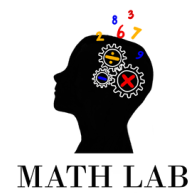


CARLETON MATHLAB

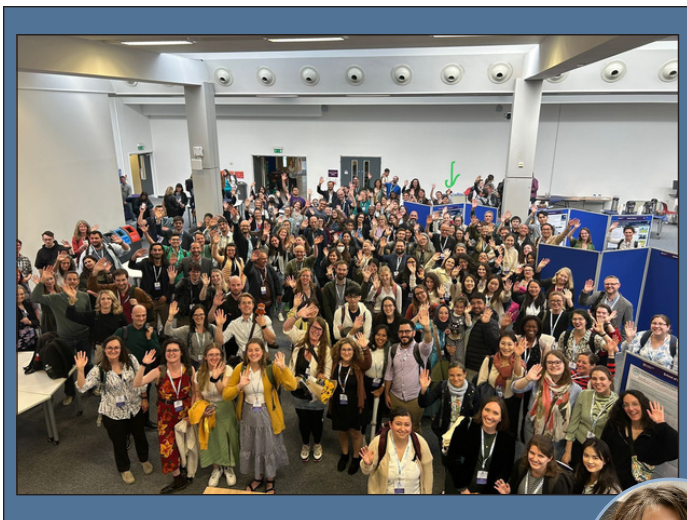
SUMMER 2023



HIGHLIGHTS

@CarletonMathLab

The MathLab conducts research into the cognitive processes involved in numerical and mathematical abilities. Research projects are designed to study different aspects of mathematical cognition including its development across different ages and cultures. We study basic cognitive processes and numeracy skills such as the retrieval and representation of mathematical knowledge and the application of that knowledge to real-world situations. This summer, members attended various conferences to present their work.



Gender Differences in Number Line Performance for 7- and 8-Year-Old [talk]

Shuyuan Yu, Jo-Anne LeFevre, Heather Douglas

The EMA@School Numeracy Screener: Assessment for Learning [talk]

Heather Douglas, Jo-Anne LeFevre

Examining the Roles of Sequence Familiarity and Inter-Element Distances in Order Judgment Task Performance [talk]

James Vellan, Jo-Anne LeFevre



Connecting Cognitive Science and Education to Advance Assessment and Instruction in Mathematics: Sharing our Collective Voices [poster]

Liza Kahwaji, Ayushi Chitranshi, Rebecca Merkley, Jo-Anne LeFevre, Shuyuan Yu, Heather Douglas



DONALD O. HEBB DISTINGUISHED CONTRIBUTION AWARD

Dr. Jo-Anne Lefevre was awarded the Donald O. Hebb award, celebrating her outstanding contributions throughout her career.



Operand-Order Specificity in Single-Digit Multiplication and Addition: An Eye Movement Study of Chinese-Educated Adults [talk]

Shuyuan Yu, Chaoyue Zhao, Jo-Anne LeFevre



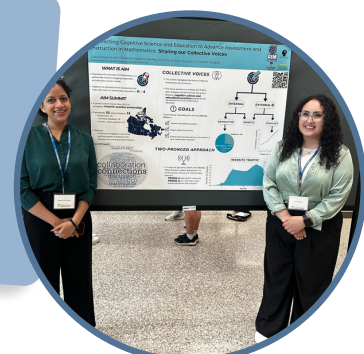
The Kids Are Alright: Summer Learning Loss in Numeracy is Minimal [poster]

Jenna Rice, Heather Douglas, Shuyuan Yu, Rebecca Merkley, Jo-Anne LeFevre



What Foundational Numeracy Skills Predict Arithmetic Performance One Year Later in Grades 2-3: Data from the Provincial Numeracy Screening Assessment [poster]

Liza Kahwaji, Heather Douglas, Jenna Rice, Shuyuan Yu, Rebecca Merkley, Jo-Anne LeFevre





PUBLICATIONS

- Xu, C., Di Lonardo Burr, S., & LeFevre, J. A. (2023). The hierarchical relations among mathematical competencies: From fundamental numeracy to complex mathematical skills. *Canadian Journal of Experimental Psychology/Revue canadienne de psychologie expérimentale*.
- Xu, C., Burr, S. D. L., LeFevre, J. A., Skwarchuk, S. L., Osana, H. P., Maloney, E. A., ... & Lafay, A. (2023). Development of children's number line estimation in primary school: Regional and curricular influences. *Cognitive Development*, 67, 101355.
- Xu, C., Li, H., Di Lonardo Burr, S., Si, J., LeFevre, J. A., & Zhuo, X. (2023). We Cannot Ignore the Signs: The Development of Equivalence and Arithmetic for Students from Grades 3 to 4. *Journal of Cognition and Development*, 1-20.
- Lafay, A., Adrien, E., Lonardo Burr, S. D., Douglas, H., Provost-Larocque, K., Xu, C., ... & Wylie, J. (2023). Transcoding of French numbers for first- and second-language learners in third grade. *Quarterly Journal of Experimental Psychology*, 17470218231174339.
- DiStefano, M., Retanal, F., Bureau, J. F., Hunt, T. E., Lafay, A., Osana, H. P., ... & Maloney, E. A. (2023). Relations between Math Achievement, Math Anxiety, and the Quality of Parent-Child Interactions While Solving Math Problems. *Education Sciences*, 13(3), 307.
- Xu, C., LeFevre, J. A., Burr, S. D. L., Maloney, E. A., Wylie, J., Simms, V., ... & Osana, H. P. (2023). A direct comparison of two measures of ordinal knowledge among 8-year-olds. *Journal of Numerical Cognition*, 9(2), 253-267.



PREREGISTRATIONS

- Bourque, T., LeFevre, J. A., Simms, V., Xu, C., & Wylie, J. (2023). The Role of Mathematics Vocabulary in Arithmetic Fluency and Mathematical Reasoning: A Cross-National Study of French and English Medium Schools in Canada and Irish and English Medium Schools in Northern Ireland.

<https://carleton.ca/mathlab/>



MATHLAB WEBSITE

Updated website is now live!

Many thanks to the Socials Team for generating content, redesigning the website, and implementing changes.

Contributors:

- Taeko Bourque
- Mikaÿla Perrier
- Liza Kahwaji
- Nayna Kirubakar
- Seokmin Oh
- Jo-Anne LeFevre



PROJECT HIGHLIGHTS

AIM

Held first summit in May 2023. With over 50 participants, initiatives emerged from the two day event and have grown since.

EMA@SCHOOL

Preparing for implementing the screener for another year in collaboration with school partners.

NEURALIGN

Neuralign (part of the literacy development project) successfully completed the last testing phase for the intervention

LLAMA

Published papers - and more are in progress!

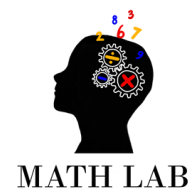
KNOWLEDGE MOBILIZATION

Social Media, Infographics, Research Summaries

The Socials Team works to share research from the lab, general knowledge from the field, and the 'hidden curriculum'.

To learn more or join us, please contact:

- [Taeko Bourque](#)
- [Liza Kahwaji](#)



FACULTY



Dr. Jo-Anne LeFevre

Lab Director, Chancellor's Professor of Cognitive Science and Psychology, Chair of Department of Cognitive Science.



Dr. Heather Douglas

Adjunct Research Professor in the Department of Cognitive Science



Dr. Rebecca Merkle

Adjunct Research Professor in the Department of Cognitive Science

September 13



UPCOMING DEFENSE



Shradha Dixit

M.A. Student, Psychology
Thesis title: Impact of a Multi-factor Digital Intervention on the Reading and Affect Skills of Children with Reading Difficulties.

Class of 2023



GRADUATED MEMBERS



Camryn Webb

Bachelor of Cognitive Science Honours, With High Distinction
Concentration: Biological Foundations of Cognition; Minor in Forensic Psychology



Mikayla Perrier

Bachelor of Cognitive Science Honours, With High Distinction
Concentration: Cognition and Psychology



Rachel Bultje

Bachelor of Cognitive Science Honours, With High Distinction
Concentration: Language and Linguistics; Minor in Psychology



NEW MEMBERS

Alastair Amsden

Bachelor of Psychology

Sara Nafar

Bachelor of Cognitive Science

Spencer O'Brien

Bachelor of Psychology



RETURNING MEMBERS

Dr. Shuyuan Yu

Postdoctoral Researcher, Cognitive Science

James Vellan

Ph.D. Student, Psychology

Seyeon Kim

Ph.D. Student, Psychology

Taeko Bourque

Ph.D. Student, Cognitive Science

Christian Atta Aglah

Ph.D. Student, Cognitive Science

Shradha Dixit

M.A. Student, Psychology

Steph Gunning

M.Cog.Sci Student, Cognitive Science

Jenna Rice

M.Cog.Sci Student, Cognitive Science

Alexander Kirby

M.A. Student, Psychology

Ayushi Chitranshi

M.Cog.Sci Student, Cognitive Science

Kenda Parsons

M.Cog.Sci Student, Cognitive Science

Abbey Gandhi

M.Cog.Sci Student, Cognitive Science

Gracynn Eades

Undergraduate Student, Developmental Psychology

Nicole Ermuth

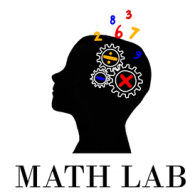
Undergraduate Student, Cognitive Science

Liza Kahwaji

Undergraduate Student, Cognitive Science

Seokmin Oh

Undergraduate Student, Psychology



@CarletonMathLab



FUNDING OPPORTUNITIES

NSERC

- PhD student deadline: Sep. 26, 2023
- MA student deadline: Dec. 1, 2023

SSHRC

- PhD student deadline: Sep. 29, 2023
- MA student deadline: Dec. 1, 2023

CIHR

- PhD student deadline: Sep. 29, 2023
- MA student deadline: Dec. 1, 2023

Tri-Council Awards

Donor-Funded Awards

- Grad student deadline: Sep. 28, 2023

OGS:

- Student deadline: Nov. 14, 2023
- Reference letters: Dec. 1, 2023

For more info, visit [Awards and Funding](#)



FUNDING OPPORTUNITIES

I-CUREUS

Carleton University Research Experience for Undergraduate Student

- For more info, visit [I-CUREUS](#)

SaPP

Students as Partners Program to collaborate on course design projects

- For more info, visit [SaPP](#)



PICKERING CENTRE

Grad students supervised by Jo-Anne:

You are automatically registered as Student Members of the Pickering Centre. Members have access to funding for conferences, professional experiences, invited speaker series, and more!

- For more info, visit the [Pickering Centre](#)

If you'd like to contribute to the next newsletter, contact Taeko or Liza.



CU COG SCI GRAD RESEARCH SHOWCASE

Grad students & upper-year undergrads:

Get a behind-the-scenes glimpse at published papers and conference presentations by current students in Cognitive Science.

- For more info, visit the [Grad Research Showcase](#)
- To submit an entry, contact [Taeko](#)



WORKSHOPS & CERTIFICATES

Grad students:

Carleton has Graduate Professional Development workshops ([view schedule](#)). Some of these can count towards paid TA training and/or [Trajectories certificates](#). There are currently 3 certificates available:

- Professional Writing
- Communications & Engagement
- Research Management



WICSC TRAINEE BOARD

Women in Cognitive Science Canada - Trainee Board

WiCSC Trainee provides cognitive science trainees (undergraduates, graduates, and early career researchers) with information and resources with a focus on:

- Preparing for academic careers
- Preparing for non-academic careers
- Personal life

For more info, visit [wicsc.ca](#)

We have openings for the Working Board.

- For more info and to apply, view the [Application Form](#). Deadline is Sep. 15, 2023.

WiCSC Trainee will also be presenting at the Carleton Cognitive Science Colloquium series on October 11, 2023.

- For more info, visit the [Cog. Sci. Colloquia Schedule](#)

Taeko is a Board Member and Liza is part of the Working Board



DON'T FORGET

Member Profiles

If you don't already have a profile on our website, please fill out this form: [Member Profile](#). If you have a profile and want to make changes, contact Taeko.

MathLab is on TEAMS

All MathLab content and chats are on teams. If you do not have access, please contact Taeko or Jo-Anne.