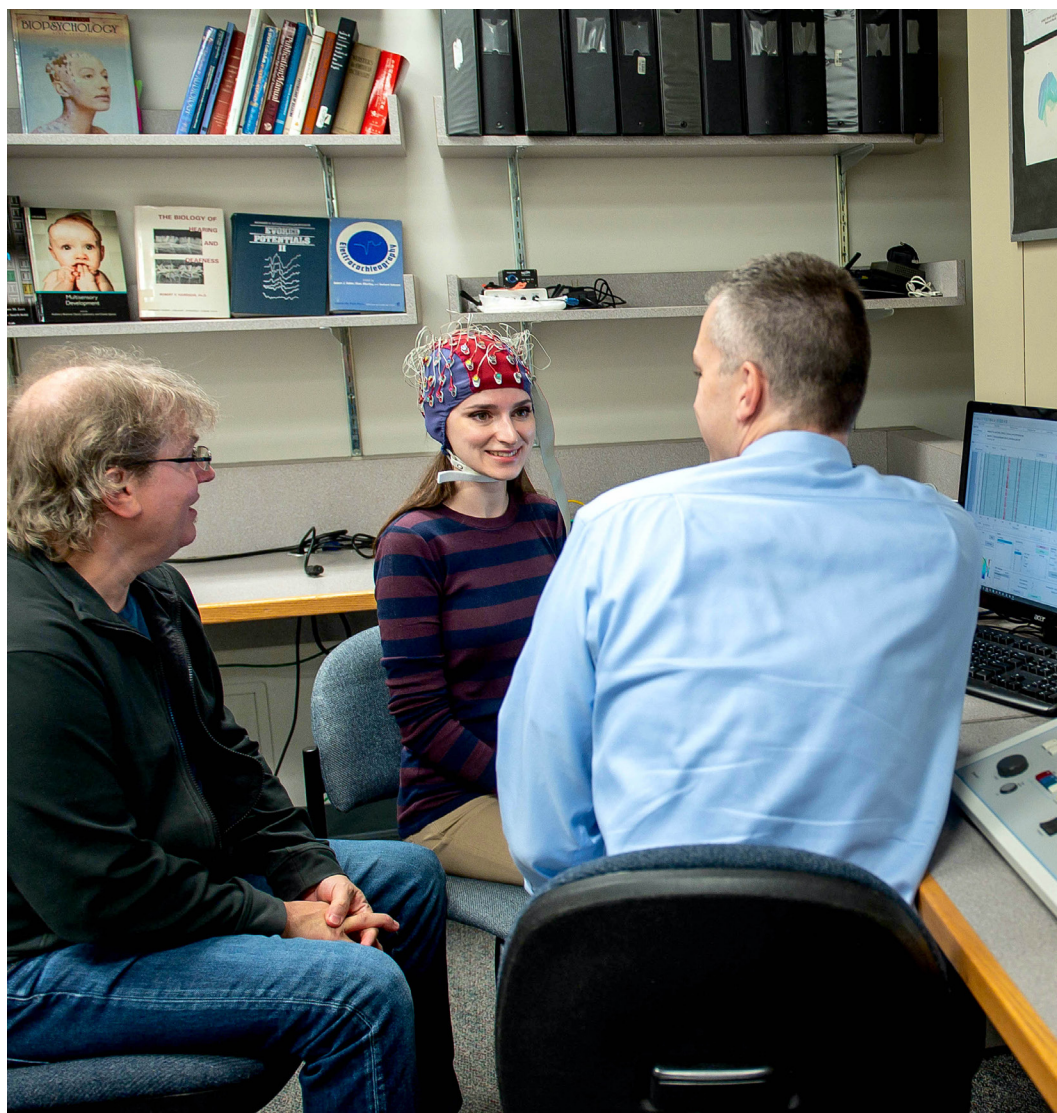


2021 - 2022 Annual Report to the Governing Committee of Deans

December 2022



THE UNIVERSITY OF BRITISH COLUMBIA

Language Sciences
Research Excellence Cluster

Executive Summary

Governance

In 2021, the Language Sciences Institute became a recognized GREx Institute preceded by five years of GCRC funding.

To align with Global Research Excellence (GREx) Institute requirements, LangSci shifted from having separate Steering Committees and Research Lead Committees to having one joint Academic Steering Committee. The two co-directors now report to the chair of the Deans' Council (in 2021, Gage Averill, Dean of Arts) regarding academic matters and to the Chair of the Research + Innovation Council (Gail Murphy, Vice President Research + Innovation) regarding GREx matters. LangScis also began establishing an International Academic Advisory Board.

Membership

Membership increased to 344 from 268 in November 2019.

Financial support

LangScis received a total of \$544,862.12 in 2021: \$47,000 in seed funding from participating faculties (Arts, Medicine, Science, Education, and Applied Science); a combined \$400,000 in GREx funding and a Grant for Catalyzing Research Clusters; \$72,862 as the last installment of Marietta Hurst's second donation; and \$25,000 from the Provost for Living Language course development.

LangScis submitted an internal proposal for the 2023 CFI Innovation Fund competition in November 2021.

Goals

Catalyzing interdisciplinary research programs

The GREx proposal articulated five key research challenge areas of focus for interdisciplinary research. Bryan Gick lead a CFI Innovation Fund grant proposal for new research space that touches on several of these areas. In addition to the CFI grant proposal, seven member projects were funded.

Engaging community and industry partners

- LangSci brought four new partners on board the SSHRC Partnership Grant
- LangSci engaged new partners through the CFI Innovation Fund grant proposal
- MDS-CL capstone projects resulted in ongoing collaborations with industry partners.

Sharing our findings to enrich public knowledge

- LangScis produced or supported eight stories, seven announcements and 13 Q&A's
- LangScis produced a monthly newsletter in 2021, with over 400 subscribers in December 2021
- LangScis hosted eight talks as part of the Language Science Talks series
- LangScis hosted one virtual panel, co-hosted by CAIDA in May 2021
- LangScis hosted Graduate Student and Postdoctoral Fellow Research Day in November 2021
- LangScis hosted one movie screening in May 2021
- LangScis sponsored two events in 2021: A talk as part of the Move & Agree workshop in May, and the 2nd International Symposium on Teaching Cantonese as a Second Language in August.

Promoting equity, diversity, and inclusion within and beyond UBC

Language Sciences' objectives for promoting equity, diversity, and inclusion within and beyond UBC include: prioritizing the hiring of IBPOC scholars in joint faculty appointments; prioritizing leadership by Indigenous scholars in all areas of research, especially in Indigenous language survivance; prioritizing community and industry engagement in areas related to language and social justice; facilitating ongoing EDI training for LangSci Leadership; continuing consultations with the Equity and Inclusion office on improving EDI in LangSci and supporting IBPOC LangSci members (faculty and trainees), and holding LangSci publicly accountable to these goals (see GREx proposal, pgs 18 and 22).

In 2021, LangScis initiated work on the Equity & Inclusion Office's Activating Inclusion Toolkit and the Indigenous Strategic Plan toolkit, with plans to continue that work in consultation with LangSci members and leadership in 2022. LangScis prepared a list of EDI commitments and will be releasing them publicly in 2022. Two major grant proposals this year (CFI IF, to be submitted, and CFREF, unsuccessful) prioritized inclusion of and mentorship for Indigenous faculty and trainees. In addition, the forthcoming CFI IF proposal sets forth a template for inclusion of team grant participants in LangSci-sponsored capacity-building programs, events, and opportunities, and mitigative efforts to encourage women and IBPOC scholars to pursue experimental and theoretical research and entrepreneurship.

LangScis initiated an effort to allocate a proportion of member funds to projects that include IBPOC team members or address questions related to EDI. In addition, LangSci is prioritizing the inclusion of IBPOC researchers on its Academic Advisory Board.

LangScis prioritized diversity and inclusion in our Language Sciences communication strategy, and set examples of inclusivity in our administrative and operations practice, by publicizing the research, teaching, and community outreach accomplishments of a diverse cross-section of our members, affirming members' gender identity in publications, striving for correct usage of Indigenous orthographies and terminology in stories, and by featuring members' research that supports marginalized populations.

Cementing global leadership in emerging international Language Science research network

Dr. Bryan Gick co-organized and moderated the American Association for the Advancement of Science (AAAS) panel, 'Transmission of Airborne Pathogens through Expiratory Activities' which explored how the COVID-19 pandemic made research into virus transmission a top scientific priority.

Cultivating the next generation of Language Science researchers

- The Master of Data Science in Computational Linguistics program welcomed its third cohort in September 2021, comprising 33 students
- LangSci co-sponsored the fifth annual undergraduate-led Language Sciences Undergraduate Research Conference in February 2021
- Graduate student and postdoctoral fellow professional development and training
- LangSci hosted its third Graduate Student and Postdoctoral Fellow Research Day in November 2021

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Letter from the Co-Directors

2021 was a banner year for Language Sciences. With the support of the faculties of Arts, Education, Medicine, and Science, we became the third Global Research Excellence Institute (GREx) at UBC. This change marks an institutional acknowledgment of the importance of language at every level of human experience, from our inner lives to the relationships between our cultures and societies. The ongoing COVID-19 pandemic and the heightened attention to social and racial justice issues beginning in 2020 highlighted the importance of language even further, and informed the drafting of our proposal to become a GREx Institute and our consideration of our research and operational goals for the next five years.

In late 2021, we welcomed two new staff members: Kelsea Franzke, Communications Specialist (and UBC Psychology and Anthropology Alumna), and Nympha Fontanilla, Ensuring Full Literacy SSHRC Partnership Grant Coordinator. Our long-time Communications Specialist, Alex Walls, and the first Ensuring Full Literacy SSHRC Partnership Grant Coordinator, Ellie Cameron-Smith, both moved on to new roles – Alex with UBC Media Relations, and Ellie to the film industry. Both Alex and Ellie were foundational in establishing these staff roles. We are so grateful to them for their work, and wish them the very best of luck in their new endeavors.

Language Sciences also prepared and submitted a CFI Innovation Fund grant to support the construction of a new research space in the Gateway Building, located at the corner of Wesbrook Mall and University Boulevard. The space will provide a flexible, naturalistic space for conducting speech and communication research in various contexts, including both in-person and virtual interaction. This grant was made possible in part by a commitment by UBC of \$2.7 million to support the LangSci space. The LangSci team is so grateful for this support, and look forward to the collaborations across the University such a space will enable.

Lastly, Language Sciences received the last installment in Marietta Hurst's renewed three-year gift in late 2021. Marietta's donation enabled the growth of the Language Sciences from research cluster to Global Research Excellence Institute, as well as providing a unique educational experience for fourth-year undergrads across UBC as they reflect on how language intersects with and influences their fields of study and prepare to leave UBC for the workforce and civic life. We hope to continue to work with Marietta in our future community engagement and curriculum development activities.

Sincerely,



Janet Werker
LangSci Co-Director
University Killam Professor, Psychology



Bryan Gick
LangSci Co-Director
Professor, Linguistics

Overview

Global Research Excellence Institute Status

Language Sciences was established as a Global Research Excellence Institute as of May 19, 2021, the culmination of over five years of program development by LangSci members and leadership. We want to thank you, our governing Deans, for your help and support before and during this process, and look forward to your continuing advice and support as we move forward.

UBC Language Sciences



Research Strategy

Research Themes

Language Sciences continues to align with three primary thematic areas: The Communicating Mind and Body (CoMBo), led by Janet Werker and Anthony Herdman; Evolving Language in an Information Economy (ELIE), led by Bryan Gick, Sidney Fels, and Muhammad Abdul-Mageed; and Language, Sustainability, and Transnationalism (LSTn), led by Daisy Rosenblum and Guofang Li.

Grand Challenges

LangScis is drawing on expertise from the three thematic areas in addressing five grand research challenges:

- Simulating Languageing Bodies (SLaB) co-lead by Dr. Sid Fels and Dr. Bryan Gick
- Mapping Language Acquisition and Decline (MaLAD) lead by Dr. Raymond Ng
- Enhancing Literacy and Language Education (ELLE) co-lead by Dr. Janet Werker and Dr. Guofang Li
- Supporting Community-Engaged Language Survivance (SCELS) co-lead by Dr. Daisy Rosenblum and Dr. Christine Schreyer
- Reimagining Public Discourse (RePD) lead by Dr. Heidi Tworek

Descriptions of each grand research challenge can be found in [Appendix II: Organizational Chart \(p. 15\)](#).

Organization

With the transition to GREx Institute status came a change in LangSci's organizational and governance structure. The Steering Committee and Research Leads Committee have been consolidated into one unified Academic Steering Committee, with expanded membership to account for leads in the five challenge areas outlined in the GREx proposal. See the organizational chart in [Appendix II: Organizational Chart \(p. 15\)](#).

Dean's Council

The faculties of arts, education, medicine, and science supported LangSci's bid to become a GREx Institute. The Faculty of Applied Science, while not participating in Deans' Council, was instrumental in supporting LangSci in the early stages of proposal development in 2020, and Dean James Olsen voiced his support during the Research + Innovation Council meeting where supporting LangSci's GREx bid was discussed. In subsequent conversations with us, he also indicated his interest in continuing to help support LangScis going forward.

The Dean's Council list can be found in [Appendix III: Dean's Council \(p. 16\)](#).

International Academic Advisory Board

One of the requirements to be a GREx Institute is to have an International Academic Advisory Board. In 2021, LangSci identified a list of potential members representing academics, industry, and community interests in consultation with members, and will convene the first annual IAAB meeting this academic year.

Members and Affiliates

Summary of members

As of March 2022, Language Sciences' membership included 172 faculty members, 104 affiliate members, 55 student members, and 13 postdoctoral fellows, from 11 countries, and 63 universities or colleges.

LangScis members at UBC come from 12 different faculties and 48 departments at the Vancouver and Kelowna campuses. The bulk of our members are from the Faculty of Arts (134), followed by the Faculty of Medicine (41) and the Faculty of Education (40). We have, however, increased our membership in the Faculty of Science through the CFREF process.

Member events

April 28, 2021: Language Sciences Member Brainstorm

Language Science members gathered virtually for a brainstorming session regarding a Language Sciences Academic Advisory Board. The group discussed potential vision, values, and goals for the board, the role of the UBC Strategic Plan and Indigenous Strategic Plan, and the value of consultation with the Musqueam and Syilx host nations. The groups also suggested a handful of potential board members for consideration.

January 28, 2022: Language Sciences Member Q&A

Language Sciences leadership held a virtual drop-in Q&A for members to touch base with questions about available member funding and potential applications.

Funding

Dean's Council Vice President Research & Innovation (\$400,000)

LangSci received a \$200,000 Grant for Catalyzing Research Clusters for fiscal year 2021. When GREx status was confirmed by the Board of Governors in June 2021 (retroactive to May), LangSci received an additional \$200,000, bringing the total funding from the Academic Excellence fund to \$400,000. Funds will be renewable for five years, with a possibility of another five year extension upon institutional review.

Donation from Marietta Hurst (\$75,000)

Language Sciences received its final installment of renewed funding from Marietta Hurst (Year 6 of funding in total). Her donation provides salary support for the full-time Language Sciences coordinator position, with a focus on development and support of the course Living Language: Science and Society, and future Language Sciences outreach activities in the greater Vancouver community.

Provost's Office (\$25,000)

Funding from the Provost and Vice-President Academic continues to support the development of the university-wide course Living Language: Science and Society. In 2021, this supported the delivery of the course Living Language: Science and Society and the development of a follow-up course.

Governing Committee of Deans

The faculties of arts, medicine, science, education, and applied science provided a total of \$47,000 in research seed funding. These funds provide support for direct research costs of member projects. Funding requests were reviewed and approved by the LangSci Steering Committee in 2021-2022 on a rolling basis. A list of supported member projects can be found in [Appendix V: Supported Member Projects \(p. 21\)](#).

UBC has committed \$2,765,605 in support of the Innovation Fund grant (from the Canada Foundation for Innovation) led by Bryan Gick for to construct and outfit LangSci research space in the Gateway Building.

Institutional Goals

Catalyzing new interdisciplinary research programs (new and ongoing programs)

Face-to-Face Communication (CFI IF Proposal)

Led by Bryan Gick and including team members from four different faculties, this infrastructure grant aims to construct and equip a new research space in the Gateway Building that 'will provide spaces that enable researchers to document the individual physiology and group dynamics of a diversity of people as they communicate naturally in a range of contexts', as well as provide advanced research computing capacity to analyze the resulting multi-modal (and therefore computationally intensive) data sets. These questions are especially apparent in post-pandemic settings, as we are just beginning to understand the impacts of virtual- versus in-person communication on productivity, comprehension, individual mental health, and social cohesion, while virtual communication expands in work, school, public discourse, and play out of public health necessity. The proposed research space will include adaptable spaces that can be configured to natural communication environments such as classroom settings, children's play spaces, small musical performances and lectures, and meetings, outfitted with communication technologies to examine hybrid and virtual communication alongside in-person face-to-face interactions, as well as audio/video and motion tracking equipment, neuro-physiological research equipment, and imaging and airflow equipment to collect multi-modal data.

Team members include [Janet Werker](#) (Professor, Psychology, Arts), [Sidney Fels](#) (Professor, Electrical and Computer Engineering, Applied Science), [Dongwook Yoon](#) (Assistant Professor, Computer Science, Science), [Lara Boyd](#) (Professor, Physical Therapy, Medicine), [Nancy Hermiston](#) (Professor, Music, Arts), [Christopher Hammerly](#) (Assistant Professor, Linguistics, Arts), [Muhammad Abdul-Mageed](#) (Assistant Professor, Linguistics and School of Information, Arts), [Jiaying Zhao](#) (Associate Professor, Psychology, Arts and Institute for Resources, Environment, and Sustainability, Science), and [Rajeev Jaiman](#) (Associate Professor, Mechanical Engineering, Applied Science).

Ensuring Full Literacy in a Multicultural and Digital World

In the second year of Ensuring Full Literacy in a Multicultural World SSHRC PG, activity was primarily focused on continuing research work. Across the team, 11 new projects began, 12 papers were published and four partners were added. Language Sciences supported knowledge mobilization initiatives for Ensuring Full Literacy SSHRC PG. The annual contribution was used towards developing the EFL Newsletter and website updates.

The EFL SSHRC PG officially welcomed Dr. Lauren Emberson as a collaborator in 2021, and Language Sciences members Dr. Gick, Dr. Herdman, Dr. Turin and Dr. Hudson Kam received funding from SSHRC through the EF Co-Applicant Research Fund. Some of the projects were completed in 2022 and some will finish in the third year of the PG.

Opera Training and Motor Learning

In 2021, the opera training and motor learning team completed and presented their pilot data collection and analysis at two conferences and published the first results from their project, 'The Phantoms of the Opera - Stress Offstage and Stress Onstage'.

The team is currently collecting data for a longitudinal protocol and are continuing their investigation into the physiological processes onstage during opera performances.

Control Strategies for Articulatory Speech Synthesis for Natural User Interfaces

In October 2017, this research group (Dr. Fels, Dr. Gick, Dr. Herdman and University of Saskatchewan Computer Science Associate Professor Ian Stavness) received a \$590,000 Natural Sciences and Engineering Research Council of Canada (NSERC) Strategic Partnership Grant alongside industry partner CTF to build the next-generation model of neural control of speech. The first two years of the project were successful both in terms of academic contributions and the training of highly qualified personnel. In the third year, industry partner Avertus Epilepsy Technologies Inc. closed due to financial difficulties and the project applied for wind down funding from NSERC. The team is currently pursuing other options for translating its work to industry, and with the move to online research due to COVID-19 restrictions, has advanced its machine learning architectures and approach to the neurocontrol of speech.

Avatar-Mediated Communication

This group includes Dr. Gick, Dr. Fels, and University of Groningen Associate Professor N. Pontus Leander. The project is exploring the emotional and social components of avatar-mediated interaction (AMI), to determine the possibilities and limits of avatars for facilitating distance communication, helping to provide basic foundations for principles of AMI design.

In 2020, the team successfully applied for a Co-Applicant Research Grant of \$10,000 for the SSHRG Partnership Grant 'Ensuring Full Literacy in a Multicultural and Digital World' to fund a set of experiments, which are ongoing, to evaluate how VR impacts learning and memory with reading tasks.

e-Nunciate

In the 2021-22 academic year, the eNunciate team worked with Bosung Kim (UBC CTLT), Luisa Canuto (UBC FHIS) and Misuzu Kamaza (UBC Asian Studies) on a project called "Pronunciation open resources: sharing active learning exercises and visual tutorials for pronunciation through an LMS".

Among other things, this project embeds ultrasound overlays from the enunciate site into interactive online self-learning modules, using the suite of interactive tools from H5P. These interactive modules are in prep to then be in turn embedded into Canvas modules and materials, shared through Canvas commons as open resources. Content is ready now for use in Japanese courses, and in prep for use in Linguistics and Italian. This project was funded the UBC Open Education Resources Fund, supplemented with a grant from the UBC worklearn program.

Supported member projects

For the full list of member supported projects, please see [Appendix V: Supported Member Projects \(p. 21\)](#).

Engage community and industry partners

Dr. Janet Werker presented about the EFL SSHRC PG and promoted the ABCs of Language Development book at the READ Surrey/White Rock Literacy Task Group meeting in October, 2021. This led to an introduction to Decoda Literacy Solutions Society which officially became a SSHRC PG partner in January 2022.

Dr. Carla Hudson Kam is collaborating with Decoda Literacy Solutions Society, a community partner for the Ensuring Full Literacy SSHRC PG, on a project to assess a family-based intervention program provided to immigrant families (IPALS, Parents as Literacy Supporters in Immigrant Communities). They submitted a Mitacs Accelerate Proposal in March 2022 and were approved for funding in April 2022. The project is due to begin in September 2022 and is expected to run for a one year.

Dr. Guofang Li presented Promoting Multilingualism During and Beyond the Pandemic: Lessons from Chinese Households in Vancouver at The Decoda Literacy Conference 2022: Literacy Connects Us! Conference on March 3, 2022.

Royal Society of Canada Report

As part of The Royal Society of Canada's (RSC) Task Force on COVID-19, the Working Group on Language and Literacy developed 16 recommendations for caregivers, educators, researchers and policymakers for supporting the language and literacy development for our population in response to, and through the recovery from, COVID-19.

Dr. Janet F. Werker, Language Sciences Institute Co-Director and Canada Research Chair in Psychology, chaired the Working Group where she, along with the 18 other members of the Working Group including several UBC Faculty, Postdoctoral Fellows and Affiliate Language Sciences members, authored 17 articles exploring the challenges to language and literacy brought on by COVID-19 in Canada.

The articles were originally published as a series of opinion pieces in the Globe and Mail and are now available in the RSC Report, published in both English and French.

MDS-CL Program

The Masters of Data Science – Computational Linguistics completed a number of Capstone Projects, which can be found in [Appendix VIII: MDS-CL Capstone Projects \(p. 29\)](#).

Sharing our findings to enrich public knowledge

ABC's of Language Development

In 2021, Language Sciences launched the book *The ABC's of Language Development*, co-authored by Dr. Carla Hudson Kam (Canada Research Chair in Language Acquisition 2010 – 2020, UBC Linguistics), Caitlin Bittman (MSLP), Estelle Paget (founder of KidCareCanada), and Elizabeth Wellburn (KidCareCanada). The authors presented at the February meeting of the BC Healthy Child Development Alliance, to provide alliance members (representing various child health and development stakeholders across the province) information about the book and its benefits to caregivers and educators.

LangSci hosted a public book launch online in July 2021, aimed at parents of young children, allied health professionals, and early childhood educators, which was attended by 150 individuals.

Dr. Carla Hudson Kam hosted a Professional Development Day Workshop for School District 78 (Hope) titled, "The ABC's of Language Development: Discover Language With Your Child: Introducing the Science and Practice of Language Development to Early Years Professionals". This presentation was targeted at early years educators such as preschool teachers, day care staff and kindergarten teachers. The presentation introduced how language scientists think about language and introduced ways to incorporate rich language that would support learning into activities for toddlers and preschoolers, focusing on aspects of spoken language that are important precursors to learning to read complex sentences and phonemes. Participants were also introduced to the concept of register and dialect differences, and ways to encourage children to explore and practice register using pretend play. All participants received a copy of the *ABC's of Language Development*, which was purchased by the school district.

Dr. Carla Hudson Kam also hosted a virtual parent workshop at Eastside Family Place titled, “The ABC’s of Language Development: Discover Language With Your Child”. The presentation introduced participants to how language scientists think about language, and offered ways that parents and caregivers can help support their child’s language development while also supporting their social and emotional development. Free copies of the book were given out by draw to three participants.

Language Science Talks

Language Sciences held nine talks with a total of 20 speakers. Six of the talks featured more than one speaker. Speakers included UBC Faculty as well as internationally invited guests. The full list of talks can be found in [Appendix IV: Language Science Talks \(p. 17\)](#).

Communications

The Language Sciences newsletter, which launched in 2019, was sent on a monthly basis to over 400 subscribers in 2021.

Language Sciences produced eight stories, seven announcements and 13 Q&A’s featuring members’ work and research in 2021. Top clicks were generally stories about members’ work and research, had a 55 per cent average open rate, and an average click rate of 11 per cent.

Language Sciences developed and maintained a social media strategy, including producing regular content pointing towards stories about members’ work, interaction with members, and regular sharing of Indigenous content.

A list of stories and links can be found in [Appendix VI: Language Sciences Publications \(p. 25\)](#).

Cementing global leadership in emerging international LangSci research network

Dr. Bryan Gick co-organized and moderated the American Association for the Advancement of Science (AAAS) panel, ‘Transmission of Airborne Pathogens through Expiratory Activities’ which explored how the COVID-19 pandemic made research into virus transmission a top scientific priority. The selected panelists were Dr. Sima Asadi from Chemical Engineering at Massachusetts Institute of Technology, Dr. Nicole Bouvier from Infectious Diseases and Microbiology at Icahn School of Medicine at Mount Sinai, and Dr. Donald Derrick from the New Zealand Institute of Language, Brain and Behaviour at the University of Canterbury.

The event synopsis and related papers can be found [here](#).

Cultivating the next generation of LangSci researchers

Living Language: Science and Society

Living Language: Science and Society, is a three-credit undergraduate course available to third- and fourth-year students. The course is cross-listed in the faculties of arts, applied sciences, education, forestry, pharmaceutical science and land and food systems, and allows students to examine, integrate and apply their subject-specific knowledge through the lens of language and the framework of language sciences, with a focus on themes of real-world importance.

In Winter 2021, the course was co-instructed by Dr. Darko Odic from the Department of Psychology and Dr. Elise Stickles from the Department of English Language and Literatures.

A student snapshot, presenter snapshot, and student achievements can be found in [Appendix IX: Living Language: Science and Society \(p. 31\)](#).

Language Sciences Undergraduate Research Conference (LSURC)

The 2021 LSURC was held from February 18-19, with 16 oral presentations and eight posters by student presenters from UBC in the Department of Linguistics and Department of Psychology, as well as from students from Simon Fraser University. A number of Language Sciences faculty and graduate student members from UBC assisted in reviewing abstracts and acting as adjudicators. The LSURC program can be found [here](#).

Plenary speakers were Dr. Muhammad Abdul-Mageed from UBC's Department of Linguistics and Computer Sciences, Dr. Diana Carter and Ethan Benjamin from UBCO's Department of Languages and World Literatures, and Dr. Raheleh Saryazdi from the Toronto Rehabilitation Institute.

Language Sciences supported LSURC with outreach and promotion, including through social media, the newsletter and producing a story following the conference.

LangSci Graduate and Postdoctoral Fellow Research Day

The third annual Graduate and Postdoctoral Fellow Research Day was held on November 19th, 2021. Keynote speakers included Dr. Onowa McIvor (University of Victoria), Nigel Howard (UBC), and Asma Afreen (UBC). Thirteen graduate students and postdoctoral fellows presented their research.

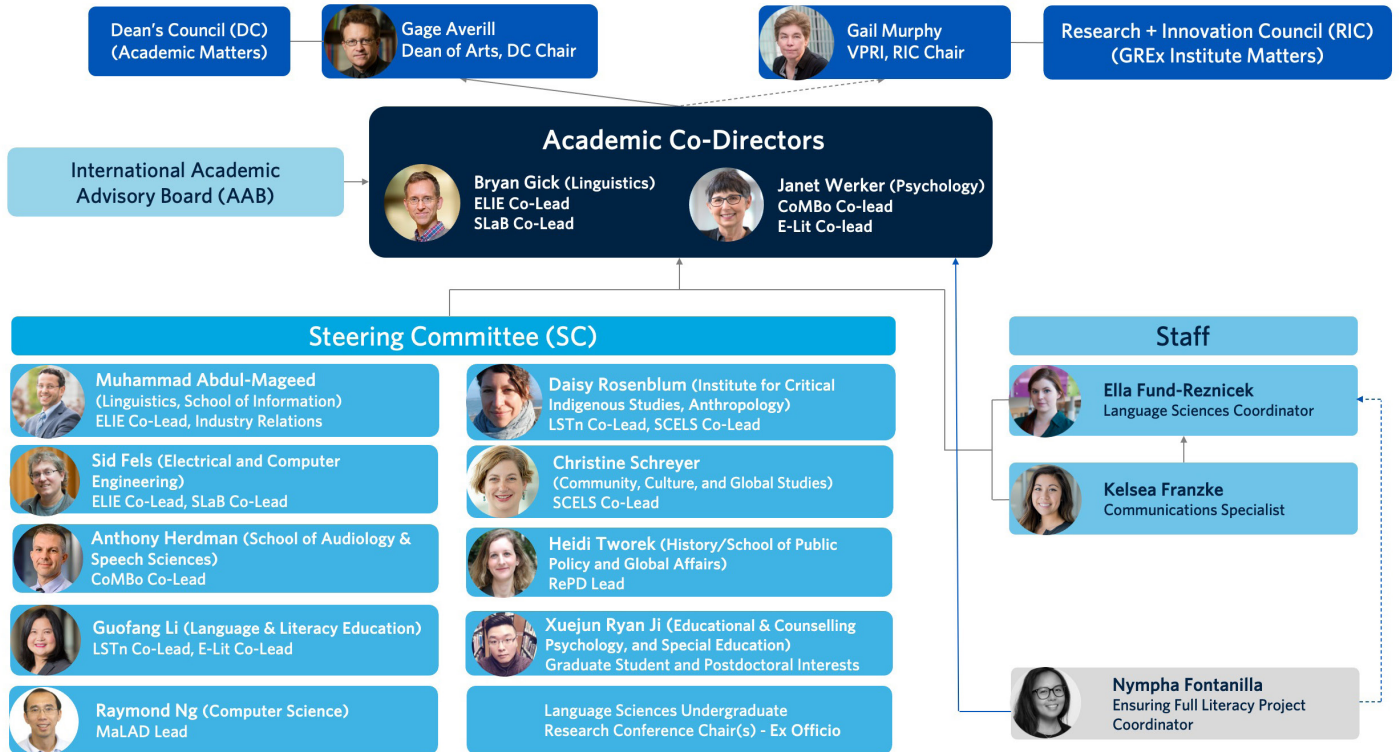
Appendix I: Grand Challenges

LangScis is drawing on expertise from the three thematic areas in addressing five grand research challenges:

<p>Simulating Linguaging Bodies (SLaB)</p> <p>Co-leads: Sid Fels and Bryan Gick</p>	<p>This challenge builds on the computational platform for simulation of the face, head, and neck, with a focus on the biomechanics of speech and related oral functions, to create more interactive exploratory user interfaces and novel applications. The resulting models will deepen our basic understanding of the biological systems that drive human language and provide a framework for addressing challenges such as modelling neural control of language, language development and breakdown across the lifespan, and the role of spoken and sung language in COVID-19 and other pathogen transmission.</p>
<p>Mapping Language Acquisition and Decline (MaLAD)</p> <p>Lead: Raymond Ng</p>	<p>This challenge uses standard data sources such as spoken language and text, as well as novel data sources such as unstructured eye tracking data and clinical records to create a unified language technology platform to address key issues such as predicting psychiatric conditions and cognitive decline, automatic speech recognition of low-resource Indigenous language audio and text, and predictive and intelligent tutoring for language acquisition.</p>
<p>Enhancing Literacy and Language Education (ELLE)</p> <p>Co-leads: Janet Werker and Guofang Li</p>	<p>This challenge works to identify and address the obstacles new literacy learners from different linguistic, socioeconomic, cultural, and racial backgrounds face and the types of new media that help or hinder them at various stages in ‘learning to read’ and ‘reading to learn’.</p>
<p>Supporting Community-Engaged Language Survivance (SCELS)</p> <p>Co-leads: Daisy Rosenblum and Christine Schreyer</p>	<p>This challenge addresses the need for effective tools to support the community-led maintenance, revitalization and reclamation of language and culture as a human right. Research and knowledge mobilization strategies include the development and advancement of multimodal documentation of community-held knowledge, effective mobilization of this documentation using narrative new media, user-centered stewardship of digitized and born-digital language data, investigation of natural language processing of low-resource languages with typologically unusual grammars, management and stewardship of sensitive language data, and the development and evaluation of extended reality tools for teaching and learning language.</p>
<p>Reimagining Public Discourse (RePD)</p> <p>Lead: Heidi Tworek</p>	<p>This challenge will bring together big data analysis, business, journalism, social justice, sociology, and policy to focus on how the online environment has changed language, how it has affected public discourse, and how online expression interacts with offline language, as well as (more broadly) on rethinking what we mean by public discourse, whose voices are amplified, how regulation of online platforms affects language, and whether online public discourse is undermining democracy.</p>

UBC Language Sciences

Appendix II: Organizational Chart



Appendix III: Dean's Council

The following table outlines the Dean's Council in 2021 - 2022.

Name	Role	Faculty
Dr. Gage Averill (Chair)	Dean	Faculty of Arts
Dr. Blye Frank	Dean	Faculty of Education
Dr. Dermot Kelleher	Dean	Faculty of Medicine
Dr. Meigan Aronson	Dean	Faculty of Science

Appendix IV: Language Science Talks

'Talking Genetics with Robinson Crusoe'

Dr. Dianne Newbury, , February 22, 2021

Introduction by President Santa Ono

Co-hosted with the Social Exposome Cluster

Abstract excerpt: UNICEF, UNESCO and the World Health Organization include communication in their core life skills. Deficits in communication disrupt social, emotional and educational development and increase the risk of behavioural disorders, unemployment and mental health issues. Yet, research in this area is under-represented and we still have little understanding as to the causes of communication disorders and their relationships to other developmental delays and behavioural problems. It is likely that genetic factors contribute to communication disorders but we expect there to be many contributory genetic variants, each with only a small risk. Some people inherit certain combinations of these risk variations that, when accompanied by particular environmental factors, make them sensitive to language impairment.

My presentation today will focus upon our study of a unique Chilean population who inhabit the Robinson Crusoe Island. This Island community was colonised in 1876 by 64 individuals from whom the majority of the current population (633 people) are descended. In 2008, researchers from the University of Chile noted that approximately 60% of children living on this island were affected by language disorder. They further described how the majority of language impaired individuals were descended from two brothers who formed part of the original colonising party. We have been working with researchers from Chile and with the Islanders to form a study of the genetic origins of the Islanders and to discover genetic variants that might explain the unusually high incidence of language impairment in this population. Our investigations have led to the identification of rare variants in the NFXL1 gene, which encodes a transcription factor that is highly expressed in the cerebellum. In my talk, I will give an overview of the population and the findings of our genetic research. I will discuss how genomic studies can help to better understand the molecular mechanisms of speech and language and, ultimately, may direct the targeting of interventions for affected individuals.

'Cognitive Consequences of Acoustic Challenge During Spoken Communication'

Dr. Jonathan Peele, Associate Professor, Department of Otolaryngology Washington University in Saint Louis

Introduction by Dr. Molly Babel, Associate Professor, Linguistics, UBC

March 12, 2021

Abstract excerpt: How does hearing impairment affect the way our brains process speech?

I will review data from behavioral and brain imaging studies that speak to the added cognitive demands associated with acoustic challenge. Evidence from multiple sources is consistent with a shared resource framework of speech comprehension in which domain-general cognitive processes supported by discrete regions of frontal cortex are required for both auditory and linguistic processing. The specific patterns of neural activity depend on the difficulty of the speech being heard, as well as the hearing and cognitive ability of the listeners. I will present neuroimaging data from listeners with normal hearing, age-related hearing loss, and cochlear implants implicating executive attention networks in understanding acoustically challenging speech. Although frequently studied in the context of age-related hearing loss, these principles have broader implications for our understanding of how auditory and cognitive factors interact during spoken language comprehension.

'Hua Ki'i - A Prototype for Developing Ethical Indigenous AI '

*Caroline Running Wolf, Caleb Moses, Dr. Noelani Arista, Michael Running Wolf, Joel Davidson
Hosted by Dr. Candace Kaleimamoowahinekapu Galla, Language and Literacy Education, UBC
Co-hosted with the Centre for Artificial Intelligence Decision-making and Action (CAIDA)
May 13, 2021*

Abstract excerpt: The five speakers are members of the Indigenous Protocol and Artificial Intelligence Working Group and will talk about the group's work, Indigenous protocol considerations in AI, and the development of the Hua Ki'i app, a prototype of these protocols in action which uses object recognition to translate images into Indigenous languages, starting with Hawaiian.

'Who is in your Your Network? Racial and Linguistic Diversity Impact the Perception of Different English Varieties'

*Dr. Ethan Kutlu, Linguistics, University of Iowa
Dr. Debra Titone, Canada Research Chair in Language & Multilingualism (Tier I), Psychology, McGill University
Hosted by Dr. Krista Byers-Heinlein, Associate Professor, Psychology, Concordia University,
May 26, 2021*

Abstract excerpt: The emergence of different English varieties is a result of different contextual factors such as globalization, colonialism, and migration. Understanding individual variability that is observed in how these different varieties are perceived is a question in speech perception, psycholinguistic, as well as social understanding of multilingualism studies. Here, multiple experiments measured how three different English varieties (American, British, Indian) are perceived by listeners who live in racially and linguistically more (Montreal) or less (Gainesville) diverse communities. We'll present multiple studies that investigate how listeners' perception of these three varieties were modulated depending on their social context which was measured by network and entropy tools. We'll also discuss how social network analyses can be implemented in broader multilingualism research. Our findings open up a discussion of socially-gated speech perception and how language research benefits from interdisciplinary and multi-site designs.

The Duets of Life: One Chapter in the Linguistic Biography of First and Last Words - Dr. Michael Erard, Professor Carla Hudson Kam

*Dr. Michael Erard
Hosted by Dr. Carla Hudson Kam, Professor, Linguistics, UBC*

June 15, 2021

Abstract excerpt: What do the first words of babies and last words of the dying have in common? In this talk, I will explore one important similarity: just as the forms of first words vary according to attitudes about babies and children as language users, so do the "final, self-validating articulation[s] of consciousness in extremis" (Guthke, 1992) vary according to attitudes about the communicative agency of the dying. I will illustrate this by offering a cultural taxonomy of attention to first words and by summarizing recent work on a historical data set (Erard, 2021) from the first clinical study of dying (Osler, 1904). Language ideologies as well as material resources, settings, and institutions play a role in how these phenomena are noticed, remembered, and recorded — which is a crucial first step for apprehending them as the products of psycholinguistic and language evolutionary processes.

Ethics Sheets for AI Tasks and a Case Study for Automatic Emotion Recognition

Dr. Saif M. Mohammad, National Research Council Canada Senior Research Scientist

Hosted by Dr. Varada Kolhatkar, Assistant Professor, Computer Science, UBC

June 15, 2021

Abstract excerpt: As NLP and ML systems become more ubiquitous, their broad societal impacts are receiving more scrutiny than ever before. Several high-profile events have highlighted how technology will often lead to more adverse outcomes for those that are already marginalized. This raises some uncomfortable questions for us as researchers: What are the hidden assumptions in our research? What are the unsaid implications of our choices? Are we perpetuating and amplifying inequities or are we striking at the barriers to opportunity? The answers are often complex and multifaceted. In this talk, I will make a case for continued efforts in documenting ethical considerations for AI Tasks (through individual and community efforts). I will present a new form of such an effort: Ethics Sheets for AI Tasks which, together with Data Sheets for Datasets and Model Cards for AI systems, aids in the development and deployment of responsible AI systems. Finally, I will provide an example ethics sheet for automatic emotion recognition and sentiment analysis.

I will start the talk with a quick overview of my past work at the intersection of language and emotions; notably, work on large human-annotated word-emotion lexicons.

A Roadmap for Racial Justice in Linguistics and the Language Sciences

Dr. Mary Bucholz, Professor, Linguistics, University of California Santa Barbara,

on behalf of Dr. Anne H. Charity Hudley, Professor, Education, Stanford University

Hosted by Dr. Amanda Cardoso, Lecturer, Linguistics, UBC

October 7, 2021

Abstract excerpt: This presentation draws on collaborative research, teaching, and advocacy to offer a roadmap for how to dismantle anti-Blackness and advance racial justice in the language sciences. The discussion focuses primarily on linguistics, which has shown a very limited commitment to racial justice throughout its history, but the key points of this presentation are relevant across the language disciplines. The racist structures and processes of the field are due less to malice than to ignorance and an investment in disciplinary tradition, which function as gatekeeping norms. Challenging these norms is therefore essential to creating racial justice in our field(s). This work must be accompanied by proactive efforts to create inclusive and just disciplinary spaces. In this presentation, on behalf of my collaborators I will discuss the norm-breaking and community-building efforts that are necessary in order to achieve these goals.

Toward a Speech Neuroprosthetic

Dr. Edward Chang, Professor, Neurological Surgery, University of California, San Francisco

Hosted by Dr. Janet Werker, Professor, Psychology, UBC

March 25, 2022

Abstract excerpt: Speaking is a unique and defining human behavior. Over the past decade, we have focused on deciphering the basic neural code that underlies our ability to speak fluently.

During speech production, vocal tract movement gestures for all speech sounds are encoded by highly specialized neural activity, organized as a map, in the human speech motor cortex. A major effort is now underway to translate these findings towards building a articulatory-based speech neuroprosthetic device for people who cannot communicate.

Dr. Edward Chang, Professor of Neurological Surgery at the University of California, San Francisco, will present this Language Science Talks event as part of the Djavad Mowafaghian Centre for Brain Health Research Neuroscience Research Colloquium series.

This talk is co-hosted by the Djavad Mowafaghian Centre for Brain Health Research and the UBC Language Sciences Initiative.

Appendix V: Supported Member Projects

Faculty Seed Funds

'Seeking the intersections between Indigenous linguistic vitality, health, and neuroethics' - \$5,000

Dr. Judy Illes (Neuroscience)

Dr. Mark Turin (Critical Indigenous Studies, Anthropology)

Louise Harding (graduate student, School of Population and Public Health)

Julia Schillo (Research Assistant, ICIS)

Ursula Ellis (Reference Librarian, Woodward Library, UBC)

Karleen Delaurier-Lyle (Librarian, Xwi7xwa Library, UBC)

The relationship between Indigenous linguistic vitality and community wellbeing is an underexplored and at the same time urgent area of research with considerable local relevance. BC is home to 34 Indigenous languages, all of which are critically endangered. While Indigenous communities know that language health and community health are connected, many language reclamation initiatives remain challenged by a lack of regular funding and data-driven, supportive policies. In 2007, a groundbreaking study involving UBC faculty reported a negative correlation between the vitality of Indigenous languages and youth suicide rates in BC First Nations communities. The study has since played an important role in policy, awareness, and direct action, and has been referenced by Prime Minister Justin Trudeau in his commitment to implementing Bill C-91, the Indigenous Languages Act. Building on this promising momentum, our research team is undertaking the first ever systematic review and comparative summary of both published academic research and 'grey' literature (information produced outside of traditional publishing and distribution channels) on the relationship between Indigenous linguistic vitality/revitalization and health in four anglophone, settler-colonial countries: Canada, the United States, Australia and New Zealand. Team members Louise Harding (UBC graduate student) and Julia Schillo (recent UBC graduate and current research assistant) are independently reviewing 8,158 potentially relevant articles for potential inclusion in a scoping review and preparing a results summary. Our preliminary analysis of the 222 articles that we have included to date indicates that there is a significant body of evidence to support the associations between Indigenous linguistic vitality / revitalization and health / wellness. An important area of focus for this work is the measurable relationship between Indigenous linguistic vitality and brain health, including cognitive health in ageing populations, childhood neurodevelopment, and mental health. PI Dr. Judy Illes brings expertise in analyzing these interactions from the framework of pragmatic neuroethics, and in translating research outputs into tangible policy change.

Atlas sonore des variétés de français au Canada / Speaking Atlas of French varieties in Canada - \$5,000

Marie-Eve Bouchard (FHIS)

Amanda Cardoso (Linguistics)

This project is a new collaboration between Marie-Eve Bouchard (a sociolinguist who studies language variation and French minorities in Canada) and Amanda Cardoso (whose research straddles the fields of sociolinguistics, phonetics, phonology, and dialectology). Our objective is to create a webpage that offers a visual and auditive map of different varieties of French across Canada. We are asking for funds to train a PhD student from Linguistics and an MA student from the Department of French, Hispanic and Italian Studies (FHIS) to assist with the ethics application, data collection, data processing, knowledge creation and knowledge dissemination. Our intended outcomes are new experimental data, the creation of a learning tool that can be used in linguistics, sociolinguistics and French courses, increased interdepartmental connections, and ultimately a SSHRC-IDG proposal.

A Data-Driven Approach to Uncover Emergent Video-related Language in an Information Economy - \$5,000

Dr. Sidney Fels (Electrical and Computer Engineering)

Dr. Dongwook Yoon (Computer Science)

Dr. Luanne Sinnamon (School of Information)

For this study, our primary approach will be to create a large ensemble of public video data from YouTube that includes genre designations and rating data. Using this data, we will perform automated, at-scale video content analysis using computer vision and speech recognition techniques. From this analysis, we will use discriminative methods to identify temporal, spatial and semantic patterns associated with the content types and sentiment analysis of the comments to identify common structural components. From these components, we can then correlate the patterns with rhetorical, visual and cinematic constructs that will provide the basis of a structural language tied to the types of videos. In the end, we will have a nuanced, data-driven video structure language that provides the needed guide to create video templates for tools that encompass the main effective approaches that are found in the current practices for different genres. To test these patterns, we will also build a tool around three of the patterns and test whether they can be used effectively by the appropriate target users. For example, as we have experience with educational videos, we can build a tool around the three most common patterns that emerge from educational type videos and test with instructors to see if they improve their ability to make and adjust video content for their classes.

GCRC Member Funds

Storyboards as a language learning tool - \$8,000

Dr. Lisa Matthewson (Linguistics)

Dr. Neda Todorovic (Postdoctoral Fellow, Linguistics)

Jane Smith (Gitksan consultant)

Dr. Mark Turin (Critical Indigenous Studies, Anthropology)

Dr. Hotze Rullmann (Linguistics)

Dr. Strang Burton (Linguistics)

This project aims to adapt a set of existing storyboards for teaching Gitksan, a Tsimshianic language spoken in Northern BC. The idea is to work together with the Gitksan community to produce pedagogical tools for use in the language learning process. To achieve optimal results, it is essential to pair theoretical knowledge with the knowledge of a community language expert and teacher, as well as an expert on language revival. Gitksan is highly endangered (FPCC 2018) and predominantly spoken by Elder community members. Recently, there has been an active effort to teach the language within the community. In addition, a lot of work has been done by the Gitksan Research Lab within UBC Linguistics. The GitLab conducts fieldwork on Gitksan for theoretical linguistic purposes and actively collaborates with the community for the purposes of language revival; e.g., GitLab has created an electronic Gitksan dictionary (<https://mothertongues.org/gitksan/>, also as a mobile app). Our project is an additional step towards collaboration and crucially creates novel connections with the community, with the revival of the language in mind.

The 2nd International Symposium on Teaching Cantonese as a Second Language and UBC Heritage Language Teaching Workshop 2021 - \$1600

Dr. Raymond Pai (Asian Studies, LLED)
Dr. Liam Doherty (Asian Studies, LLED)
Dr. Zoe Lam (Asian Studies)
Dr. Cedric Siu Lun Lee (University of Hong Kong)
Dr. Qian Wong (Asian Studies)
Dr. Sunnie Wang (Asian Studies)

The Cantonese Language Program in the Department of Asian Studies at the University of British Columbia (UBC) and the University Cantonese Programme Division of the Yale-China Chinese Language Centre at the Chinese University of Hong Kong (CUHK) will be holding the 2nd International Symposium on Teaching Cantonese as a Second Language (ISTCanSL) on 19-20 August 2021, Thursday-Friday (Vancouver Time); 20-21 August 2021, Friday - Saturday (Hong Kong Time) virtually. A 2-day UBC Heritage Language Teaching Workshop will also be hosted in conjunction with the 2nd ISTCanSL. The events are part of the celebration of the 5th anniversary of the Cantonese Language Program at UBC. The 2nd ISTCanSL is sponsored by the UBC Department of Asian Studies and jointly organized by the Yale-China Chinese Language Centre at the Chinese University of Hong Kong.

The 1st International Symposium on Teaching Cantonese as a Second Language was held on 18 October, 2019 (Friday) at the Chinese University of Hong Kong. The ISTCanSL aims at fostering academic exchange and promoting teaching and learning Cantonese internationally, while the UBC Heritage Language Teaching Workshop further aims to highlight faculty members' research, experiences and best teaching practices in heritage language instruction in different languages at UBC including Cantonese, German, Hindi, Japanese, Korean, Italian, Mandarin, Persian, Punjabi, Spanish, Urdu, etc., plus four keynote speakers Asma Afreen, Dr. Patricia Duff, Dr. Duanduan Li, and Dr Bonnie Norton.

These activities are planned to be knowledge translation (language teaching for researcher-practitioner) and outreach event (institution collaboration and teacher resource exchange).

Move & Agree Forum - \$500

Dr. Rose-Marie Déchaine (Linguistics)
Marianne Huijsmanns (Graduate student, Linguistics)
Dr. Hermann Keupdjio (Postdoctoral fellow, UBC/McGill Linguistics)
Dr. James Crippen (McGill)
Dr. Nico Baier (sessional instructor, UBC Linguistics)
Dr. Chris Hammerly (UBC Linguistics)

Funds were used to support a biolinguistics tutorial by Cedric Boeckx as part of the Move and Agree Forum, co-hosted by UBC and McGill, open to general Language Sciences membership. The aim of the Move & Agree Forum is to propel the next generation of scholars to use a broader range of methods, and operate across a broader range of languages.

Combined

SSHRC Connection Grant: Language Attitudes and Social Consequences in Diverse Contexts - \$1,800 Seed Funds, \$3200 GCRC Funds

Dr. Amanda Cardoso (Linguistics)

Dr. Marie-Eve Bouchard (FHIS)

Dr. Molly Babel (Linguistics)

Sarah LaFleur (undergraduate, Speech Sciences)

From request form: Given the harmful long-term effects of biases resulting from language attitudes on marginalised populations across a range of languages, it is essential to create a platform where language attitudes researchers working in diverse contexts can share research findings and interventions with positive outcomes, where appropriate. The proposed SSHRC Connection grant will be used to bring together a network of national and international scholars interested in the effects of language attitudes in diverse contexts at approximately 3-5 events (research-centred and public-facing) over the year. Diverse contexts in this case refers to two aspects of the project: themes and settings. Themes being explored within this grant are: language attitudes and employment, language attitudes and bilingualism/language learning, and language attitudes and speech technology. Settings in this case refers to different locations (e.g. British Columbia, Basel, UK, Brazil) and languages (e.g. Cantonese, English, French, Portuguese) and the differences found in societies in these settings (e.g. highly multiethnic areas vs relatively non-diverse areas). The SSHRC Connection grant will also include funding for two GRAs and two UGRAs. The intention is that these GRAs and UGRAs will come from a variety of UBC departments to provide multiple expertise and experiences and to ensure an interdisciplinary team.

Appendix VI: Language Sciences Publications

Stories

1. [Interdisciplinary Team to Study How Literacy is Changing in a Digital, Multicultural and Covid-Hit World](#) - January 15, 2021
2. [Eight Tips to Communicate Better While Wearing a Face Mask](#) - February 26, 2021
3. [How to Talk to People About Climate Change](#) - March 30, 2021
4. [Adopted by Tlingit, Descended from Mohawk: How Learning Lingit Helped UBC Student Discover Her History and Strive for a Future of Reciprocal, Respectful Research](#) - March 31, 2021
5. [How Language Teaching, Learning and Pop Culture Can Help Combat Racism](#) - May 28, 2021
6. [How a Hunt for Bannock Inspired a Cree Language Revitalization Children's Book](#) - July 22, 2021
7. [RSC Working Group Develops Recommendations for Language and Literacy Development in Response to COVID-19](#) - November 4, 2021
8. [The ABC's of Language Development: A Look Behind the Cover](#) - Dec. 1, 2021

Announcements

1. [Congratulations to our Award-Winning Members!](#) - Jan. 12, 2021
2. [Bonny Norton Named University Killam Professor](#) - Jan. 14, 2021
3. [Concerned About Your Toddler Not Talking? Here are Some Expert Tips and Resources for Parents](#) - April 1, 2021
4. [Language Sciences Statement on the Kamloops Indian Residential School Burials](#) - June 4, 2021
5. [Ensuring Full Literacy in a Multicultural and Digital World Project Receives BC Knowledge Development Fund \(BCKDF\) Award](#) - August 18, 2021
6. [Language Sciences Welcomes New Communications Specialist](#) - November 5, 2021

Q&A's

1. [Baby's' Brain and Learning Over Time](#) - January 8, 2021
2. [Pithy Papers: The Influence of Gesture, Adult Porcine Cochlea, and Translator Identity](#) - March 1, 2021
3. [LangSci After Grad: From PhD to Language Coach for First Nations Languages, Dr. Sonja Thoma](#) - April 21, 2021
4. [We Can Work with Language Towards a More Just Society', Living Language Alumni Q&A](#) - May 12, 2021
5. [LangSci After Grad: Finding Your Niche Outside Your Department, Dr. Jennifer Abel](#) - May 12, 2021
6. [LangSci After Grad: Having a Head and a Heart is Crucial for Clinical Work, Dr. Noreen Simmons](#) - June 2, 2021
7. [UBC Language Sciences Institute Ready to Tackle Society's Pressing Problems](#) - June 7, 2021
8. [LangSci After Grad: Start Networking, Stay Humble, Keyi Tang](#) - June 23, 2021
9. [Pithy Papers: Journalism innovation, A New Measure of Autistic Traits, and Scaffolding of Peer Interactions](#)

[in Group Activities](#) - June 25, 2021

10. [New Book Outlines the Science of Children's Language Development, Offers Practical Tips](#) - July 12, 2021
11. [Encouraging Little Scientists: Fostering Computational Thinking in Pre-Literate Children to Teach Life Skills](#) - August 2, 2021
12. [LangSci After Grad: PhD a Platform to Transform Lives, Dr. Harriet Mutonyi](#) - August 18, 2021

Appendix VII: Language Sciences Partners

Ensuring Full Literacy (SSHRC Partnership Grant, PI Werker)

Organization	Type	Location
Wolf Creek Public Schools	School district	Ponoka, Alberta
uLearnify	Private company	Canada
Mango Languages	Private company	Farmington Hills, Michigan, United States
Decoda Literacy Solutions	Non-profit	Vancouver, BC
ABC Life Literacy Canada	Non-profit	Toronto, Ontario
Canadian Children's Literacy Foundation	Non-profit	Toronto, Ontario
DIVERSEcity Community Resources Society	Non-profit	Surrey, BC
Compute Canada	Government	Ottawa, Ontario
Delmore "Buddy" Daye Learning Institute	Non-profit	Halifax, Nova Scotia
Halifax Public Libraries	Library	Halifax, Nova Scotia
Eyeread Inc (formerly Squiggle Park)	Private company	Halifax, Nova Scotia
Scholastic Inc.	Private company	New York, New York, United States
Alberta Machine Intelligence Institute	Government	Alberta
Mitacs	Non-profit	Toronto, Ontario
Storybooks Canada	Non-profit	Vancouver, BC
Access Alliance Multicultural Health & Community Services	Non-Profit	Toronto, Ontario
H.appi	Non-Profit	Vancouver, BC
West Vancouver Memorial Library	Public library	West Vancouver, BC
Altissia Inc.	Private Company	Louvain-la-Neuve, Belgium
Brain Vision Solutions	Private Company	Montreal, Quebec
NIRx Medical Technologies, LLC	Private company	Glen Head, New York, United States
SMART Technologies	Private company	Calgary, Alberta
The Conversation Canada	Non-profit	Toronto, Ontario
West Vancouver Schools	School district	West Vancouver, BC
Pearson Clinical Assessment Publisher	Private company	Canada
Toronto District School Board (TDSB) Research & Development	School district	Toronto, Ontario
Vancouver School Board # 39	School district	Vancouver, BC

Masters of Data Science - Computational Linguistics

Organization	Type	Location
Dialpad	Private company	San Francisco, California, United States
Glentel	Private company	Burnaby, BC
Government of Canada Web Analytics Team	Government	Ottawa, Ontario
Indeed	Private company	United States
Seasalt.ai	Private company	Seattle, Washington, United States
Thomson Reuters	Private company	Toronto, Ontario

CFI - Innovation Fund Grant

Organization	Type	Location
Culture Foundry	Private company	British Columbia

Appendix VIII: MDS-CL Capstone Projects

Partner	Project Title	Year	Further outcomes
Corporate Finance Institute Education Inc.	Course Writing Style Analysis / Learner Feedback Analysis	21-22	Giving students access to their course catalogue.
Seasalt.ai	AMA about your Business in a Mirror World	21-22	Partner from last year. Is considering opening division in Vancouver.
Seasalt.ai	Bridging the Chasm: from Voice Data to Voice Intelligence	21-22	Partner from last year. Is considering opening division in Vancouver.
British Columbia Investment Management Corp. (BCI)	What Can SEC 10-K Textual Disclosures Tell Us About Climate Risk?	21-22	
Katalon Inc.	Autonomous Software Testing Generation	21-22	Former MDS-V student is Partner organization contact.
SAP	ClearlyDefined: Intelligently Classifying Missing Software Licenses	21-22	Former MDS-CL student is Partner organization contact.
CultureFoundry	Ojibwe Conjugator Python Rewrite	21-22	Collaboration with Chris Hammerly.
BGC Engineering and NASA	Social Landslides: Improve NASA global landslide catalog with automated social media mining	21-22	
Heyday by Hootsuite	Is it "Yes" or "No?" Negation-aware named entity recognition in the e-commerce domain	21-22	Former MDS-CL student is Partner organization contact.
Amazon Alexa	20-21		Guest lecture, Amazon has hired five.
Inclusive Speech Recognition Course Project	20-21		https://medium.com/@haejin2909/having-problems-with-voice-recognition-youre-not-wrong-c26f9eec8d4
Thomson Reuters	Improving Search with Deep Learning for a Marketing Leading Accounting Research Platform	20-21	
Seasalt	Happiness in One Model: Cross-Lingual NER for Low-Resource Languages	20-21	https://masterdatascience.ubc.ca/why-data-science/data-stories/data-action-cross-lingual-ner-low-resource-languages Will be proceeding with two new projects this year. This Seattle based company is considering opening a branch in Canada to facilitate hiring MDS-CL students.
Sea around us	Estimation of Worldwide MPAS Protection through a Novel Questionnaire	20-21	
Glentel	Making sense of people data	20-21	
Indeed	Automatic Inference of Reader Attributes from Blog Content	20-21	Gave lecture to students regarding Indeed's technology.
Dialpad	ASR Data Inspector	20-21	Is strongly interested in future collaborations, and has been in discussions about Mitacs.

UBC Language Sciences

Partner	Project Title	Year	Further outcomes
Government of Canada Web Analytics Team	Determining the Use Cases Across Data Science Sub-Fields for the Government of Canada's Web Analytics Operations	20-21	
UBC Linguistics and FHIS	Universal Graded Reader	20-21	<p>Project is ongoing both as a capstone, and is available for students to work on. The Universal Graded Reader will allow individuals to find content on the Internet at their reading level in Spanish.</p> <p>https://masterdatascience.ubc.ca/why-data-science/data-stories/data-action-phase-one-universal-graded-reader</p>

Appendix IX: Living Language: Science and Society

Student Snapshot

A total of 17 students were enrolled in the Living Language: Science and Society course. There were students from six departments in the Faculty of Arts, two departments from the Faculty of Science, two departments from the Faculty of Land and Food Systems, and two departments from the Faculty of Pharmaceutical Sciences. Two of the students enrolled in the course were exchange students.

Presenter Snapshot

A number of guest speakers from various backgrounds were invited to present throughout the term. These speakers and their presentations are as follows:

- Professor Kayla Begay, Assistant Professor of Native American Studies, Humboldt State University; presented *Language & Indigeneity*
- Simon Corston-Olivier, Dialpad; Oana David, Google; and Karie Moorman, Amazon; presented *Language & Technology* panel
- Professor Bernard Perley, Director of the Institute for Critical Indigenous Studies and Associate Professor, Anthropology, UBC; presented *The Role of Anthropology in Language Revitalization*
- Dr. Debra Russell, DLR Consulting presented *Signed Language Interpretation*

Student Achievements

Through the course, students lead their own exploration of language as it applies to all domains of human life and engaged in group discussions with their peers, in addition to completing short written assignments that include individual reflection and in-depth exploration. Students also worked in interdisciplinary groups where they designed an action-oriented final project.

Notable student projects from the Living Language: Science and Society course included:

Books Beyond Bars: A comprehensive resource on books to prisoner groups across Canada

As part of their final project, one group of students developed a pamphlet about how and why incarcerated people in Canada receive books in prison, and how those interested in issues around literacy and social justice can help.

A Centralized Hub for English Language Support Services at UBC

As part of their final project, one group of students explored the issues surrounding visibility, availability and accessibility of English language support services for UBC undergraduate students who may want extra English language support to aid their learning in classrooms. Through their research they found that very few students and faculty are aware of how to access services, or what services are offered. The group created a centralized hub in the form of a poster that outlines and displays the various campus English language support services available to students.

Multilingual Communities and their Effects on Socio-Economic Outcomes

Written in the style of a grant proposal, this student project explored Recognizing that as migrants move to new countries, they may face a linguistic challenge: being able to communicate within the country they are immigrating to. Students proposed a research study that investigates whether or not there is an effect

of multilingualism on economic outcomes. Their two hypotheses were: (a) migrating to a multilingual community has no effect or a positive effect on economic outcomes and (b) migrating to a multilingual community has a negative effect on economic outcomes.



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