



# Program

**Advancing Interdisciplinary Research in Singing:  
Development, Education and Wellbeing**

**SSHRC  
Major Collaborative Research Initiative  
MCRI**

**6<sup>th</sup> Annual Meeting & International Conference  
July 30 to August 1, 2015**

**Vanderbilt University  
Nashville, Tennessee  
Prior to the biennial meeting of the**

**Society for Music Perception and Cognition (SMPC)  
August 1 – 5, 2015**

**Supported by  
The Social Sciences and Humanities Research Council of Canada  
(SSHRC)**

**With special sponsorship of the meeting from  
The University of Prince Edward Island  
&  
Vanderbilt Bill Wilkerson Center**



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*Gesture, Embodied Cognition, and Emotion: Comparing Hindustani Vocal Gharanas in Performance*

Hans Utter

*The role of musical vs tone-language experience on implicit choice of key for singing a familiar song*

Bing-Yi Pan (University of Prince Edward Island)

Dr. Annabel Cohen (University of Prince Edward Island)

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Dr. Annabel Cohen (University of Prince Edward Island)

*Natural singing practices surrounding babies in their daily lives*

Alissa Chitwood, (University of Southern California)

Beatriz Ilari, (University of Southern California)

*Childhood Songs: Views and Values in the Vietnamese American Home*

Tina Huynh (University of Southern California)

Beatriz Ilari (University of Southern California)

*Master Class: North Indian (Hindustani) Classical Vocal Training*

Uptola Borah (The Ohio State University)



*Music, singing voice and language learning: Some suggestions of use in the teaching of phonetics*

Diane Caussade (Univ. Grenoble Alpes, GIPSA-Lab, Grenoble, France).  
Sandra Cornaz (Univ. Grenoble Alpes, Grenoble, France)

*The impact of singing on language development in 4-year old children*

Caitlin Bridson-Pateman (Department of Psychology, St. Francis Xavier University)  
Dr. Petra Hauf (Department of Psychology, St. Francis Xavier University)  
Annie Larouche (Department of Psychology, Dalhousie University)  
Dr. S. Hélène Deacon (Department of Psychology, Dalhousie University)

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Dr. Annabel Cohen (University of Prince Edward Island)

*Alzheimer's hand gestures and speech disorders in spoken and sung modalities*

Diane Caussade (Univ. Grenoble Alpes, GIPSA-Lab, F-38000 Grenoble, France / CNRS, GIPSA-Lab, F-38000 Grenoble, France / LIDILEM, Univ. Grenoble 3, Saint Martin d'Hères, France)

Fanny Gaubert (Centre de formation en orthophonie, ISTR, Univ. Claude Bernard Lyon 1, Lyon, France)

Maud Serieux (Centre de formation en orthophonie, ISTR, Univ. Claude Bernard Lyon 1, Lyon, France)

Nathalie Henrich-Bernardoni (Univ. Grenoble Alpes, GIPSA-Lab, F-38000 Grenoble, France / CNRS, GIPSA-Lab, F-38000 Grenoble, France)

Nathalie Vallee (Univ. Grenoble Alpes, GIPSA-Lab, F-38000 Grenoble, France / CNRS, GIPSA-Lab, F-38000 Grenoble, France)

Jean-Marc Colletta (LIDILEM, Univ. Grenoble 3, Saint Martin d'Hères, France)

### **AIRS Round**

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## **AIRS MEMBERS**

Advancing Interdisciplinary Research in Singing

### **DIRECTOR**

Dr. Annabel J. Cohen, University of Prince Edward Island (Psychology), Canada

### **CO-INVESTIGATORS**

Dr. Mayumi Adachi, Hokkaido University (Graduate School of Letters), Japan

Dr. Godfrey Baldacchino, University of Prince Edward Island (Island Studies, Sociology & Anthropology), Canada

Dr. Carol A. Beynon, Western University (Education), Canada

Dr. Steven Brown, McMaster University (Psychology), Canada

Dr. Patricia S. Campbell, University of Washington (Music Education), United States

Dr. Lily Chen-Hafteck, Kean University (Music Education), United States

Dr. Wladyslaw Cichocki, University of New Brunswick (French), Canada

Dr. Amy Clements-Cortes, Baycrest Health Centre (Music Therapy), Canada

Dr. Stephen M. Clift, Canterbury Christ Church University College (Health & Social Welfare), United Kingdom

Dr. June Countryman, University of Prince Edward Island (Music), Canada

Dr. Simone Dalla Bella, University of Finance and Management in Warsaw (Psychology), Poland

Dr. Darryl R. Edwards, University of Toronto (Music), Canada

Dr. Simone Falk, Ludwig-Maximilians-Universität München (German Linguistics), Germany

Dr. Mike A. Forrester, University of Kent (Psychology), United Kingdom

Dr. Bradley W. Frankland, Dalhousie University (Psychology), Canada

Dr. Ichiro Fujinaga, McGill University (Music), Canada

Dr. Martha A. Gabriel, University of Prince Edward Island (Education), Canada

Dr. Mary L. Gick, Carleton University (Psychology), Canada

Dr. Jane Ginsborg, Royal Northern College of Music (Research Centre for Vocational Training of Learning), United Kingdom

Dr. Helga R. Gudmundsdottir, University of Iceland (Education), Iceland

Dr. Petra Hauf, St. Francis Xavier (Psychology), Canada

Dr. Rachel M. Heydon, Western University (Education), Canada

Dr. Beatriz S. Ilari, University of Southern California (Music Education), United States

Dr. Karen Jenson, University of Manitoba, (Music), Canada

Mr. Mark A. Leggott, University of Prince Edward Island (Robertson Library), Canada

Dr. Henrietta Lempert, University of Toronto (Psychology), Canada

Dr. Félix F. M. Neto, University of Porto (Psychology and Education Science), Portugal

Dr. Jennifer J. Nicol, University of Saskatchewan (Educational Psychology & Special Education) Canada

Dr. Lawrence P. O'Farrell, Queen's University (Drama & Arts Education), Canada

Dr. Susan O'Neill, Western University (Arts Education), Canada

Dr. Isabelle Peretz, Université de Montréal (Psychologie), Canada

Dr. Andrea M. Rose, Memorial University of Newfoundland (Music Education), Canada

Dr. Jaan Ross, Estonian Academy of Music and Theatre (Musicology), Estonia

Dr. Frank A. Russo, Ryerson University (Psychology), Canada



Dr. Rena Sharon, University of British Columbia (Music), Canada  
Dr. Stefanie Stadler Elmer, University of Zurich (Psychology), Switzerland  
Dr. Lauren Stewart, Goldsmiths University of London (Psychology), United Kingdom  
Dr. Jennifer F. Sullivan, Seneca College (Psychology), Canada  
Dr. Kati Szego, Memorial University of Newfoundland (Folklore), Canada  
Dr. Laurel Trainor, McMaster University (Psychology), Canada  
Dr. Sandra E. Trehub, University of Toronto (Psychology), Canada  
Dr. Christine D. Tsang, Huron University College (Psychology), Canada  
Dr. George Tzanetakis, University of Victoria (Computer Science), Canada  
Dr. Graham F. Welch, University of London (Music Education), United Kingdom  
Dr. Laurel Young, Concordia University (Music Therapy), Canada

#### **COLLABORATORS**

Dr. Zuraida Bastiao, Federal University of Bahia, Brazil  
Dr. Chris M. Blanchard, Dalhousie University (Medicine), Canada  
Dr. Ian R. M. Cross, University of Cambridge (Music), United Kingdom  
Dr. Steven M. Demorest, University of Washington (Music Education), United States  
Dr. Martin F. Gardiner, Brown University (Music), United States  
Dr. Nathalie Henrich, University of Grenoble (Speech & Cognition), France  
Dr. Susan M. Knight, Festival 500 (Founder & Artistic Director Emeritus), Canada  
Ms. Theresa A. Leonard, The Banff Centre (Music and Sound), Canada  
Dr. Pauline Laurrouy-Maestri, Max Planck Institute for Empirical Aesthetics, Frankfurt, Germany  
Dr. Psyche Loui, Harvard University Medical School (Neuroscience), United States  
Dr. Karen Ludke, Edgehill University, Ormskirk, UK  
Dr. Brian J. MacWhinney, Carnegie-Mellon University (Psychology), United States  
Dr. Esther Ho Shun Mang, Hong Kong Baptist University (Music Education), China  
Dr. Alda Oliviera, Federal University of Bahia, (Music), Brazil  
Dr. Richard Parncutt, University of Graz (Musicology), Austria  
Dr. Leslie S. Phillmore, Dalhousie University (Psychology), Canada  
Dr. Janice Richman-Eisenstat, University of Edmonton (Faculty of Medicine), Canada  
Dr. Gottfried Schlaug, Harvard University (Neurology), United States  
Dr. Sid-Ahmed Selouani, Université de Moncton (Gestion de l'information), Canada  
Dr. Daniele Schön, Institut de neurosciences des systems, Marseille (Neurophysiologie), France  
Dr. Melanie Soderstrom, University of Manitoba, Psychology, Canada  
Dr. Sung-Ha Shin-Bouey, University of Prince Edward Island (Music), Canada  
Dr. Mira Sundara Rajan, University of British Columbia (Law), Canada  
Dr. Johan E. F. Sundberg, Royal Institute of Technology (Speech, Music and Hearing), Sweden  
Dr. Sten Ternström, Royal Institute of Technology (Music Acoustics), Sweden  
Dr. Caroline Van Niekerk, Pretoria University (Music Education), South Africa  
Ms. Coralie Vincent, Laboratoire Structures Formelles du Langage (CNRS), France  
Dr. Jiaying Xie, China Conservatory (Music), China



### **AIRS POST-DOCTORAL FELLOW**

Dr. Bing-Yi Pan, University of Prince Edward Island (Psychology), Canada

### **PARTNERS**

Apple (Edward Smith), Nova Scotia, Canada

Alzheimer's Society of Prince Edward Island (Corrine Hendricken-Eldershaw), Prince Edward Island, Canada

Confederation Centre of the Arts (Dean Constable), Prince Edward Island, Canada

Culture PEI (Mark Sandiford), Prince Edward Island, Canada

East Coast Music Association (Andy McLean), Prince Edward Island, Canada

Music PEI (Rob Oakie), Prince Edward Island, Canada

Veterans Affairs Canada (Dr. David Pedlar), Prince Edward Island, Canada

Young at Heart Musical Theatre for Seniors (Catherine O'Brien), Prince Edward Island, Canada

### **ADVISORY BOARD**

Dr. Hilary Apfelstadt, University of Toronto (Music), Canada

Dr. Philip Smith, University of Prince Edward Island (Psychology), Canada

Dr. Catherine J. Stevens, University of West Sydney (Psychology), Australia

### **STAFF**

Ross Dwyer, Administrative Assistant

Tom Germaine, IT Co-ordinator

Jessica McKellar, Part-time Student Assistant



## DIRECTOR'S WELCOME

It is a great pleasure to welcome you to the 6th Annual Meeting of the AIRS MCRI - Advancing Interdisciplinary Research in Singing Major Collaborative Research Initiative - held this year at Vanderbilt University, in Nashville—the Music City-- preceding the Biennial meeting of the Society for Music Perception and Cognition. We have much progress to celebrate and much to accomplish in our intensive program from July 31<sup>st</sup> to August 1<sup>st</sup>, 2015. Our gathering of experts, students, partners and new friends represents the co-operation and hard work of many individuals. It all began with the collaborators who contributed to a winning proposal to the Social Sciences and Humanities Research Council (SSHRC) MCRI Program in 2008. We are grateful to SSHRC which has enabled our enormous advances since the start of the grant, April 1, 2009. It is hard to imagine that the final year of our 7-year research period is upon us, when at this point we still have much to learn, but also much knowledge to share and translate to the society at large.

Seven years ago we dreamed of together advancing interdisciplinary research in singing. This dream became reality as shown by the accomplishments of each of the three major research teams for Development, Education and Well-being, and their respective sub-themes. AIRS has broken new ground in understanding how we learn to sing, how we can teach singing and teach through singing, and how we can improve lives of individuals and societies. This year has extended these advances. Highlights include:

- A special issue of the journal *Musicae Scientiae* on the AIRS Test Battery of Singing Skills, introducing the test battery, and representing results from participants born in Brazil, Canada, China, Estonia, and USA.
- Replicating the finding that learning songs of a minority culture by children of a majority culture reduces prejudice of the children of the majority, and in addition showing the effect is sustained for at least 2 years
- The quadcultural song project moving into its second phase in Brazil, Canada, China, and Kenya
- A new prototype for the AIRS digital library which is accessible to AIRS members for ingestion of information with user-defined permissions

We gather now to share new knowledge and benefit from the knowledge of each member of our collaboration. It is both our strength and challenge to work across disciplines and cultures to develop comprehensive theories relevant to both basic and applied research. As we work hard and play hard together, we will reflect on how we have advanced toward our milestones, broadened our viewpoints, and deepened our insights into both the significance of singing and the issues surrounding it. Attendees at the Annual Meeting hail from many Canadian provinces, and from 6 other countries, (China, Great Britain, France, Germany, Kenya, and United States) with representation also of India and Brazil from members who originated from and retain ties with those countries.

AIRS provided travel awards to a number of students and early career researchers. Time has been scheduled for the group to meet, have fun, discuss among themselves, and share their ideas with the entire meeting.

Special recognition is directed to the AIRS Steering Committee: Frank Russo (Theme 1- Development), Helga Gudmundsdottir (Theme 2 – Education), and Rachel Heydon (Theme 3 – Well-Being) for their tireless efforts in monthly meetings, developing policy and steering the course of AIRS so as to enable the progress. The Sub-theme leaders and co-leaders also deserve praise for the advances each has made with their group, including involving student researchers in accomplishing the milestones. AIRS benefits greatly from participation of the Research Team leaders and co-leaders in the Policy and



Planning Committee which represents all facets of the project. A full meeting of this Committee precedes the AIRS Annual Meeting and will help to set the course for the remaining months of the grant and in looking forward. We are grateful for the assistance of the AIRS Advisory Board: Dr. Philip Smith, Dr. Hilary Apfelstadt, and Dr. Kate Stevens and appreciate their continuing dedication.

Throughout the meeting, opportunities to sing will remind us of the wonders of the singing voice. The first six-plus years of AIRS laid the foundation of our collaboration and our methods so as to begin to unravel mysteries of the singing voice. AIRS is now well positioned to define singing from a broad cultural and developmental standpoint, to determine the extent to which every human being can or cannot develop the singing voice, and to obtain evidence showing the benefits of singing for education, intercultural understanding, intergenerational understanding, and other aspects of physical and mental well-being.

A strong home base is needed for success, and the support of Dr. Robert Gilmour, Vice President of Research at UPEI and Leslie Cudmore, grants officer of UPEI Research Services, is gratefully acknowledged. The home team at UPEI, from Psychology, Music, Education, Island Studies, Sociology and Anthropology and the Library provide a foundation, which continues to grow. Gratitude is also expressed to the partners sharing responsibility in the support of this project, honoring formal letters of support for AIRS in 2008. The outstanding and immeasurable help of Ross Dwyer (AIRS Administrative Assistant) is much appreciated. Dr. Karen Ludke, in a short-term postdoctoral position provided outstanding work on the digital library initiative and Tom Germaine, the AIRS IT Co-ordinator has provided exemplary general support as well as ongoing support for the new digital library initiatives. Dr. Bing-Yi Pan over the last years has been an enormous asset in supporting every theme of the project.

Gratitude is expressed to Dr. Reyna Gordon of Vanderbilt University for serving as a liaison between the Society for Music Perception and Cognition and the AIRS meeting. Erin Bernardo, Communications Officer of the Vanderbilt Bill Wilkerson Center assisted greatly in the planning of the meeting details. We greatly appreciate the support of Dr. Roland Eavey, Director of the Vanderbilt Bill Wilkerson Center for graciously providing facilities of the Center and sharing the expertise of the researchers and practitioners in the voice sciences. In this regard, we acknowledge specifically Dr. David Francis and Jenny Muckala of the Bill Wilkerson Center for their presentation on and tour of the Voice Center.

I thank each of the many players in the AIRS project for your contributions to the AIRS research. I wish you a most inspirational, communicative, and creative AIRS 6<sup>th</sup> Annual Meeting, as together, we set the course for the completion of our work over the final year of the project, fulfilling the aim of benefiting society through research in singing.

Annabel J. Cohen, Ph. D., ARCT  
Director and Principal Investigator  
AIRS SSHRC MCRI



## AIRS 6<sup>th</sup> Annual Meeting and Technical Program Schedule

**Thursday, July 30**  
**(Pre-Conference)**  
**Vanderbilt Bill Wilkerson Center**  
**South Tower, Classroom 4**

**9:00 am – 3:00 pm**

**AIRS 3.1 Workshop:**

### **International Research Project on Singing and Cultural Understanding: Children in Brazil, Canada, China, & Kenya**

Led by Lily Chen-Hafteck with participation by AIRS researchers from Brazil, Canada, China. Other students, AIRS co-investigators, or others interested in research that aims to show the value of singing in promoting cultural understanding are most welcome to attend. There will be one break for lunch (provided). Please contact Dr. Chen-Hafteck [lhafteck@ucla.edu](mailto:lhafteck@ucla.edu) for further information regarding content, or Ross Dwyer [rdwyer@upei.ca](mailto:rdwyer@upei.ca) for practical information.

|       |   |
|-------|---|
| 8.30  | Coffee (University Residence) – Every one meet in the lobby before 9 am   |
| 9:00  | Walk to the Vanderbilt Bill Wilkerson Center  |
| 9:15  | Introduction and Welcome – Team and a song from each country<br>Overview of AIRS & Subtheme 3.1 Cultural Understanding – Lily Chen-Hafteck  |
| 9:45  | Update on each country: Quantitative Focus -Jennifer Sullivan<br>Qualitative Focus – Measuring levels of cultural understanding Lily Chen-Hafteck   |
| 11:00 | NUTRITION BREAK   |
| 11:15 | Discussion of new protocol <ul style="list-style-type: none"> <li>• Further plans</li> <li>• Improving methodology – Open Discussion and Action Items</li> <li>• Toward 2<sup>nd</sup> Data Collection in 4 countries           <ul style="list-style-type: none"> <li>○ What remains the same</li> </ul> </li> <li>• What is new           <ul style="list-style-type: none"> <li>○ AIRS Test Battery of Singing Skills</li> <li>○ Videoconference across countries</li> </ul> </li> </ul> |
| 12:00 | LUNCH   |
| 1:30  | <ul style="list-style-type: none"> <li>• Unique issues and affordances in each country:</li> <li>• Knowledge and respect of one’s culture           <ul style="list-style-type: none"> <li>○ Brazil</li> <li>○ China</li> <li>○ Canada</li> <li>○ Kenya</li> </ul> </li> <li>• Possible extensions to other countries for Phase 3 (class differences)</li> </ul>  |
| 2:30  | Synthesis of the day’s activities and action items  |
| 3:00  | End of Workshop   |



AIRS 6<sup>th</sup> Annual Meeting Thursday, July 30, 2015

**5:45**

**For all Students and Early Career Researchers (SECR)–**

Student & all Early Career Researchers Pizza dinner

Location to be announced – Meet at the Scarritt Bennett Center (Laskey Building –  
where you checked in) Lobby at 5:45pm

**Evening –**

**Dinner on your own for all AIRS Co-Investigators and Collaborators  
but the Policy and Planning Committee (see next page)**



AIRS 6<sup>th</sup> Annual Meeting, Thursday, July 30 (cont'd)

## AIRS Policy and Planning Committee Meeting

Meet in the Laskey Building Lobby (where you checked in) at 5:15 pm to walk over to the meeting room at the Vanderbilt Bill Wilkerson Center

**5:30 pm - 6:30 pm** Policy & Planning Committee dinner

**6:30 pm – 9:30 pm** Policy & Planning Committee meeting

Location: South Tower Classroom 4 Vanderbilt Bill Wilkerson Center

Attendees (some by teleconference/videoconference):

Theme leaders, sub-theme leaders, committee chairs, advisory board and director and senior executive

### Advisory Board

- \*Hilary Apfelstadt, AIRS Advisory Board
- Philip Smith, AIRS Advisory Board (via teleconference)
- \*Kate Stevens, AIRS Advisory Board (via teleconference)

### AIRS Policy and Planning Committee

- Pauline Larrouy-Maestri representing Christine Tsang, Co-leader 1.1
- \*Laurel Trainor, Co-leader 1.1
- Frank Russo, Co-leader 1.2 and Theme 1 Leader (Steering Committee)**
- Sandra Trehub Co-leader 1.2
- Annabel Cohen, leader 1.3 and Director (Steering Committee)**
- Helga Gudmundsdottir 2.1 Leader and Theme 2 Leader (Steering Committee)**
- Darryl Edwards, Co-Leader 2.2
- Carol Beynon, Co-leader 2.2
- Jenny Sullivan Co-leader 2.3
- Rachel Heydon\* represented Lori McKee 3 Leader (Steering Committee)**
- Lily Chen-Hafteck Co-leader 3.1
- \*Godfrey Baldacchino, Co-leader 3.1
- Laurel Young, Leader 3.3
- Karen Ludke, facilitator Digital Library
- \*Ichiro Fujinaga, Co-leader Digital Library
- \*George Tzanetakis, Co-leader Digital Library
- \*Arla Good, Student and Early Career Researchers (will be with SECR)
- Beatriz Ilari Global Group (video conference) Representing Mayumi Adachi
- Marta McCarthy and Eric Favaro Partners
- Ross Dwyer, Administrative Project Manager (Finance) ex officio

\*not attending Annual Meeting and Policy and Planning Committee Meeting



**AIRS 6<sup>th</sup> Annual Meeting**  
**Friday, July 31, 2015,**  
**Vanderbilt Bill Wilkerson Center, South Tower Room 8380 A/B**

8:30 – 9:00      **Registration/Breakfast** pick up programme materials and name tags  
9:00 – 9:25      **Welcome**  
                    Annabel Cohen – AIRS Director  
                    Sing together - Darryl Edwards  
                    AIRS Advisory Board Greeting: Philip Smith, Kate Stevens  
                    Partners: Marta McCarthy - Choral Canada  
                    Eric Favaro – Coalition for Music Education

9:25 – 9:30      **AIRS Overview – Singing Research: Data, Theory and Application**  
                    **Orientation Annabel Cohen (5 minutes)**  
                    **9:30 Wellbeing: Theme 3 Leader – Rachel Heydon (3 minutes)**  
                            3.1, 3.2, 3.3 (sub-theme leaders – 3 minutes each total 9 minutes)  
                                3.1 Lily Chen-Hafteck (3 min)  
                                3.2 Lori McKee [Rachel Heydon] (3 min)  
                                3.3 Laurel Young (3 min)  
                            Discussion – (7 min)  
                    **9:50 Education: Theme 2 Leader - Helga Gudmundsdottir – (3 minutes)**  
                            2.1, 2.2, 2.3 (sub-theme leaders –3 minutes each total 9 minutes)  
                                2.1 Helga Gudmundsdottir (2 min)  
                                2.2 Darryl Edwards (3 min)  
                                2.3 Jennifer Sullivan (3 min)  
                            Discussion – (7 min)  
                    **10:10 Development: Theme 1 Leader - Frank Russo – (3 minutes)**  
                            1.1, 1.2, 1.3 (presented by sub-theme leaders 5 minutes each, total 9 min)  
                                1.1 Christine Tsang (3 min)  
                                1.2 Sandra Trehub (3 min)  
                                1.3 Annabel Cohen (3 min)  
                            Discussion (7 min)  
                    **10:30 Discussion - the broad picture – What do we want/need to know and do?**  
  From data and theory to application  
  From the field to the study and laboratory

10:40 – 11:00      **Coffee break**

11:00 Welcome from Rena Gordon, Vanderbilt University & Co-Convenor of the Annual Meeting of the Society for Music Perception and Cognition (SMPC)  
11:05 Bill Wilkerson Voice Center  
                    Presentation: Dr. David Francis  
11:30              Voice Center Tour: Jenny Muckala and Dr. Francis



- 12:00 Digital Library – brief update –Karen Ludke  
12:10 Student-Early Career Researcher – Arla Good  
12:15 Ethics, Statistics and Intellectual Property – Jenny Sullivan  
12:20 Global Group – Beatriz Ilari (on behalf of Mayumi Adachi)

12:00 – 12:30 Plenary: Outcomes of the theme discussions. [Led by Theme Leaders]

12:30-1:30 Lunch – with **Themes breakouts** – Led by Sub-Theme Leaders  
Separate discussion for Development, Education and Well-being Groups  
Topic: How can research from your theme increase knowledge & benefit society?

Posters:

The role of musical vs tone-language experience on implicit choice of key for singing a familiar song. **Bing-Yi Pan & Annabel Cohen.** University of Prince Edward Island. Theme 1.3

Music, singing voice and language learning: Some suggestions of use in the teaching of phonetics. **Sandra Cornaz** (Lansad, Univ. Grenoble Alpes (Grenoble, France); **Diane Caussade** (Univ. Grenoble Alpes, GIPSA-Lab, Grenoble, France). Theme 2.3

Enriching student experience through a university multicultural choir. **Annabel J. Cohen & Shannon Moore.** University of Prince Edward Island. Theme 3.1

Differences in use of auditory feedback do not account for age-related differences in children's singing. **Sara Beck, John Rieser, & Aysu Erdemir,** Vanderbilt University.

1:30 – 1:45 Break

1:45 – 2:00 Plenary reports of each theme to the entire group and brief discussion

2:00 – 4:45 **AIRS Technical Session**

2:00–2:20 Test-retest reliability and repeated attempts in singing accuracy measurement. **Bryan E. Nichols and Sijia Wang** (University of Akron, Ohio, USA) Theme 1

2:20 – 2:40 Natural singing practices surrounding babies in their daily lives. **Alissa Chitwood & Beatriz Ilari** (University of Southern California) Themes: 2.1 and 1

2:40 – 3:00 Childhood songs: Views and values in the Vietnamese American home. **Tina Huynh and Beatriz Ilari** (University of Southern California). Themes: 2.1, 1 & 3.1

3:00-3:20 BREAK



- 3:20-3:40 The impact of singing on language development in 4-year old children. **Caitlin Bridson-Pateman, Petra Hauf, Annie Larouche, and Helene Deacon** (St. Francis Xavier University, Antigonish, Nova Scotia Canada, and Dalhousie University, Halifax, Nova Scotia Theme 2.3
- 3:40-4:00 Alzheimer's hand gestures and speech disorders in spoken and sung modalities. **Diane Caussade** I(GIPSA-lab, CNRS & LIDILEM ); **Fanny Gaubert** (Centre de formation en orthophonie, ISTR, Univ claude Bernard, Lyon, France); **Maud Serieux** (Centre de formation en orthophonie, ISTR, Univ claude Bernard, Lyon, France; **Nathalie Henrich-Bernardoni** (CNRS, Grenoble, France); **Nathalie Vallee** (CNRS, Grenoble, France). Theme 3.3 and 1.
- 4:00-4:20 Antecedents to the career of singer-songwriter: Preliminary on-line survey results. **Christopher Robison & Annabel Cohen** (University of Prince Edward Island). Theme 3.3 (2.1)
- 4:20- 4:40 Gesture, embodied cognition, and emotion: Comparing Hindustani vocal gharanas in performance. **Hans Utter** – (Ohio State University) Theme 2.2 and 1.2
- 4:40 – 4:50 Update on the application of the AIRS Test Battery of Singing Skills for a person with aphasia  
**Kathy Cammett and Jane Ginsborg** – Royal Northern College of Music, Manchester, UK
- 5:00 – 5:30 Vocal Master Class – Darryl Edwards
- 5:30- 6:00 North Indian Music Master Class – Utpola Borah
- 7:00 -8:30 Dinner Banquet at Blackstone Restaurant - *1918 West End Avenue  
Nashville, TN 37203  
(615) 327 9969*
- 8:30- 9:30 Celebration of Singing - A Cappella Concert of Attendees



**AIRS 6<sup>th</sup> Annual Meeting**  
**Saturday, August 1**  
**Workshops**

**All Sessions Bill Wilkerson Center South Tower Room 8380 A/B**

8:00 – 9:00 Breakfast

**8:30 – 9:30 1.3 AIRS TEST BATTERY WORKSHOP**

**Bing-Yi Pan and Annabel J. Cohen (UPEI) 3.1**

All welcome; Researchers from the Quad-Cultural Understanding project are encouraged to attend

**9:30 – 10:00 PITCH ANALYSIS WORKSHOP –PERSPECTIVES**

**Pauline Larrouy-Maestri** (Max-Planck-Institute for Empirical Aesthetics, Frankfurt, Germany); **Johanna Devaney** (Ohio State University)

**10:00 – 10:30 – TEACHING SINGING – ANALYSIS OF DATA FROM THE VOICE STUDIO - INFORMAL**  
DISCUSSION OF ISSUES

**Darryl Edwards (University of Toronto)**

**10:30 – 10:50 NUTRITION BREAK (ATRIUM)**

**10:50 – 11:20 - AIRS DIGITAL LIBRARY**

**Karen Ludke, Edgehill University, Ormskirk, UK**

(bring laptops if you would like to follow along and enter an example)

**11:20 – 12:00 - PLENARY DISCUSSION AND FINAL REMARKS**

**THE AIRS ROUND**



## ABSTRACTS

### THEME 1 – DEVELOPMENT OF SINGING

#### SUB-THEME: 1.1 PERCEPTION AND PRODUCTION OF SINGING

##### **Test-retest reliability and repeated attempts in singing accuracy measurement**

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**Sijia Wang** (University of Akron, Ohio) [siwang@mix.wvu.edu](mailto:siwang@mix.wvu.edu)

##### **Abstract:**

The purpose of this study was to examine the test-retest reliability of singing accuracy using four common singing tasks. A secondary purpose was to evaluate the singing accuracy of repeated attempts at test items to determine whether performance improves across repeated attempts at identical items, remains stable, or decreases. Test stimuli appropriate for elementary school students was duplicated from a previous study using five attempts each at a single pitch, interval, and four-note pattern, plus one attempt at song singing. Children aged 5-12 were given the singing accuracy test using pre-recorded stimuli administered one-on-one by the researcher. Participants (N = 37) were audio-recorded. An identical form of the test was administered again within 2-5 weeks. Pitch matching items were scored by measuring the deviation in Hertz from the stimuli. The song singing item was scored by singing teachers using an 8-point scale with acceptable inter-rater reliability ( $r > .90$ ).

Analyses addressing the first question of test-retest reliability compared performance on each task between the first and second assessment dates. For pitch matching tasks, there was no significant difference between the administration of the first test and the second test,  $p > .05$ . For song singing, performance on the second test date was significantly more accurate than the first test date,  $p = .023$ . These results will be discussed in terms of test familiarity, testing habituation, time lapse between tests, and learning effects.

Results for the second question of repeated attempts will be discussed in terms of individual and overall performance. While there was not significant difference between the five attempts at each pitch matching task ( $p > .05$ ), results will be discussed in terms of score distribution and individual variability.

##### **Biography:**



**Bryan E. Nichols** is an Assistant Professor of Music Education at The University of Akron. Dr. Nichols has been published in the *Journal of Music Teacher Education*, *UPDATE*, *Contributions to Music Education*, *General Music Today*, and the *Choral Journal*. He serves on the Advisory Board for the Music Educators Journal and the Editorial Board for *Contributions to Music Education*. His scholarly interests include singing accuracy, where he has completed studies in task-based variability in Kindergarten through 5th grade samples to explore development and assessment features.

**Sijia Wang** has degrees in music education from The University of Akron and is currently pursuing a doctorate in piano pedagogy at West Virginia University.



## THEME 1 – DEVELOPMENT OF SINGING

### SUB-THEME: 1.2 MULTIMODAL (AUDIO/VISUAL/MOTOR) ASPECTS SINGING

#### **Gesture, Embodied Cognition, and Emotion: Comparing Hindustani Vocal *Gharanas* in Performance**

**Hans Utter (hansutter@hotmail.com)**

##### ***Abstract:***

**Introduction:** Bilateral gesture in North Indian classical vocal music (khyal) has a complex relationship with music structure and aesthetic intentions, and appears to augment emotional expression and serve important pedagogical functions. Gesture has an important role in Indian vocal training, especially in relation to processes of attention, cognition, and memory. In this paper, I examine the multimodal interactions between voice production, emotional expression, song text, and gesture through an audio/visual analysis of performers in three different vocal traditions. I will examine distinctions between different vocal *gharanas* (schools) through both gesture and related stylistic/aesthetic elements. The use of the spatial visualization of sound based on particular vowels in the *dhrupad* vocal genre will also be discussed as a possible influence on movement.

**Method:** The methods employed consist of collecting ethnographic data through interviews and audio/video recordings, participation in learning situations, and examining Indian theoretical treatises on vocal music. The data is correlated with performance practices of the *gharanas* to determine the relationships between aesthetics, vocal culture, and musical structure.

**Results:** While the use of gesture is not formally taught and can be idiosyncratic, performers from specific vocal *gharanas* exhibit some common practices. However, between *gharanas* gestures tend to emphasize the dominant aesthetic features particular to that *gharana*, and correlate with distinct musical elements.

**Discussion:** For North Indian classical vocal music, the system of oral transmission and individualized training in a particular *gharana* is evident in gesture, which developed through the process of enculturation. My evidence shows that gesture is a component of multi-modal processes of learning and expression, which supports the hypothesis of the embodied nature of emotional-cognitive processes.

(connects also to 2.1)

##### ***Biography:***

**Hans Utter** has worked as a Lecture and Adjunct Professor of Music at The Ohio State University and Capital University. His research focuses on the traditional methods of teaching and learning music in India, music perception and cognition, and the role of the government in arts policy. Hans is an accomplished sitarist, and has performed widely throughout the world. He has conducted extensive research in India and Central Asia, which has been published in journals articles and book chapters. He is currently completing his second book. He holds an M.A. and Ph.D. in Ethnomusicology from The Ohio State University, and is currently an Ohio Arts Council *Artist in Residence* in traditional music.



## THEME 1 – DEVELOPMENT OF SINGING

### SUB-THEME: 1.3 AIRS TEST BATTERY OF SINGING SKILLS

#### **The role of musical vs tone-language experience on implicit choice of key for singing a familiar song**

**Bing-Yi Pan** (University of Prince Edward Island) [panbingyi@gmail.com](mailto:panbingyi@gmail.com)

**Dr. Annabel Cohen** (University of Prince Edward Island) [acohen@upei.ca](mailto:acohen@upei.ca)

#### ***Abstract:***

A component of the AIRS Test Battery of Singing Skills (ATBSS) indicates the singer's implicitly chosen key for singing a familiar song under different contexts (No, C-training, E b , Poststory). 20 Canadian musicians, 20 Canadian nonmusicians, and 20 native Chinese non-musicians performed the online ATBSS (English and Mandarin versions respectively). The pitch of the first tonic note of the 4 contexts was compared. Chinese non-musicians and Canadian nonmusicians performed equally but differed from musicians in the No, E b and Post-story contexts (Mann-Whitney U, all p's < .05). Canadian nonmusicians differed from the musicians after the Ctraining context (p < .05).

#### ***Biographies:***

**Dr. Bing-Yi Pan** joined AIRS in February 2011 and is participating in all three of the Research Streams, in particular the AIRS Test Battery (1.3), the Analysis of the voice study (2.2.), and Intercultural understanding (3.1). His doctoral background is in physics but he has also an education degree in music.

**Annabel J. Cohen** (Ph. D., M. A., Queen's; B.A. McGill) is the Director of the AIRS MCRI and also leads the AIRS Test Battery of Singing Skills research sub-theme 1.3. She is the Editor of *Psychomusicology: Music, Mind & Brain* and serves as consulting editor on several other journals, and is a Co-editor of the book *Psychology of Music in Multimedia* (Oxford). She received her ARCT in voice performance from the Royal Conservatory of Music – Toronto, and is a Fellow of the Canadian Psychological Association. She was recently re-elected to the Council of the American Psychological Association representing the Division on the Psychology of Aesthetics, Creativity and the Arts.



## THEME 2 – SINGING AND EDUCATION

### SUB-THEME: 2.1 LEARNING TO SING NATURALLY

#### Antecedents to the career of singer-songwriter: Preliminary on-line survey results

**Christopher Robison** (University of Prince Edward Island)

**Dr. Annabel Cohen** (University of Prince Edward Island) [acohen@upei.ca](mailto:acohen@upei.ca)

#### ***Abstract:***

What are the antecedents of a calling to become a singer-songwriter? Interviews of 18 singer songwriters from a small jurisdiction suggested a primary positive influence of early musical experiences with family members followed secondarily by school, choir, and religious institutions (Cohen & Speelman, 2013). With the aim of broadening this investigation, an online survey was crafted for nation-wide distribution targeting professional and semi-professional singer-songwriters. Using the web software Qualtrics, 59 closed and 10 open-ended questions were posed regarding geographical, familial, peer, and institutional influences as well as education, music career, early musical memories, and the importance of music in the individual's life. Of particular interest was the variable of geographic differences in small versus large jurisdictions. Based on preliminary data of 23 respondents, early family musical experience played a positive role but was not as important as their 'musical heroes' or themselves. Teachers ranked lowest on the list of influences, even though most wrote about a specific teacher of importance. The mean age of the first perceived calling to music was 15.2 years ( $SD = 5.9$ ) while the first performance was a mean age of 12.4 years ( $SD = 7.4$ ) and their first song written was a mean age of 15.1 years ( $SD = 6.5$ ), placing adolescence as a critical time period for development of the calling. Several contrasting case studies will be reviewed and additional preliminary quantitative data will be reported.

#### ***Biographies:***

**Chris Robison** graduated with a degree in criminology from Carleton University, and is taking additional courses in Psychology at the University of Prince Edward Island given his strong interest in music psychology. He also plays guitar in the North Lakes, an award winning band in PEI, and is a songwriter.

**Annabel J. Cohen** (Ph. D., M. A., Queen's; B.A. McGill) is the Director of the AIRS MCRI and also leads the AIRS Test Battery of Singing Skills research sub-theme 1.3. She is the Editor of *Psychomusicology: Music, Mind & Brain* and serves as consulting editor on several other journals, and is a Co-editor of the book *Psychology of Music in Multimedia* (Oxford). She received her ARCT in voice performance from the Royal Conservatory of Music – Toronto, and is a Fellow of the Canadian Psychological Association. She was recently re-elected to the Council of the American Psychological Association representing the Division on the Psychology of Aesthetics, Creativity and the Arts.



## THEME 2 – SINGING AND EDUCATION

### SUB-THEME: 2.1 LEARNING TO SING NATURALLY

#### Natural singing practices surrounding babies in their daily lives

**Alissa Chitwood**, (University of Southern California) [achitwoo@usc.edu](mailto:achitwoo@usc.edu)

**Beatriz Ilari**, (University of Southern California) [ilari@usc.edu](mailto:ilari@usc.edu)

#### *Abstract:*

The home is one of the major spaces of music learning in infancy and toddlerhood (Young, 2012). Parents, sibling and other family members are said to play important roles in the musical lives of babies (Trehub & Schellenberg, 1995). Previous research suggests that there is a fair amount of singing taking place in homes with infants and toddlers (Custodero, 2005; Ilari, 2005; Mehr, 2014; Young, 2008), yet little documentation of such practices exist. The purpose of this ongoing study is to examine singing practices with infants aged 6 months to 2 years in a naturalistic setting, that is, the home environment. In order to collect data, participants are being recruited through convenience sampling and parents are being asked to have their child wear a small wireless recording device during a typical day, for the duration of the day. Following the recording, parents are asked to complete a short questionnaire on music practices and demographic information. As data is being collected, audio recordings are being transferred into a computer where musical sounds will be extracted and analyzed by means of a computer script. Data will be further analyzed using descriptive statistics and multiple regression. As the present study is ongoing, for the presentation current progress will be shared and some of the findings based on preliminary data will be reported.

#### *Biographies:*

**Alissa Chitwood** is a doctoral music student, studying music education at the University of Southern California in the Thornton School of Music. Mrs. Chitwood received her Master of Music, Music Education degree from the University of Southern California in 2014 and her Bachelor of Arts, Music Education and Mathematics degrees from the California State University, Fresno in 2007. A credentialed music teacher, Mrs. Chitwood has taught grades kindergarten through high school. Presently Mrs. Chitwood runs Chitwood Music, a music program for preschoolers, where she teaches weekly group music lessons to children four and under. Mrs. Chitwood is a member of the National Association for Music Education, the International Society for Music Education, the California State Music Educator's Association, the College Music Society, Pi Kappa Lambda Honor Society, and a life member of Tau Beta Sigma National Honorary Band Sorority.

**Beatriz Ilari** is Assistant Professor of Music Education at the University of Southern California (USC), in Los Angeles, where she teaches graduate courses in music teaching and learning. She holds degrees from the University of São Paulo, Brazil (B.A.), Montclair State University, USA (M.A. - violin) and McGill University, Canada (PhD). Dr. Ilari uses several different approaches to study musical development and growth of infants, children and adolescents. She has conducted research with babies and children in different parts of the world including the US, Brazil, Canada, Japan, and Mexico. Her research appears in many important journals including Arts Education Policy Review, Journal of Research in Music Education, International Journal of Music Education, Update, and Early Child Development and Care, Journal of Cross-Cultural Psychology, and Frontiers in Human Neurosciences, among others. The former editor for the International Journal of Music Education, she is currently the editor for Perspectives: Journal of the Early Childhood Music & Movement Association. Dr. Ilari is also a research fellow at USC's Brain & Creativity Institute.



## THEME 2 – SINGING AND EDUCATION

### SUB-THEME: 2.1 LEARNING TO SING NATURALLY

#### **Childhood Songs: Views and Values in the Vietnamese American Home**

**Tina Huynh** (University of Southern California) [tinaahuynh@gmail.com](mailto:tinaahuynh@gmail.com)

**Beatriz Ilari** (University of Southern California) [ilari@usc.edu](mailto:ilari@usc.edu)

#### ***Abstract:***

The views and values of Vietnamese American parents on early childhood songs of Vietnam are largely undocumented and were the object of study of a final master's degree research project. The purpose of this study was threefold: (1) to explore the attitudes of first generation Vietnamese American parents regarding teaching Vietnamese songs in early childhood; (2) to inquire upon the level of interest of these parents in passing on their Vietnamese cultural roots through children's songs; and (3), to make a record of Vietnamese children's songs that are currently being sung to young children. Twenty parent participants residing in Orange County, California consisting of at least one Vietnamese American parent with young children aged 1 month to 3 years took part in the study. Data were collected through 20 questionnaires and 5 interviews consisting of open-ended questions and voice recordings of the songs the parents sang with their children. Results suggested that the Vietnamese American parent participants strongly valued their Vietnamese identity and desired to pass on Vietnamese culture through songs and language to their children, although limited musical resources and memory of songs posed a challenge for some parents. This insight could aid music educators toward teaching in a more culturally responsive manner, and inform cultural activists who may wish to preserve early childhood Vietnamese songs.

#### ***Biographies:***

**Ms. Tina Huynh** is an active musician in the Southern California area. She has 15 years of experience teaching a wide variety of music to all age levels in both vocal and instrumental music in public, private, community, and studio settings. Ms. Huynh has held first and second chair positions in orchestras, played in chamber groups and has performed in films, studio recordings, musical theater, live and TV broadcast settings and DVD releases including the culturally notable Vietnamese variety show "Asia", and was featured as a soloist with the Vietnamese American Philharmonic. Her performances as a flutist and conductor of the Vietnamese American Philharmonic Youth Group have been broadcast internationally on Vietnamese TV, radio, and newspapers. Ms. Huynh holds degrees from California State University, Long Beach with a B.M. in Music Education, B.S. in French, and CA Teaching Credential, is Kodaly Certified, and M.M. at the University of Southern California, and is currently attaining a doctor of musical arts D.M.A. degree at USC."

**Beatriz Ilari** is Assistant Professor of Music Education at the University of Southern California (USC), in Los Angeles, where she teaches graduate courses in music teaching and learning. She holds degrees from the University of São Paulo, Brazil (B.A.), Montclair State University, USA (M.A. - violin) and McGill University, Canada (PhD). Dr. Ilari uses several different approaches to study musical development and growth of infants, children and adolescents. She has conducted research with babies and children in different parts of the world including the US, Brazil, Canada, Japan, and Mexico. Her research appears in many important journals including Arts Education Policy Review, Journal of Research in Music Education, International Journal of Music Education, Update, and Early Child Development and Care, Journal of Cross-Cultural Psychology, and Frontiers in Human Neurosciences, among others. The former editor for the International Journal of Music Education, she is currently the editor for Perspectives: Journal of the Early Childhood Music & Movement Association. Dr. Ilari is also a research fellow at USC's Brain & Creativity Institute.



## THEME 2 – SINGING AND EDUCATION

### SUB-THEME: 2.2 FORMAL TEACHING OF SINGING

#### **Master Class: North Indian (Hindustani) Classical Vocal Training**

**Uptola Borah** (The Ohio State University) [uptola@gmail.com](mailto:uptola@gmail.com)

#### ***Workshop Abstract:***

This workshop will demonstrate basic vocal technique, development of voice culture, and exercises for North Indian classical and light classical music. The importance of correct posture and breathing will be explained, as well as methods for achieving proper intonation. This workshop is accessible to vocalists of all styles and experience levels. This workshop will demonstrate basic vocal technique, development of voice culture, and exercises for North Indian classical and light classical music. The importance of correct posture and breathing will be explained, as well as methods for achieving proper intonation. This workshop is accessible to vocalists of all styles and experience levels.

#### ***Biography:***

**Utpola Borah** is an award-winning vocalist specializing in North Indian classical music, devotional songs, and the regional folk songs of India. She has studied extensively with several of India's most accomplished musicians. Since her childhood, she has performed as a government-certified artist on All India Radio and on national television. She holds a Ph.D. in music from Delhi University, and has been recognized as one of the leading scholars of music and dance of Assam. Currently she is working as a performer and educator, and a post-doctoral research fellow at the "Advancing Interdisciplinary Research in Singing" project at the University of Prince Edward Island, Canada.



## THEME 2 – SINGING AND EDUCATION

### SUB-THEME: 2.3 TEACHING THROUGH SINGING

#### **Music, singing voice and language learning: Some suggestions of use in the teaching of phonetics**

**Diane Caussade** (Univ. Grenoble Alpes, GIPSA-Lab, Grenoble, France). [Dianne.Cassaude@gipsa-lab.fr](mailto:Dianne.Cassaude@gipsa-lab.fr)  
**Sandra Cornaz** (Lansad, Univ. Grenoble Alpes, Grenoble, France) [scornaz@gmail.com](mailto:scornaz@gmail.com)

**Abstract:** The close functional (Patel, 2003; Peretz et coll., 2011), structural (Arleo, 2006; Szendy, 2009), phylogenic (Brown, 2000; Mithen, 2005) and ontogenic (Brandt et coll., 2012; Cross, 2013) links between music and language have been studied by many disciplines. Some researches have shown the effects of music and singing on language acquisition, notably for phonetic integration (Schön et coll., 2008; Cornaz, 2014). Music may reinforce speech signal processing through a probable improved sensing of acoustic cues. Also, in spite of a number of differences, so much is shared indeed between singing-voice and speech, for instance in speech acoustics and voice-production physiology (Henrich, 2011) that the relevance of a sung approach is accounted for. Using music and singing in the teaching of native and foreign languages has proved a considerable asset, explaining the increasing attention borne to singing in class (Peretz & Kolinsky, 2009). In the case of second language (L2) French, course book authors tend to include that approach more frequently to enhance grammar, civilisation, lexicon... (for example: J'apprends le français en chantant, Deblende & Heuze, 1992 ; Fluo, Meyer-Dreux et coll., 2003; Chante et découvre le français, Vorger et coll., 2009). Nevertheless, having recourse to singing as a phonetic enhancer remains exceptional in foreign language courses. As progressively demonstrated in field experiments and reported in the scientific literature, singing could be most useful in the remediation of proprioceptive, auditory and articulatory difficulties of the learners, as well as provide beneficial effects on memory, motivation and class atmosphere. Further examples of approaches on improving the phonetic competence from books on singing and on speech therapy are reviewed. A set of useful singing-voice exercises from diverse disciplines, focusing on segmental integration, such as the visual rendering of voice mechanisms, the vocalization of sounds, the perception and proprioception of phoneme accuracy and the example of a dedicated “nursery rhyme” as teaching material is included.

**Sandra Cornaz** is a French and Italian PhD in sciences of language and linguistics. Her research deals with Singing-Voice and the Acquisition of Phonetics in the learning of French as a Foreign Language. She initiated and coordinated the RJCP symposium in 2011 and contributed to CEDIL 2010 and JEP 2012 among other academic conferences. She has been responsible for courses in infant language development, phonetics and general linguistics at the University of Grenoble. She is also a teacher of French as a Second/Foreign Language since 2003 and has worked in Botswana, China, Germany, Italy and France. To enhance speech perception and production, she uses French songs and the singing-voice. Sandra Cornaz is a member of INNOVA-Langues, an international project which aims at developing some original tools for the L2 teaching and learning. She regularly gives courses to foreign language teachers on using the singing-voice. She has belonged to amateur choirs She also studied classical singing.

**Diane Caussade** is a PhD student in Sciences of languages. She worked as a teacher of French as a Second/Foreign Language and as a musician and as a music teacher in many countries. She studied musicology at the University of Strasbourg and music (singing and violin), at the Conservatory of Strasbourg. She is also a member of Jeunesses Musicales International and intervenes as a musician in schools, hospitals and social environments within the organization Ballade which aim is to create links between populations through ethno musics. Her PhD work concerns the study of gestures-hands coordination/synchronization in the Alzheimer's disease in speech and singing in collaboration with laboratories GIPSA-lab (CNRS), LIDILEM (Stendhal University), the CMRR (teaching hospital of la Tronche) and the LPNC (CNRS), supported by the SFR Foundation and the Cognition Pole.



## THEME 2 – SINGING AND EDUCATION

### SUB-THEME: 2.3 TEACHING THROUGH SINGING

#### The impact of singing on language development in 4-year old children

**Caitlin Bridson-Pateman** (Department of Psychology, St. Francis Xavier University) [x2011ubu@stfx.ca](mailto:x2011ubu@stfx.ca)

**Dr. Petra Hauf** (Department of Psychology, St. Francis Xavier University) [phauf@stfx.ca](mailto:phauf@stfx.ca)

**Annie Larouche** (Department of Psychology, Dalhousie University)

**Dr. S. Hélène Deacon** (Department of Psychology, Dalhousie University)

**Abstract:** Introduction: Singing with young children has been linked to increased vocabulary and phonological awareness. At the same time, children's supra-segmental phonological awareness appears to be related to strong reading development. There is an intuitive connection between singing and supra-segmental phonological awareness, both of which involve pitch and prosodic related information. We developed a study to connect these two literatures, by investigating the effects of a singing intervention on young children's supra-segmental and segmental phonological awareness.

Methods: Our intervention involved two groups of four-year-old children, each receiving training three times a week for approximately 10 weeks (total of 30 training sessions). The first group received singing training in production and perception, such as joint singing and dancing, as well as rhythmic movements, such as clapping. The control group received physical training in fine and gross motor activities, such as balancing, strength, coordination, and relaxation. Both prior to and after the training, we evaluated the children's vocabulary, non-verbal ability, memory, letter recognition, both segmental and supra-segmental phonological awareness, as well as audio-visual attention (through eye-tracking).

Results: Pre-test data and training is now complete for 11 participants. We will present results on a total of 18 participants. It is hypothesized that singing training will increase children's supra-segmental and segmental phonological awareness, as well as vocabulary and letter recognition skills. Discussion: The results of this research are likely to inform the importance of singing in typical child development, as well as in therapy for children with speech impairments.

#### **Biographies:**

**Caitlin Bridson-Pateman** is a recent graduate of St. Francis Xavier University with a Bachelor of Arts with First Class Honours in Psychology. She is currently working as a lab manager in the Infant Action and Cognition Lab at St. FX. Caitlin has been able to present this research at various stages of development. She presented in Toronto last year at the AIRS student workshop, the 2015 St. FX Student Research Day, The 2015 Nova Scotia Developmental Psychology Conference held at Acadia University, the 2015 Atlantic Conference on Reading and Language Acquisition held at Dalhousie University, and the Society for the Scientific Study of Reading Conference held on the Big Island, Hawaii.

**Dr. Petra Hauf** has a Doctoral degree from the University of Frankfurt, and previously worked as a Senior Research Scientist at the Max Planck Institute for Human Cognitive and Brain Sciences in Germany. Since 2006 she is a Psychology Professor at St. Francis Xavier University and a Canada Research Chair in Cognitive Development. One line of her research focuses on infant motor and cognitive development, especially on the development of action and emotion understanding. Furthermore she is interested in how young infants process infant-directed singing and speaking.

**Dr. S. Hélène Deacon** is an Assistant Professor in the Department of Psychology at Dalhousie University. Her research examines reading and spelling development across a range of learning contexts.



## THEME 3 – SINGING AND WELL-BEING

### SUB-THEME: 3.1 SINGING AND CROSS-CULTURAL UNDERSTANDING

#### Enriching student experience through a university multicultural choir and song circle

**Dr. Annabel Cohen** (University of Prince Edward Island) [acohen@upei.ca](mailto:acohen@upei.ca)  
**Shannon Moore** (University of Prince Edward Island)

#### *Abstract:*

Recent research suggests that choral singing can increase well-being. Following Sousa, Neto and Muller's (2005) evidence of prejudice reduction in children who learned songs of a minority culture, the present study examined the hypothesis that a university-based multicultural choir can enhance well-being of students by affording common ground for friendships and cultural appreciation. The organization of the choir provided scaffolding for members to lead their "own" songs. A quasi-circular arrangement of singers symbolized the equality and significance of each member. Over one semester, repertoire generated by choir members included songs from 9 countries in 10 languages or dialects. A brief questionnaire upon joining the choir indicated the primary goal of having fun. After 10 weekly one-hour rehearsals, a second, extended on-line questionnaire indicated provided evidence of both hedonic and eudaemonic well-being, supporting the hypothesis. Though no evidence of prejudice among choral members was sought or observed, it is known that international students have challenges in finding common ground with students from elsewhere. The results of the questionnaires coupled with analyses of videotaped rehearsals suggest that a campus multicultural choir can offer enriched meaningful common ground for students of both minority and majority cultures.

#### *Biographies:*



**Shannon Moore** received her B.A in Psychology from the University of Prince Edward Island where she is currently completing her Bachelor of Education in International Education. Shannon has worked as a part-time research assistant for the AIRS lab and last year supported the AIRS multicultural choir.



**Annabel J. Cohen** (Ph. D., M. A., Queen's; B.A. McGill) is the Director of the AIRS MCRI and also leads the AIRS Test Battery of Singing Skills research sub-theme 1.3. She is the Editor of *Psychomusicology: Music, Mind & Brain* and serves as consulting editor on several other journals, and is a Co-editor of the book *Psychology of Music in Multimedia* (Oxford). She received her ARCT in voice performance from the Royal Conservatory of Music – Toronto, and is a Fellow of the Canadian Psychological Association. She was recently re-elected to the Council of the American Psychological Association representing the Division on the Psychology of Aesthetics, Creativity and the Arts.



## THEME 3 – SINGING AND WELL-BEING

### SUB-THEME: 3.3 HEALTH BENEFITS OF SINGING

#### Alzheimer's hand gestures and speech disorders in spoken and sung modalities

**Diane Caussade** (Univ. Grenoble Alpes, GIPSA-Lab, F-38000 Grenoble, France / CNRS, GIPSA-Lab, F-38000 Grenoble, France / LIDILEM, Univ. Grenoble 3, Saint Martin d'Hères, France)

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**Nathalie Vallee** (Univ. Grenoble Alpes, GIPSA-Lab, F-38000 Grenoble, France / CNRS, GIPSA-Lab, F-38000 Grenoble, France) [nathalie.vallee@gipsa-lab.grenoble-inp.fr](mailto:nathalie.vallee@gipsa-lab.grenoble-inp.fr)

**Jean-Marc Colletta** (LIDILEM, Univ. Grenoble 3, Saint Martin d'Hères, France) [jean-marc.colletta@u-grenoble3.fr](mailto:jean-marc.colletta@u-grenoble3.fr)

#### *Abstract:*

In Alzheimer's disease (AD), studies on bimodal language production like that of Carlomagno et al. (2005) do not treat aspects of speech and hand gestures in a concomitant way. We propose an original protocol to evaluate the correlation between hand gestures and articulatory gestures in speech and singing of 4 persons diagnosed with AD by our hospital partner and paired with 4 control participants. Participants were asked to repeat 8 nursery rhymes created for this protocol: 4 nursery rhymes were spoken while the other 4 were sung. In each sung or spoken modality, 2 nursery rhymes were completed with four iconic and two deictic hand gestures. The protocol was completed with several clinical tests. Speech apraxia was evaluated by means of the MT86 clinical protocol (Joanette et al., 1998) and manual praxis by the Mahieux's battery (Mahieux-Laurent et al., 2009). The MBLF software was adapted to test the bucco-linguo-facial motor skills (Gatignol & Lannadère, 2011). Each participant was recorded at home using a camcorder and a lapel microphone. The speech productions were annotated and analyzed via Praat®, and the hand gestures via ELAN®. We did not evidence any manual or speech apraxia in our patient population. However, significant differences were observed on productions of hand gestures and speech between the patients and the control participants. Regarding patients, the movement, configuration and orientation of hand gestures were slightly altered. This alteration seemed to depend on the gesture value but not on the modality (speech or singing). The requirement to produce specific hand gestures affected speech production: patients produced more errors with connected hand gestures. Speech productions were influenced at different degrees by spoken and sung modalities. Patients made more errors in singing, and the more with connected hand gestures, showing a double task effect likely due to an attention deficiency typical of AD (Siéroff & Piquard, 2004).

#### *Biographies:*

**Diane Caussade** is a PhD student in Sciences of languages since 2013. She worked as a teacher of French as a Second/Foreign Language and intervened as a musician and as a music teacher in many countries (Austria, Bosnia and Herzegovina, Italy, France, Germany, Hungary, Portugal, Romania, Turkey, ...) since 2007. She studied musicology at the University of Strasbourg and music, in particular singing and violin, at the Conservatory of Strasbourg. She is also a member of Jeunesses Musicales International (International Musical Youth) and intervenes as a musician in schools, hospitals and social



environments within the organization Ballade which aim is to create links between populations through ethno musics. Her PhD work concerns the study of gestures-hands coordination/synchronization in the Alzheimer's disease in speech and singing in collaboration with laboratories GIPSA-lab (CNRS), LIDILEM (Stendhal University), the CMRR (teaching hospital of la Tronche) and the LPNC (CNRS), supported by the SFR Foundation and the Cognition Pole.

**Fanny Gaubert** is a Speech Therapy student at the Univ. Claude Bernard Lyon.

**Maud Serieux** is a Speech Therapy student at the Univ. Claude Bernard Lyon.

**Nathalie Henrich-Bernardoni** is a research Fellow at CNRS. Nathalie graduated from Ecole Normale Supérieure in fundamental Physics, Professor in physics, MA-level degree in fundamental physics, PhD in acoustics of music

**Nathalie Vallee** is a research fellow at CNRS.

**Jean-Marc Colletta** is a professor at Univ. Grenoble .



# AIRS Round

\*In this round, each new voice enters when the previous voice reaches the \* (bar 4, beat 4).

Annabel Cohen

\*  
 Ad - van - cing In - ter - dis - ci - plin - a - ry — Re search on sing - ing The  
 So - cial Sci - en - ces and Hu - man - i - ties Re - search Coun - cil is bring - ing re - search on De -  
 vel - op - ment, Ed - u - ca - tion and Well Be - ing.  
 Se - ven - ty - five re - search - ers in six - teen coun - tries are o - ver - see - ing.

Ostinato  
 Airs re - search on sing - ing - ing