

Alexa Ruel

POSTDOCTORAL RESEARCHER AT UNIVERSITY OF HAMBURG, GERMANY

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Summary

- Postdoctoral Researcher at the University of Hamburg, studying changes in decision-making and learning in healthy aging adults.
- Skills: Programming, Computational Modeling, Electroencephalography, Teaching, Event Organization & Science communication.

Education

Universität Hamburg

POST-DOCTORAL RESEARCHER

Hamburg, Germany

2023-Present

Concordia University

DOCTOR OF PHILOSOPHY

Montreal, Canada

2018-2023

Concordia University

MASTER OF ARTS

Montreal, Canada

2016-2018

McGill University

BACHELOR OF ARTS

Montreal, Canada

2012-2016

Awards and Grants

Alexander von Humboldt Postdoctoral Fellowship

IN RECOGNITION OF: MONTHLY STIPEND AS WELL AS FUNDING TO SUPPORT RESEARCH ACTIVITIES.

Alexander von Humboldt
Foundation

October 2024 - October 2025

Ideas and Ventures Fund Grant

IN RECOGNITION OF: PROVIDES QUICK AND UNCOMPLICATED FUNDING FOR RESEARCH PROJECTS THAT LAY THE FOUNDATIONS FOR THE ACQUISITION OF THIRD-PARTY PROJECTS IN INDIVIDUAL FUNDING PROGRAMS.

Universität Hamburg

June 2024 - October 2025

Knowledge Mobilization Award

IN RECOGNITION OF: FINANCIAL SUPPORT FOR STUDENTS WHO PRESENT THEIR FINDINGS ABROAD TO A PUBLIC AUDIENCE.

EngAGE

December 2022

Research Competition, 3rd place

IN RECOGNITION OF: PARTICIPANTS PRESENT THEIR RESEARCH PROJECTS TO A PANEL OF NON-SPECIALIST JUDGES, WHO POSE QUESTIONS, ADJUDICATE, AND EVALUATE THEIR RESEARCH PRESENTATION. PRIZES ARE AWARDED ON THE BASIS OF THE JUDGES' FINAL DECISION.

EngAGE

May 2022

Featured Student December 2021

IN RECOGNITION OF: STAND OUT STUDENTS IN THE FIELD OF AGING RESEARCH.

EngAGE Concordia's Centre for
Research on Aging

December 2021

Scientific Citizenship Award

IN RECOGNITION OF: RECOGNIZES TRAINEES WHO HAVE SHOWN EXEMPLARY SCIENTIFIC CITIZENSHIP THROUGH A RANGE OF UNDERRECOGNIZED ACTIVITIES SUCH AS HELPING OTHERS, EXEMPLARY ETHICAL CONDUCT, INFORMAL TEACHING ACTIVITIES, OUTREACH, OR ACTIVITIES THAT BUILD COMMUNITY..

Center for Research in Human
Development

2021

Public Scholar

IN RECOGNITION OF: TEN PHD CANDIDATES REPRESENTING THE FACE OF GRADUATE EDUCATION AND EXCELLENCE IN RESEARCH AT CONCORDIA UNIVERSITY .

Public Scholar Program

2021-2022

Postgraduate Scholarship

IN RECOGNITION OF: DOCTORAL STUDENTS' ACADEMIC SUCCESS AND RESEARCH POTENTIAL.

NSERC

2020-2023

Faculty of Arts and Science Graduate Fellowship

IN RECOGNITION OF: ACADEMIC SUCCESS AND RESEARCH POTENTIAL.

Concordia University

2016, 2017, 2018 & 2019

Publications

- Eppinger, B., **Ruel, A.**, Bolenz, F. (2023). Diminished state Space theory of human aging. *Perspectives on Psychological Science*.
- Ruel, A.**, Bolenz, F., Li, S-C., Fischer, A., Eppinger, B. (2022). Neural evidence for age-related deficits in the representation of state spaces. *Cerebral Cortex*, 33(5), 1768-1781.
- Ruel, A.**, Devine, S., Eppinger, B. (2021). Resource-rational approach to meta-control problems across the lifespan. *Wiley Interdisciplinary Reviews Cognitive Science*.
- Ruel, A.**, Chiarella, S.S., Crivello, C., Poulin-Dubois, D. (2020) Concurrent Validity of the Modified Checklist for Autism in Toddlers (M-CHAT): Socio-cognitive and Verbal Skills in 18-Month-Old Infants. *Journal of Autism and Developmental Disorders*, 1-17.
- Poulin-Dubois, D., Hastings, P.D., Chiarella, S.S., Geangu, E., Hauf, P. **Ruel, A.**, Johnson, A. (2018). The eyes know it: Toddlers' visual scanning of sad faces is predicted by their theory of mind skills. *PLOS ONE*, 13(12), e0208524.
- Sheldon, S., & **Ruel, A.** (2018). The many routes of mental navigation: contrasting the effects of a detailed and gist retrieval approach on using and forming spatial representations. *Psychological Research*, 82, 1130-1143.
- Burnside, K., **Ruel, A.**, Azar, N., Poulin-Dubois, D. (2018). Implicit False Belief Across the Lifespan: Non-replication of an Anticipatory Looking Paradigm. *Cognitive Development*, 46, 4-11.

Conference Presentations

PUBLISHED ABSTRACTS

- Ruel A.**, Karaosmnanoglu, S., Steinicke, F. & Schuck, N. (2025, June). Getting the full picture: Age-related changes in decision-making. Poster session presented at RLDM, Dublin, Ireland.
- Ruel A.**, Köster, M. & Eppinger, B. (2022, June). Neural correlates of State Prediction Errors during reversal learning. Poster session presented at RLDM, Providence, Rhode Island, USA.
- Ruel A.**, Bolenz, F., Li, S-C., Eppinger, B. (2019, July). Adult Age Differences in Dynamics of Model-based Decision-making. Poster session presented at RLDM, Montreal, QC.

CONFERENCE TALKS

- Alexa Ruel**, Sukran Karaosmnanoglu, Frank Steinicke & Nicolas W. Schuck. Getting the full picture: Examining successor representation learning in older adults. Talk given at CSBBS 2025, Dundee, Scotland, July, 2025.
- Alexa Ruel** & Ben Eppinger. Diminished State Space Theory. Talk given at *TeaP 2024*, Regensburg, Germany, March, 2024.
- Devine, S., Neumann, C., & **Ruel, A.** Life of the mind: Judgment and decision making in human ageing. Speech given at *First Annual CRDH Webinar Series*, Montreal, Canada, April 2020.

RECENT POSTER PRESENTATIONS

- Ruel A.**, Marx, M., Köster, M. & Eppinger, B. (2023, October). Adult age differences in the updating of state spaces. Poster session presented at MCC, Lyon, France.
- Ruel A.**, Köster, M. & Eppinger, B. (2022, June). Neural correlates of State Prediction Errors during reversal learning. Poster session presented at RLDM, Providence, Rhode Island.
- Ruel A.**, Bolenz, F., Li, S-C., Eppinger, B. (2021, November). Neural evidence for age-related deficits in the representation of state spaces. Poster session presented at SfN, Online.
- Ruel A.**, Bolenz, F., Li, S-C., Eppinger, B. (2019, September). Older Adults Demonstrate Model-based Decision-making when Task Demands are Reduced. Poster session presented at MCC, Berlin, Germany.

Teaching Experience

Student Supervision

MASTERS THESIS

Fall 2025

Lecturer

INTRODUCTION TO EEG ANALYSIS: A SEMINAR

Summer 2024

Student Supervision

BACHELORS THESIS

Fall 2023

Lecturer

APPLIED METHODS IN COGNITIVE NEUROSCIENCE

Fall 2023

Lecturer

METHODS IN COGNITIVE NEUROSCIENCE

Fall 2023

Lecturer

GENERAL PSYCHOLOGY II

Fall 2023

Teaching Assistant

LIFESPAN DEVELOPMENT

Summer 2021

Teaching Assistant

RESEARCH METHODS AND DESIGNS

Winter 2018 & 2019

Teaching Assistant

INTRODUCTION TO STATISTICS 1

Winter 2018 & 2019

Student Supervision

BACHELORS THESIS

2018-2019

SKILLS

Programming

R, MATLAB, PYTHON, JAVASCRIPT & UNITY C#

Electrophysiology

ELECTROENCEPHALOGRAPHY (EEG)

Teaching

IN PERSON & ONLINE TEACHING

Other

WEBSITE CREATION, SCIENCE COMMUNICATION

Summer Schools

Analyzing Neural Time Series Summer School

Bucharest, Romania

July 2024

Virtual Summer School in Pattern Recognition in Neuroimaging

University of Vienna

September 2020

Leadership & Outreach

Concordia Psychology Journals (CJAP & CJPN)

JOURNALS COORDINATOR

2021-2022

PsychOut!

STUDENT ORGANIZER

2021-2022

Outreach Event at Dr W Keon School (NSERC Ambassador's Award Event)

PRESNTER

December 3, 2021

Outreach Event at Pontiac High School (NSERC Ambassador's Award Event)

PRESNTER

November 4, 2021

Communicating Science Conference 2021 (ComSciCon21)

ATTENDEE

August 4-7, 2021

CSBBCS conference 2021

STUDENT ORGANIZER

June 17-18th 2021

Concordia's Journal of Psychology and Neuroscience (CJPN)

CO-FOUNDER AND LIAISON

2021-2022

Brownbag Meetings on Cognition

COORDINATOR

2019-2021

Concordia's Journal of Accessible Psychology (CJAP)

FOUNDER & EDITOR-IN-CHIEF

2019-2022

Concordia's Yoga Club

YOGA INSTRUCTOR

2019-2020

Science Communication

TALKS & INTERVIEWS

University Women's Club Montreal, Guest Speaker

UWCM IS AMONG THE MOST ACTIVE ADVOCATES FOR A GENDER-EQUAL SOCIETY AND FOR THE RIGHTS OF GIRLS AND WOMEN TO AN EDUCATION OF QUALITY AND LIFE-LONG LEARNING

November 16, 2022

CUPA Case Competition 2022, Judge

ANNUAL INTER-UNIVERSITY COMPETITION IN WHICH UNDERGRADUATE STUDENT TEAMS ARE GIVEN 60 MINUTES TO ANSWER A RESEARCH QUESTION

March 12, 2022

Brainstorm: Exploring Minds and Behaviors Podcast: Episode 1, Memory

MEMORY WITH DR. SIGNY SHELDON, DR. BLAKE RICHARDS & FELICITY HAMER

January 21, 2022

In Plain English Podcast, Guest

HOW ESTROGEN AFFECTS PROSTATE CANCER

December 7, 2021

Engage Creative Science Shop, Speaker

DECISION-MAKING ACROSS LIFESPAN NEW FINDINGS AND EMERGING TECHNOLOGIES

November 25, 2021

4th Space Event, Moderator & Interviewer

DECISION-MAKING AND THE BRAIN WITH NATHANIEL DAW, Yael Niv, ORIEL FELDMANHALL & ANNE COLLINS

November 19, 2021

4th Space Event, Guest

IS FEELING GRATEFUL ALWAYS GREAT?

November 2, 2021

In Plain English Podcast, Guest

ARE HUMANS RATIONAL?

October 5, 2021

Brainstorm: Exploring Minds and Behaviors Podcast

ALEXANDER BAILEY AND ALEXA RUEL INTERACT WITH OTHER GRADUATE STUDENTS AND PROFESSORS FROM ACROSS CANADA AND BEYOND TO BUILD A COMMUNITY WHERE ANYONE INTERESTED IN PSYCHOLOGY AND NEUROSCIENCE CAN LEARN MORE BY SIMPLY TUNING IN.

2022-2023

McGill Center for Lifelong Learning, Lecturer

EFFECTS OF AGING ON LEARNING AND DECISION-MAKING ABILITIES

September 17, 2021

CJAD 800, Montreal Now, Guest

ADAPTING TECHNOLOGY TO OUR SENIORS

July 23, 2021

Abstract: The Future of Science Podcast, Guest

DECISION-MAKING

June 6, 2021

WRITTEN

Interviewed for article in: All Things Home

BEING A 55-PLUS HOMEOWNER IS ALL ABOUT POSSIBILITIES

April 1, 2025

Concordia Blog

HOW TO AVOID BITING OFF MORE THAN YOU CAN CHEW

February 10, 2022

Concordia Magazine:Alumni Magazine

EVERYTHING YOU NEED TO KNOW ABOUT DECISION-MAKING IN OLDER ADULTS

Fall 2021

Concordia Blog, Podcast Episode

CAREERS OUTSIDE ACADEMIA PODCAST

November 18, 2021

Concordia Blog

A LETTER TO MY PAST SELF

August 12, 2021

Montreal Gazette: Opinion

IT'S TIME SENIORS HAD TECHNOLOGY TAILORED TO THEM

July 21, 2021

Concordia Blog

DECIDING, CHOOSING AND LEARNING: WHAT'S THE DIFFERENCE?

June 24, 2021

Concordia Blog

DECIDING WHAT TO DECIDE IS NO EASY TASK

May 13, 2021

VIDEO

Concordia Blog: Vlog

TIPS TO USE YOUR E-CALENDAR OPTIMALLY

September 23, 2021