio Medical University, ³Biocenter of Ludwig Maximilians University

2-F-89 The effect of bilingualism on syntactic and semantic recognition in children

Delgertsetseg Chuluundorj¹, Nyamsuren Dorjpalam¹, Chuluundorj Begz¹

¹University of the Humanities

2-F-90 Effects of selective attention and language experience on cortical entrainment to continuous speech

Rachel Reetzke¹, Zilong Xie¹, Bharath Chandrasekaran¹

¹University of Texas at Austin

2-F-91 Electrophysiological markers of auditory temporal processing impairment in word deafness

Gerry Stefanatos¹, Harry Zobel²

¹Temple University, ²Philadelphia College of Osteopathic Medicine

2-F-92 Transforming continuous temporal cues to a categorical spatial code in human speech cortex

Neal Fox¹, Matthias Sjerps², Matthew Leonard¹, Edward Chang¹

¹University of California, San Francisco, ²University of California, Berkeley

2-F-93 O-15 water PET study of speech in noise processing in cochlear implant patients

Phillip Gander¹, Inyong Choi¹, Laura Ponto¹, Bob McMurray¹, Tim Griffiths²

¹University of Iowa, ²Newcastle University

2-F-94 Modulation of human auditory cortical responses by a short disruption of auditory feedback

Araceli Ramirez-Cardenas¹, David Peters¹, Ryan Kelley¹, Roozbeh Behroozmand², Hiroyuki Oya¹, Hiroto Kawasaki¹, Matthew Howard III¹, Jeremy Greenlee¹

¹University of Iowa, ²University of South Carolina

2-F-95 Examining relationships between brain structure in infancy and subsequent language skills in preschool

Jennifer Zuk¹, Michael Figuccio, Joseph Sanfilippo, Jade Dunstan, Clarisa Carruthers, Nicolas Langer, Xi Yu, Ellen Grant, Nadine Gaab

¹Harvard University

2-G-107 Neural representation of temporal fine structure and envelope in human auditory cortex

Qian Wang¹, Guoming Luan¹, Liang Li²

¹Sanbo Brain Hospital, Capital Medical University, ²Peking University

2-G-108 Model-matched sounds reveal that spectrotemporal modulations capture neural tuning in primary but not non-primary auditory cortex

Sam Norman-Haignere¹, Josh McDermott²

¹École Normale Supérieure, ²MIT

2-G-109 Repetition suppression effect for emotional content

Tiffany Grisendi¹, Olivier Reynaud², Sandra Da Costa², Stephanie Clarke¹

¹CHUV, ²EPFL

2-G-110 Effects of auditory selective attention on phoneme-level processing in a multi-speaker environment

Emily Teoh¹, Giovanni Di Liberto¹, Edmund Lalor²

¹Trinity College Dublin, ²University of Rochester

2-H-118 Frequency-specificity of corticofugal postsynaptic potentials in the mouse midbrain

Jiyao Qi¹, Jun Yan¹

¹University of Calgary

2-H-119 Task based modulation of MGB at 7T. A frequentist and Bayesian analysis

Paul Mihai¹, Katharina von Kriegstein¹

¹Max Planck Institute for Human Cognitive and Brain Sciences

2-H-120 Experiential- and online-changes in subcortical auditory processing arise through distinct mechanisms

Jennifer Krizman¹, Adam Tierney¹, Trent Nicol¹, Nina Kraus¹

¹Northwestern University

2-I-128 Auditory steady state brain responses as a measure for atypical neural encoding of speech

Jan Wouters¹, Robin Gransier¹, Ehsan Darestani¹, Astrid De Vos¹, Tom Francart¹, Tine Goossens¹, Robert Luke¹, Astrid van Wieringen¹

¹KU Leuven

2-I-129 Acute and long-term circuit level effects of sound trauma in the auditory cortex

Max Happel¹, Marcus Jeschke¹, Konstantin Tziridis², Holger Schulze², Frank Ohl¹

¹Leibniz-Institut f Neurobiologie, ²Friedrich-Alexander University Erlangen-Nürnberg (FAU)

2-I-130 Cortical auditory evoked potential in children at risk of dyslexia

Aryelly Dayane Nunes¹, Kaio Ramon Lima¹, Anna Paula Dionízio Campelo², Cíntia Alves Azoni¹, Hannalice Cavalcanti³, Antonio Pereira⁴, Sheila Balen¹

¹Federal University of Rio Grande do Norte, ²University of São Paulo, ³Federal University of Paraíba, ⁴Federal University of Pará

2-I-131 Impact of unilateral cochlear implantation in single sided deafness in multi-sound environments

Martina Feierabend¹, Ida Zürndorf¹, Anke Tropitzsch², Hans-Otto Karnath¹

¹Department of Neurology, University of Tübingen, ²University of Tübingen

2-I-132 Structural imaging of the deafened brain - a review

Tilak Ratnanather¹

¹Johns Hopkins University

2-J-142 Predictions for human and animal experiments linking neural adaptation to temporal binding in auditory cortex

Aida Hajizadeh¹, Nina Härtwich¹, Artur Matysiak¹, Reinhard König¹, Patrick May¹

¹Leibniz Institute for Neurobiology

2-J-143 Epigenetic mechanisms modulate the formation of auditory memories in songbirds

Mimi Phan¹, Mark Gergues¹, Shafali Mahidadia¹, Rendell Bernabe¹, Jorge Jimenez-Castillo¹, David Vicario¹, Kasia Bieszczad¹

¹Rutgers University

2-J-144 Structural correlates of auditory cognition and language in early adolescence

Manon Grube¹, Sukhbinder Kumar², Freya Cooper², Faye Smith², Timothy Griffiths²

¹TU Berlin, ²Newcastle University

2-K-149 Two-photon imaging reveals "salt and pepper" tonotopy in ferret primary auditory cortex

Quentin Gaucher¹, Mariangela Panniello¹, Aleksandar Ivanov¹, Johannes Dahmen¹, Andrew King¹, Kerry Walker¹

¹University of Oxford

2-L-124 Neuronal activity packets as basic units of neuronal code

Artur Luczak¹, Bruce L. McNaughton¹, Kenneth D. Harris¹

¹University of Lethbridge

2-L-160 Towards a better understanding of music processing by studying responses in mouse auditory cortex evoked by complex sounds

Magdalena Solyga¹, Tania Barkat¹

¹Basel University

2-L-161 Intracortical microstimulation enhances the induced response following post-excitatory inhibition in the primary auditory cortex

Mathias Voigt¹, Andrej Kral¹

¹Hannover Medical School

2-L-162 New fMRI evidence supporting an opponent hemifield code representation for space in the auditory cortex of primates

Michael Ortiz Rios¹

¹Newcastle University

2-L-163 Persistent activity in auditory cortex during passive listening

James Cooke¹, Julie Lee¹, Edward Bartlett², Xiaoqin Wang³, Daniel Bendor¹

¹Univeristy College London, ²Purdue University, ³Johns Hopkins University

2-L-164 Optimal features for auditory recognition

Shi Tong Liu¹, Michael Osmanski², Xiaoqin Wang², Srivatsun Sadagopan¹

¹University of Pittsburgh, ²The Johns Hopkins University

2-L-165 Modulation of neuronal activity by acoustic context in rodent auditory cortex

Gabriel Elias¹, Norbert Fortin¹

¹University of California Irvine

2-L-166 Network receptive field modelling reveals extensive integration and multifeature selectivity in auditory cortical neurons

Nicol Harper¹, Oliver Schoppe², Benjamin Willmore¹, Zhanfeng Cui¹, Jan Schnupp³, Andrew King¹

¹University of Oxford, ²Technische Universität München, ³City University of Hong Kong

2-L-167 Decoding the cortical representation of auditory motion using EEG

Adam Bednar¹, Edmund Lalor²

¹Trinity College Dublin, ²University of Rochester

Session 3

Thursday, September 14

3:30 PM – 6:00 PM

Posters are listed by theme.

3-A-6 Pairing vagus nerve stimulation with speech sounds alters multiple auditory fields

Crystal Engineer¹, Michael Borland¹, Elizabeth Buell¹,
Pryanka Sharma¹, Nicole Moreno¹, John Buell¹, Michael
Kilgard¹

¹The University of Texas at Dallas

3-A-7 Musical effects on oscillatory markers of sustained attention

Psyche Loui¹, Emily Przysinda¹, Gonçalo Sampaio¹,
Tedra James¹, Adam Hewett¹, Benjamin Morillon²

¹Wesleyan University, ²INSERM

3-B-15 Optogenetic stimulation of the VTA: self-stimulation behavior and impact on cortical processing in primary auditory cortex of Mongolian gerbils

Michael Brunk¹, Frank Ohl¹, Michael Lippert¹, Max Happel¹

¹Leibniz Institute for Neurobiology

3-B-16 Influence of earlier exposure to sound on the development of cortical auditory evoked potentials in premature infants during the first three months

Hannalice Cavalcanti¹, Sheila Balen¹, Aryelle Nunes²,
Antonio Pereira³

¹Federal University of Rio Grande do Norte-UFRN, ²UFRN,

³Federal University of Pará-UFPR

3-B-17 Role of thalamocortical interactions in stimulus discrimination and detection

Natsumi Homma^{1,3}, Max Happel^{2,3}, Fernando Nodal³, Frank
Ohl², Christoph Schreiner¹, Andrew King³, Victoria Bajo³

¹University of California San Francisco, ²Leibniz Institute for
Neurobiology, ³University of Oxford

3-B-18 Mutual information in the auditory thalamocortical circuit diminishes with loss of consciousness

Ryan Verner¹, Edward Bartlett¹

¹Purdue University

3-C-24 Natural aging diminishes multisensory connections of primary sensory cortices

Julia Henschke¹, Frank Ohl¹, Eike Budinger¹

¹Leibniz Institute for Neurobiology

3-C-25 Role of perceptual reasoning in reading skill

Sunita Gudwani¹, S. Senthil Kumaran¹, Rajesh Sagar¹,
Madhuri Behari², SadaNand Dwivedi¹, NR Jagannathan¹

¹All India Institute of Medical Sciences, New Delhi, ²Fortis,
Vasant Kunj, New Delhi

3-D-63 Frequency-specific attentional modulation in human primary auditory cortex and midbrain

Lars Riecke¹, Judith Peters¹, Giancarlo Valente¹, Benedikt
Poser¹, Valentin Kemper¹, Elia Formisano¹, Bettina Sorger¹

¹Maastricht University

3-D-64 Selective attention modulates the cortical segregation of irrelevant sounds in natural listening situations

Lars Hausfeld¹, Lars Riecke¹, Giancarlo Valente¹,
Elia Formisano¹

¹Maastricht University

3-D-65 Effect of spectral resolution on neural entrainment of the speech envelope

Jonas Vanthornhout¹, Lien Decruy¹, Tom Francart¹

¹KU Leuven

3-D-66 Early cochlear stimulation can restore auditory cortical glucose metabolism in short term period

Min-Hyun Park¹, Jin Su Kim², Doo Hee Kim³, June Jae Choi³,
Seung Ha Oh³

¹Seoul National University, Boramae Medical Center,

²Molecular Imaging research Center, Korea Institute of
Radiological and Medical Sciences, ³College of Medicine,
Seoul National University

3-D-67 Modulation of the cortical frequency-following response (FFR) via transcranial magnetic stimulation

Emily Coffey¹, Annie Qin¹, Sylvain Baillet¹, Robert Zatorre¹

¹Montreal Neurological Institute / McGill University

3-D-68 Reorganization of cortical microcircuits following perceptual auditory learning

Ido Maor¹, Adi Mizrahi¹

¹The Hebrew University of Jerusalem

3-D-69 Dynamic conversion of sensory evidence to decision signal in ferret frontal cortex

Jennifer Lawlor¹, Célian Bimbard¹, Shihab Shamma¹, Yves
Boubenec¹

¹École Normale Supérieure

3-D-70 Cortical mechanisms of perceptual learning in juveniles

Melissa Caras¹, Dan Sanes¹

¹New York University

3-D-71 Genetic access to active neurons in the mouse auditory cortex

Gen-ichi Tasaka¹, Casey Guenthner², Amos Shalev¹, Omri Gilday¹, Maya Groysman¹, Liqun Luo², Adi Mizrahi¹

¹The Edmond and Lily Safra Center for Brain Science (ELSC), The Hebrew University of Jerusalem, ²Howard Hughes Medical Institute, Stanford University

3-D-72 Neural substrate of sound object segregation

Isabel Tissières¹, Sonia Crottaz-Herbette¹, Lucas Spierer², Stephanie Clarke¹

¹Lausanne University Hospital, ²University of Fribourg

3-D-73 Contributions of glottal-pulse rate and vocal-tract length to perceptual grouping in the cocktail party

Jens Kreitewolf¹, Samuel Mathias², Régis Trapeau³, Marc Schönwiesner⁴

¹University of Lübeck, ²Yale University, ³Université de Montréal, ⁴Leipzig University

3-D-74 Functional neuroimaging of binaural sensitivity in human auditory cortex

G. Christopher Stecker¹, Nathan Higgins¹, Susan McLaughlin², Sandra Da Costa¹

¹Vanderbilt University School of Medicine, ²University of Washington

3-D-75 Selective auditory attention to a single sound stream suppresses responses to temporally non-coherent sounds in ferret auditory cortex

Kai Lu¹, Wanyi Liu¹, Jonathan Fritz¹, Shihab Shamma¹

¹University of Maryland, College Park

3-D-76 Neural decoding of word identity and acoustic prototypicality during speech perception in listeners with and without aphasia

Sara Beach¹, Caroline Niziolek², Swathi Kiran²

¹Harvard University, ²Boston University

3-D-77 Neural source dynamics of brain responses to continuous speech: from acoustics to comprehension

Christian Brodbeck¹, Alessandro Presacco², Jonathan Simon¹

¹University of Maryland, ²University of California, Irvine

3-D-78 Corticostriatal learning systems in auditory categorization

Han Yi¹, Gangyi Feng¹, Bharath Chandrasekaran¹

¹The University of Texas at Austin

3-D-79 Perceptual and motor skills

Stepanov Sergey¹

¹Children Music School

3-D-80 Prenatal noise stress impairs HPA axis and cognitive performance in mice

Zahra Jafari¹, Bryan Kolb¹, Majid Mohajerani¹

¹University of Lethbridge

3-E-82 Identifying perceptually informative acoustic cues in mouse social communication

Catherine Perrodin¹, Daniel Bendor¹

¹University College London

3-F-96 Contextual effects on the neural encoding of speech sounds

Sanne Rutten¹, Roberta Santoro¹, Alexis Hervais-Adelman², Elia Formisano³, Narly Golestani¹

¹University Geneva, ²Max Planck Institute for Psycholinguistics, ³Maastricht University

3-F-97 Cortical responses in human superior temporal gyrus that differentiate intonation contours in speech are a response to pitch, not fundamental frequency

Claire Tang¹, Liberty Hamilton¹, Edward Chang¹

¹University of California, San Francisco

3-F-98 Brain signatures of vocal emotional perception

Ana Pinheiro¹, Sonja Kotz²

¹University of Lisbon, ²University of Maastricht

3-F-99 Neural responses to behaviorally relevant syllable sequences in the ferret auditory- and frontal cortices

Daniel Duque¹, Neha Joshi¹, Diego Elgueda¹, Jonathan Fritz¹, Shihab Shamma¹

¹University of Maryland

3-F-100 Corticostriatal circuitry associated with speech representational plasticity in the superior temporal gyrus

Gangyi Feng¹, Han-Gyol Yi¹, Bharath Chandrasekaran¹

¹The University of Texas at Austin

3-F-101 Clarify the upper limit of the speech rate for reading systems

Minoru Hayashi¹

¹Meisei University

3-G-111 Dendritic spine properties distribute differently across different subregions of cat auditory cortex

H Ruth Clemo¹, Stephen Lomber², M Alex Meredith¹

¹Virginia Commonwealth University School of Medicine, ²University of Western Ontario

3-G-112 Modern views on the anatomy of planum temporale

Barrett St. George¹, Andrew Demarco², Frank Musiek¹
¹The University of Arizona, ²Georgetown University Medical Center

3-G-113 The representation of spatial location and temporal modulation in marmoset parabelt auditory cortex

Darik Gamble¹, Xiaoqin Wang¹
¹Johns Hopkins University

3-G-114 Keeping track of sound objects in space

Sandra Da Costa¹, Rolf Gruetter¹, Sonia Crottaz-Herbette², Stephanie Clarke²
¹CIBM, EPFL, ²Neuropsychology and Neurorehabilitation Service, CHUV

3-G-115 Sonification of auditory models via synthesis of statistically matched stimuli

Jenelle Feather¹, Josh McDermott¹
¹MIT

3-H-121 Activating distinct neuronal cell types in auditory cortex differentially affects collicular responses to sounds

Jennifer Blackwell¹, Mark Aizenberg¹, Winnie Rao¹, Maria Geffen¹
¹University of Pennsylvania

3-H-122 Measuring effects of attention and predictability on bidirectional interactions between cortex and subcortex during auditory processing

David Prete¹, Laurel Trainor¹
¹McMaster University

3-I-133 Quantifying and comparing connectivity within auditory cortex and between sensory cortices in hearing and deaf cats

Blake Butler¹, Stephen Lomber¹
¹University of Western Ontario

3-I-134 Vocal pitch perception impairments might contribute to vocal emotion recognition difficulties in high-functioning autism spectrum disorder

Stefanie Schelinski¹, Katharina von Kriegstein¹
¹Max Planck Society

3-I-135 Treating chronic tinnitus with neurofeedback

Dominik Güntensperger¹, Martin Meyer¹, Patrick Neff¹, Steffi Weidt², Tobias Kleinjung²
¹University of Zurich, ²University Hospital Zürich

3-I-136 Neuronal plasticity in auditory cortex and brainstem after auditory deafferentation

Min-Hyun Park¹, HOSUN LEE¹, Jae Joon Han¹, Seung Ha Oh¹
¹Seoul National University, Boramae Medical Center

3-I-137 Plasticity in cortical fast-spiking GABA networks supports recovered sensory processing following peripheral nerve injury

Jennifer Resnik¹, Ross Williamson², Daniel Polley²
¹harvard medical school meei, ²Harvard Medical School

3-J-145 Contribution of sequential comparison on lateralized activity in the human auditory cortex

Nicole Angenstein¹, André Brechmann¹
¹Leibniz Institute for Neurobiology

3-J-146 Transforming auditory information from learning experiences into lasting memories by removing an epigenetic brake on auditory system plasticity

Kasia Bieszczad¹, Andrea Shang¹, Sooraz Bylipudi¹, Mark Gergues¹, Elena Rotondo¹
¹Rutgers University

3-J-147 MEG reveals neural correlates of successful "cocktail party" listening

Sebastian Puschmann¹, Sylvain Baillet¹, Robert Zatorre¹
¹Montreal Neurological Institute, McGill University

3-J-148 Categorical memory representation in ferret auditory and frontal cortices

Pingbo Yin¹, Jonathan Fritz¹, Shihab Shamma¹
¹University of Maryland

3-K-150 Comparing human and nonhuman primate brain responses to auditory sequences using EEG

Daniel Cameron¹, Jessica Grahn², Luis Prado³, Hugo Merchant³
¹Georgetown University, ²University of Western Ontario, ³Universidad Nacional Autonoma de Mexico

3-L-168 Dual-scale oscillatory mechanism for speech segmentation

Robin Gransier¹, Astrid van Wieringen¹, Jan Wouters¹
¹KU Leuven

3-L-169 Temporal orienting and auditory frequency decoding: a human MEG/EEG study

Ryszard Aukstulewicz¹, Jan Schnupp², Anna Nobre¹
¹University of Oxford, ²City University of Hong Kong

3-L-170 Spectrotemporal receptive fields in mouse primary auditory cortex

Farhad Qureshi¹, Jun Yan¹
¹University of Calgary

3-L-171 Does sensory cortex use the most predictive neural code?

Yosef Singer¹, Yayoi Teramoto¹, Ben Willmore¹, Andrew King¹, Jan Schnupp², Nicol Harper¹
¹University of Oxford, ²City University of Hong Kong

3-L-172 The challenging recognition of emotions from whispered voices

Sascha Frühholz¹

¹University of Zurich

3-L-173 Encoding of dynamic ripple mixtures in human auditory cortex using 7T fMRI

Jessica Thompson¹, Federico De Martino², Marc Schönwiesner³, Elia Formisano²

¹Université de Montréal, ²Maastricht University, ³University of Leipzig

3-L-174 Integrating behavioral context into auditory encoding models

Luke Shaheen¹, Zachary Schwartz¹, Stephen David¹

¹Oregon Health and Science University

3-L-175 Attentional effects on neural responses in a cocktail party model in the ferret auditory cortex

Neha Joshi¹, Daniel Duque¹, Jonathan Fritz¹, Shihab Shamma¹

¹University of Maryland

10 Minute Trainee Talk Posters

TT-L-1 Egocentric and allocentric representations in auditory cortex

Stephen Town¹, Owen Brimijoin², Jennifer Bizley¹

¹University College London, ²MRC/CSO Institute of Hearing Research - Scottish Section

TT-D-2 Mechanisms of movement-related changes in auditory detection thresholds

Janani Sundararajan¹, David Schneider¹, Richard Mooney¹

¹Duke University

TT-B-3 Mapping functional and anatomical connections within the human auditory pathway with ultra-high field MRI

Omer Faruk Gulban¹, Fabrizio Esposito², Federico De Martino¹

¹Maastricht University, ²Università degli Studi di Salerno

TT-F-4 Auditory and visual sequence learning in humans and monkeys

Alice Milne¹, Benjamin Wilson¹, Christopher Petkov¹

¹Newcastle University

TT-D-5 Stability and plasticity of sensory representation in the auditory cortex

Yishai Elyada¹, Ido Maor¹, Omri Gilday¹, Adi Mizrahi¹

¹Hebrew University

TT-L-6 Altered adaptation to sound-level statistics in the auditory cortex of older adult humans

Björn Herrmann¹, Burkhard Maess², Ingrid Johnsrude¹

¹University of Western Ontario, ²MPI for Human Cognitive and Brain Sciences

TT-D-7 A comparison of marmoset frontal cortex neuron responses to acoustic stimuli in multiple behavioral contexts

Vladimir Jovanovic¹, Cory Miller¹

¹UC San Diego

TT-J-8 Auditory scene segregation can be impaired under high visual load

Katharine Molloy¹, Nilli Lavie¹, Maria Chait¹

¹University College London

TT-I-9 Auditory cortex interneuron development requires cadherins operating hair-cell mechanoelectrical transduction

Baptiste Libé-Philippot¹, Vincent Michel¹, Jacques Boutet de Monvel¹, Marie Alexandra Strigalev¹, Sébastien Le Gal¹, Typhaine Dupont¹, Boris Gourevitch¹, Paul Avan², Christine Métin³, Nicolas Michalski¹, Christine Petit¹

¹Institut Pasteur, ²Université d'Auvergne, ³Institut du Fer à Moulin

TT-G-10 Microstructural development of human primary and nonprimary auditory cortex during the perinatal period

Brian Monson¹, Einat Liebenthal², Simon Warfield³, Terrie Inder², Jeffrey Neil³

¹Harvard Medical School, Brigham & Women's Hospital,

²Brigham & Women's Hospital, Harvard Medical School,

³Harvard Medical School, Boston Children's Hospital

TT-I-11 GABAA receptor activation during developmental hearing loss leads to a broad recovery of cellular properties in adults

Todd Mowery¹, Jordane Dimidschstein¹, Vibhakar Kotak¹, Gordon Fishell¹, Dan Sanes¹

¹NYU

TT-I-12 Visualizing homeostatic normalization in the output of long-range auditory subcortical projection neurons following a sudden drop in peripheral afferent drive

Meenakshi Asokan¹, Ross Williamson, Kenneth Hancock, Daniel Polley

¹Harvard University

10 Minute Trainee Talk Posters

TT-E-13 Role of auditory cortex in self-monitoring and feedback-dependent vocal control

Steven Eliades¹, Joji Tsunada¹

¹University of Pennsylvania

TT-D-14 Obligatory and facultative brain regions for voice-identity recognition

Claudia Roswadowski¹, Claudia Kappes¹, Hellmuth Obrig¹, Katharina von Kriegstein¹

¹Max Planck Institute for Human Cognitive and Brain Sciences

TT-E-15 Behavioral relevance enhances responses at the offset of natural vocalizations in auditory cortex

Kelly Chong¹, Alex Dunlap¹, Robert Liu²

¹Georgia Institute of Tech / Emory University, ²Emory University

TT-D-16 Single-neuron correlates of spatial attention and choice in auditory and prefrontal cortex

Corrie Camalier¹, Mortimer Mishkin¹, Bruno Averbeck¹

¹NIMH/National Institutes of Health

TT-K-17 Monkeys share with humans the neurophysiological basis for encoding sound peridiocities as captured by the frequency-following response (FFR)

Yaneri A. Ayala¹, Alexandre Lehmann², Luis Prado¹, Hugo Merchant¹

¹Instituto de Neurobiología, UNAM, ²McGill University

TT-D-18 Mapping the cortical representations of statistical changes from auditory cortices to frontal cortex

Jennifer Lawlor¹, Shihab Shamma¹, Yves Boubenec¹

¹Ecole Normale Supérieure - PSL Research University

TT-G-19 Parallel streams define the temporal dynamics of speech processing across human auditory cortex

Liberty Hamilton¹, Erik Edwards¹, Edward Chang¹

¹University of California, San Francisco

TT-F-20 Intrinsic functional architecture of Wernicke's, Broca's, and Geschwind's areas of the human speech comprehension network

Daniel Abrams¹, John Kochalka¹, Tianwen Chen¹, Sayuli Bhide¹, Srikanth Ryali¹, Vinod Menon¹

¹Stanford University

TT-G-21 Functional organization of human auditory cortex: An intracranial electrophysiology perspective

Kirill Nourski¹, Mitchell Steinschneider², Ariane Rhone¹, Matthew Banks³, Hiroto Kawasaki¹, Matthew Howard¹

¹The University of Iowa, ²Albert Einstein College of Medicine, ³University of Wisconsin - Madison

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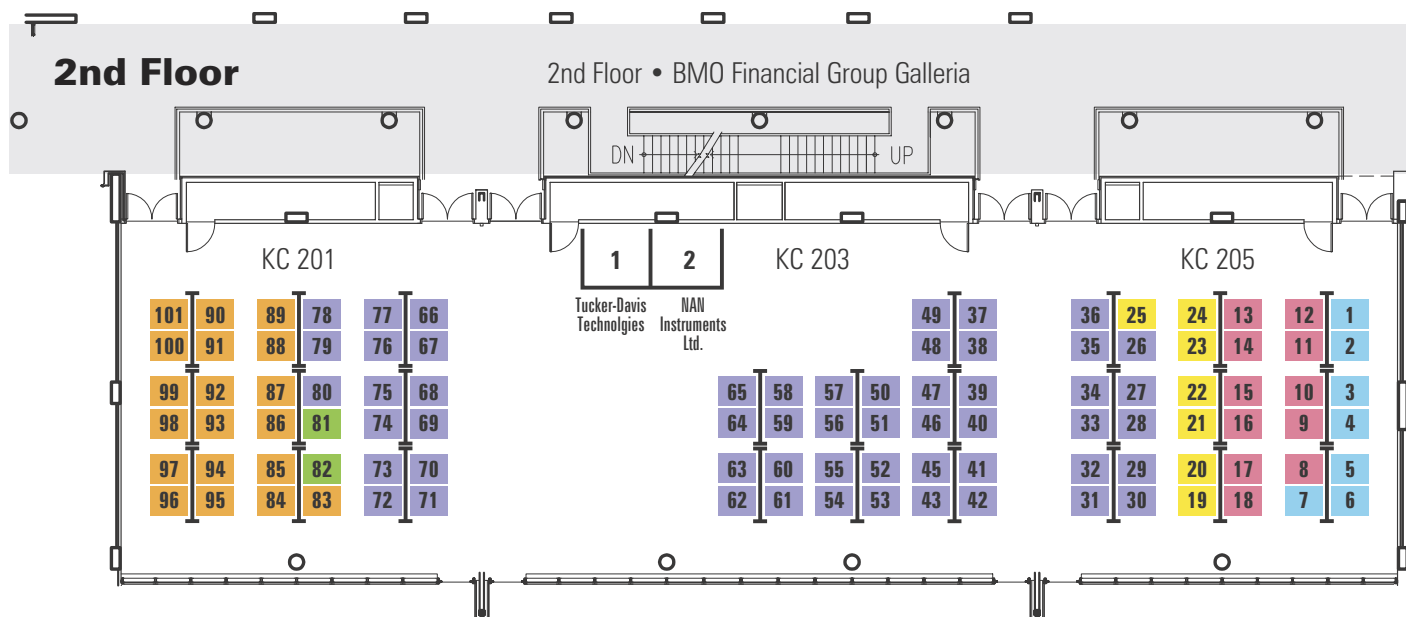
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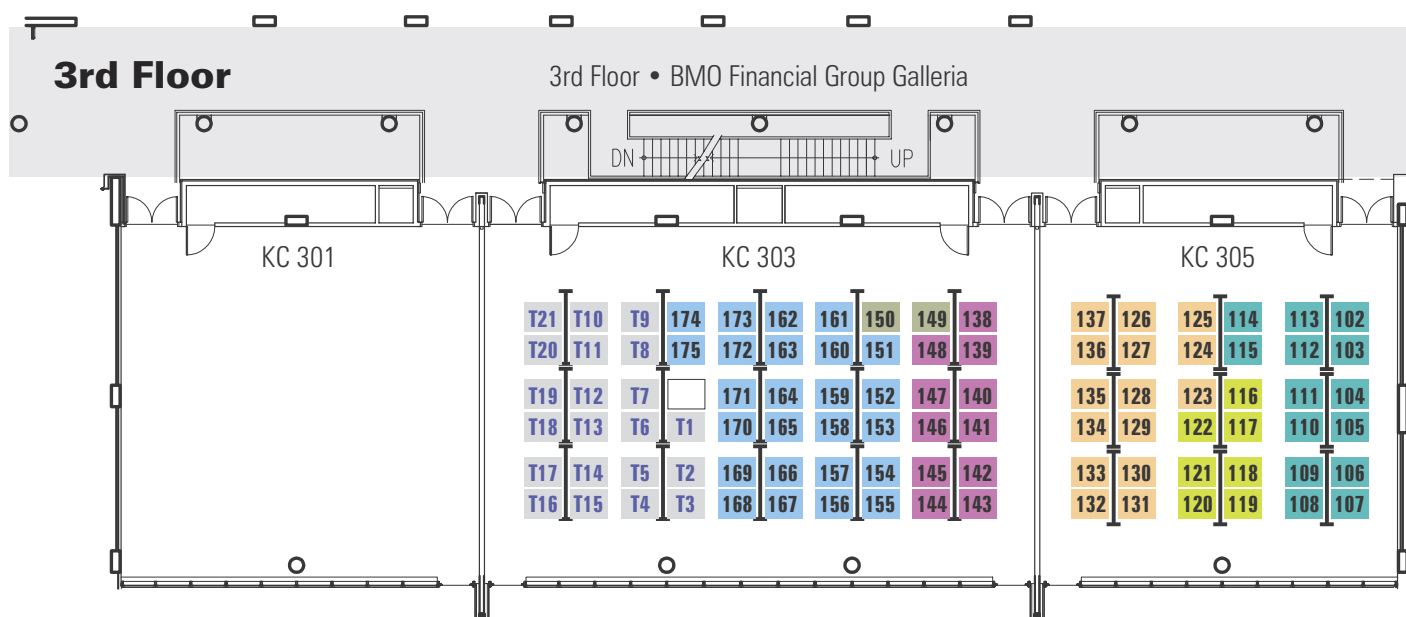
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Poster Session Floor Plans



Poster Themes • 2nd Floor

- A Novel Neurotechnologies
- D Correlates of Auditory Behavior/Perception
- B Thalamocortical Circuitry and Function
- E Neuroethology and Communication
- C Multisensory Processes
- F Brain Processing of Language



Poster Themes • 3rd Floor

- G Hierarchical Sensory Organization
- K Cross-Species Comparisons
- H Subcortical Auditory Processing
- L Neural Coding
- I Auditory Disorders
- T Trainee Talks
- J Auditory Memory and Cognition

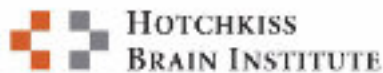
Notes

6th International Conference on Auditory Cortex • Sept 10-15, 2017

| Time | Sunday | Monday | Tuesday | Wednesday | Thursday | Friday |
|----------|---|--|---|--|--|---|
| | 10-Sep | 11-Sep | 12-Sep | 13-Sep | 14-Sep | 15-Sep |
| 7:00 AM | | Breakfast Vistas Dining Room (7:00am - 8:00am) | Breakfast Vistas Dining Room (7:00am - 8:00am) | Breakfast Vistas Dining Room (7:00am - 8:00am) | Breakfast Vistas Dining Room (7:00am - 8:00am) | Departure |
| 7:15 AM | | | | | | |
| 7:30 AM | | | | | | |
| 7:45 AM | | | | | | |
| 8:00 AM | | | | | | |
| 8:15 AM | | | | | | |
| 8:30 AM | JosFest | Opening (8:30am - 9:00am) | Stephanie Clarke (8:30am - 9:30am) | Michael Brainard (8:30am - 9:30am) | Barbara Shinn-Cunningham (8:30am - 9:30am) | |
| 8:45 AM | | | | | | |
| 9:00 AM | | Dexter Irvine (9:00am - 10:00am) | Liz Romanski (9:30am - 10:00am) | Pascal Belin (9:30am - 10:00am) | Jan Schnupp (9:30am - 10:00am) | |
| 9:15 AM | | | | | | |
| 9:30 AM | | Coffee Break (10:00am-10:30am) | Coffee Break (10:00am-10:30am) | Coffee Break (10:00am-10:30am) | Coffee Break (10:00am-10:30am) | |
| 9:45 AM | | Matthew McGinley (10:30am - 11:00am) | Christoph Kayser (10:30am - 11:00am) | Steffen Hage (10:30am - 11:00am) | Robert Liu (10:30am - 11:00am) | |
| 10:00 AM | | 10 min Trainee Talks (11:00am - 11:30am) | 10 min Trainee Talks (11:00am - 11:30am) | 10 min Trainee Talks (11:00am - 11:30am) | 10 min Trainee Talks (11:00am - 11:30am) | |
| 10:15 AM | | Marc Schoenwiesner (11:30am - 12:00pm) | Sarah Woolley (11:30am - 12:00pm) | Yi Du (11:30am - 12:00pm) | Maria Chait (11:30am - 12:00pm) | |
| 10:30 AM | | Group Photo | NIDCD | Jennifer Linden (12:00pm - 12:30pm) | Lunch Vistas Dining Room (12:00pm - 1:30pm) | |
| 10:45 AM | | Lunch Vistas Dining Room (12:15pm - 1:30pm) | Lunch Vistas Dining Room (12:15pm - 1:30pm) | Lunch Vistas Dining Room (12:30pm - 2:00pm) | | |
| 11:00 AM | | | | | Maria Geffen (1:30pm - 2:00pm) | Rhodri Cusack (1:30pm - 2:00pm) |
| 11:15 AM | | Uta Noppeney (2:00pm - 2:30pm) | Daniel Polley (2:00pm - 2:30pm) | Individual Activities & Optional Group Excursions | Lori Holt (2:00pm - 2:30pm) | |
| 11:30 AM | | 10 min Trainee Talks (2:30pm - 3:00pm) | 10 min Trainee Talks (2:30pm - 3:00pm) | | 10 min Trainee Talks (2:30pm - 3:00pm) | |
| 11:45 AM | | Gregg Recanzone (3:00pm - 3:30pm) | Karen Gordon (3:00pm - 3:30pm) | | Shihab Shamma (3:00pm - 3:30pm) | |
| 12:00 PM | | Posters Session 1 (3:30pm - 6:00pm) | Posters Session 2 (3:30pm - 6:00pm) | | Posters Session 3 (3:30pm - 6:00pm) | |
| 12:15 PM | | | | | | |
| 12:30 PM | | | | | | |
| 12:45 PM | | | | | | |
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| 2:00 PM | | | | | | |
| 2:15 PM | | | | | | |
| 2:30 PM | Registration (5:00pm - 7:00pm) | Offsite Mountainview BBQ Dinner (7:00pm - 10:00pm) | Farewell Dinner The Banff Centre Kinnear Centre (6:00pm - 9:00pm) | | | |
| 2:45 PM | | | | | | |
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| 4:30 PM | | | | | | |
| 4:45 PM | | | | | | |
| 5:00 PM | Welcome Dinner The Banff Centre Kinnear Centre (7:00pm - 10:00pm) | | | | | |
| 5:15 PM | | | | | | |
| 5:30 PM | | | | | | |
| 5:45 PM | | | | | | |
| 6:00 PM | | | | | | |
| 6:15 PM | | | | | | |
| 6:30 PM | | | | | | |
| 6:45 PM | | | | | | |
| 7:00 PM | | | | | | |
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| 7:30 PM | | | | | | |
| 7:45 PM | | | | | | |
| 8:00 PM | | | | | | |
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| 8:30 PM | | | | | | |
| 8:45 PM | | | | | | |
| 9:00 PM | | | | | | |
| 9:15 PM | | | | | | |
| 9:30 PM | | | | | | |
| 9:45 PM | | | | | | |
| 10:00 PM | | | | | | |

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