

Interdisciplinary Workshop

„Chess Expertise by Eye Gaze and Emotions - Multimodal Interaction in Chess Play“

Reykjavík, Iceland, January 14th and 15th 2019
Conference Room Fógetastofa - Hotel Reykjavik Centrum

As part of our project CEEGE (Chess Expertise by Eye Gaze and Emotions) we will hold a workshop-symposium in Reykjavík on January 14th and 15th 2019 in order to present and discuss research about cognitive and emotional interaction in the context of chess and to stimulate an exchange of information from a multidisciplinary point of view.

All interested people are cordially invited to participate in the workshop. The participation at the workshop including coffee, tea, juice, snacks etc. is free (no registration fee). We would appreciate an information about your planned participation to Thomas Küchelmann: thomas.kuechelmann@uni-bielefeld.de.

The CEEGE project is a joint multidisciplinary project between Inria in Grenoble, France, and the Center of Cognitive Interaction Technology (CITEC) in Bielefeld, Germany, funded by the DFG, the German Research Foundation and the ANR, the French National Research Agency. It is investigating the principles behind problem solving, attention, pattern recognition (chunking) and mental models in chess. Researchers from CITEC focus on eye tracking and mental representation in investigating both for chess experts and chess novices the availability and functionality of so called chunks in working memory and long-term memory. Together with physiological body measurement, emotion detection and mental modelling by our French partner from Inria, on the whole a wide-ranging manifold representation of a player's knowledge about chess concepts is composed and analyzed.

Due to our correspondence with a local chess grandmaster we chose Reykjavík as a location for our symposium. We cordially invite researchers interested and working in the field of visual attention, cognitive processes, expertise, psychology of perception and game theory, thereby granting the opportunity for a mutual exchange of ideas. Our agenda includes several talks, presentations and live demos of our project members.

Topics of interest:

- Interaction in Chess
- Eye tracking
- Chunking
- Mental memory representations
- Attentive learning processes
- Emotions in problem solving
- Multisensory observation of people engaged in problem solving
- Human machine interaction

Important dates:

- January 14th 2019: First workshop day (talks + open discussion)
- January 15th 2019: Second workshop day (live demos + open discussion)

Organization committee

- Prof. Dr. Kai Essig, Rhine-Waal University of Applied Sciences, Kamp-Lintfort, Germany
- Thomas Küchelmann, Center of Excellence "Cognitive Interaction Technology" (CITEC), Bielefeld University, Germany

Scientific committee:

- Prof. Dr. Thomas Schack, Center of Excellence "Cognitive Interaction Technology" (CITEC), Bielefeld University, Germany
- Prof. Dr. James Crowley, University Grenoble-Alpes, LIG, Inria, France

Program committee:

- Dr. Kostas Velentzas, Center of Excellence "Cognitive Interaction Technology" (CITEC), Bielefeld University, Germany
- Prof. Dr. Matthias Weigelt, Department of sports and Health, Paderborn University, Germany -
- Assoc. Prof. Dominique Vaufreydaz, University Grenoble-Alpes, LIG, Inria, France
- Thomas Guntz, University Grenoble-Alpes, LIG, Inria, France
- Dr. Raffaella Balzarini, Inria, Grenoble, France

Keynote speakers:

- Chess grand master and FIDE Senior Trainer Hedinn Steingrimsen, Rannis, Icelandic Centre for Research, Reykjavík, Iceland; title: tba
- Assistant Prof. Heida Maria Sigurdardottir, School of Health Sciences, Department of Psychology, University of Iceland, Reykjavík, Iceland
- Assistant Prof. Árni Gunnar Ásgeirsson, School of Humanities and Social Sciences Department of Psychology, University of Akureyri, Akureyri, Iceland

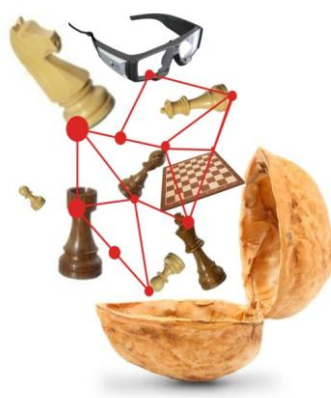
Additional information about the CEEGE project:

First results from CEEGE research have been presented on our first workshop on "[Behavior, Emotion and Representation: Building Blocks of Interaction](#)" at the [HAI conference](#) in Bielefeld, Germany, October 17th 2017: <https://project.inria.fr/berworkshop>

Please visit also our homepages:

https://www.uni-bielefeld.de/sport/arbeitsbereiche/ab_ii/research/ceege.html

<https://ceege.inria.fr>



Program:

Monday, 14th January 2019

Conference Room: Fógetastofa, Hotel Reykjavik Centrum

13:30 – 13:45

Welcome address

Prof. Dr. Thomas Schack

13:45 – 15:30

Cognition, Perception and Emotion in Human Interaction

13:45 – 14:30

Keynote

Prof. Dr. Heida Sigurdardottir, School of Health Sciences,
Department of Psychology, University of Iceland, Reykjavík,
Iceland

Mental Representations of Objects

14:30 – 15:00

Keynote

Prof. Dr. Árni Gunnar Ásgeirsson, School of Humanities and
Social Sciences, Department of Psychology, University of
Akureyri, Akureyri, Iceland

15:00 – 15:45

Prof. Dr. Thomas Schack

*Cognitive Architecture of Motor Actions – Building
Blocks of Performance in Memory, Brain and
Technology*

15:45 – 16:00

open discussion

16:00 – 16:30

Coffeebreak

16:30 – 18:15

Multimodal Dimensions of Interaction in Chess

16:30 – 17:00

Introduction and overview

Thomas Küchelmann

*Multimodal Measurement of Chess Expertise –
Overview about the Project CEEGE*



17:00 – 17:45

Interactive demonstration of experimental settings – part 1

Prof. Dr. Thomas Schack and Thomas Küchelmann
Eye Tracking in the Real Dyadic Scene

17:45 – 18:15

Open discussion

Tuesday, 15th January 2019

Conference Room: Fógetastofa, Hotel Reykjavik Centrum

10:00 – 16:30

**From Unimodal to Multimodal Experimental Settings:
Awareness and Mental Representation in Chess**

10:00 – 10:30

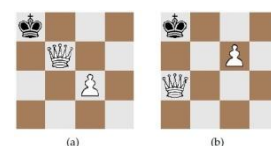
Expertise dependent priming effects

Thomas Küchelmann
*Expertise Dependent Perceptual Processing in
Chess Tasks With Varying Complexity*

10:30 – 11:00

Mental representation and LTM in chess

Thomas Küchelmann
*Mental Representation and LTM in Chess –
an Approach with SDA-M*



11:00 – 11:15

Open discussion

11:15 – 11:45

Interactive demonstration of experimental settings – part 2

Prof. Dr. Thomas Schack and Thomas Küchelmann
*Priming Effects, Eye Tracking and SDA-M, in Single
and Combined Settings*



11:45 – 12:15

Multimodal observation in chess

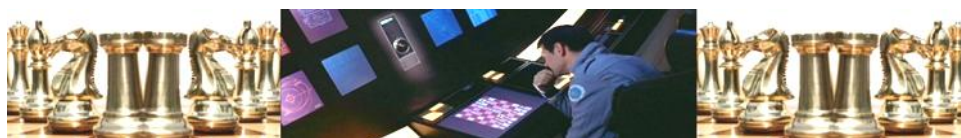
Thomas Guntz
*Multimodal Observation and Interpretation of Subjects
Engaged in Problem-Solving*

12:15 – 12:30

Open discussion

12:30 – 13:30

Lunch at Hotel Reykjavík Centrum



13:30 – 14:00

Keynote: Eye tracking and chess training

Chess grand master Hedínn Steingrímsson

→ *Precise title: tba*

14:00 – 14:30

Eye tracking and chess

Thomas Küchelmann

Automatic Analysis of Players' Behavior in Real Dyadic Chess Situations

14:30 – 15:00

Emotions and situation awareness in chess

Thomas Guntz

The Role of Emotion in Problem-Solving

15:00 – 15:30

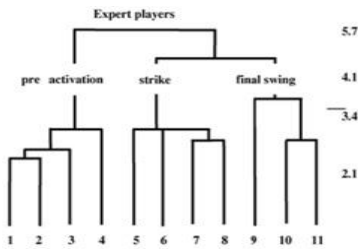
Coffee break

15:30 – 16:00

Memory and expertise

Prof. Dr. Thomas Schack

Mental Representation of Complex and Sequential Actions as a Basis for an Adaptive Cognitive Training



16:00 – 17:30

Open discussion, future work, end credits

Prof. Dr. Thomas Schack, Hedínn Steingrímsson, Thomas Küchelmann, guests, keynote speakers

