



**NORDIC PROJECT**

# PROGRAM

International Scientific Workshop

Experimental studies of language  
and speech (E-SoLaS):  
Corpus and mathematical  
methods in linguistic studies



**17–22 October,  
2016, Tomsk**



NATIONAL RESEARCH TOMSK STATE UNIVERSITY  
International Center for Research in Human Development  
Laboratory for Cognitive Studies of Language

UNIVERSITY OF TURKU  
Department of Psychology

NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY  
Department of Psychology

# Experimental studies of language and speech (E-SoLaS): Corpus and mathemati- cal methods in linguistic studies (2016)

*International Scientific Seminar*

*17–22 October, 2016, Tomsk*

## **PROGRAM**

The conference is supported by **Nordic-Russian Cooperation programme (NCM-RU-2015/10045 )** and **Tomsk State University Academic D.I. Mendeleev Fund Program in 2015 (research grant № 8.1.37.2015)**

Tomsk 2016

## GENERAL INFORMATION

The seminar is held within the frameworks of the project “Networking and mobility of students (MA, PhD) and academic staff of partner institutions in Russia, Finland and Norway in the area of cognitive and experimental linguistics”. The area of interest is implementation of educational cooperation between higher education institutions in the area of teaching cognitive science and experimental linguistics (MA and PhD programmes). The expected result is enhanced capacity of Russian and Nordic education institutions to produce researchers that can address the most important international research issues within cognitive science in sustainable ways applying integrated experimental research methodologies in cognitive and language studies.

## PROJECT PARTNERS

### Main partners:

University of Turku (Finland)

Contact: Jukka Hyönä (hyona@utu.fi)

National Research Tomsk State University (Russia)

Contact: Zoya Rezanova (rezanovazi@mail.ru)

### Other partner:

Norwegian University of Science and Technology (Norway)

Contact: Ute Gabriel ute.gabriel@svt.ntnu.no

### Seminar Venue

**Building 4** of National Research Tomsk State University (TSU)

located on Moskovsky trakt, 8 and

**Building 3** located on Lenina av., 34

### Lunch

Lunch will be served in Bell Pepper University canteen, Buyanovski Lane, 3a.

### Special Events

The excursion to an ancient Russian fortress  
(16.03.2016, 14.00 – 19.00)

## PROGRAM OVERVIEW

### October 17, 2016 (Monday)

10:35– 12:10 Introduction to experimental methods

12:25 – 14:00 Introduction to experimental methods

### October 18, 2016 (Tuesday)

8:45 – 10:20 Introduction to R I

10:35– 12:10 Introduction to R I

12:25 – 14:00 Eye-tracking I

14:45 – 16:20 Eye-tracking I

### October 19, 2016 (Wednesday)

8:45 – 10:20 Introduction to R I

10:35– 12:10 Introduction to R I

14:45 – 16:20 Introduction to R I

16:35 – 18:10 Introduction to R I

18:25 – 20:00 Introduction to R I

### October 20, 2016 (Thursday)

8:45 – 10:20 Introduction to R II

10:35– 12:10 Introduction to R II

12:25 – 14:00 Eye-tracking II

14:45 – 16:20 Eye-tracking II

### October 21, 2016 (Friday)

8:45 – 10:20 Introduction to R II

10:35– 12:10 Introduction to R II

12:25 – 14:00 Talking students’ experimental practicalities

14:45 – 16:20 Eye-tracking II

### October 22, 2016 (Saturday)

10:35– 12:10 Discussion

12:25 – 14:00 Discussion

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October 17, Monday

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**10.35 – 12.10**

**Building 4, room 020**

Introduction to experimental methods:

- Design
- The role of hypothesis testing

Lexical decision and priming tasks

- Basic principles and examples

**12.25 – 14.00**

**Building 4, room 020**

Introduction to experimental methods:

- Design
- The role of hypothesis testing

Lexical decision and priming tasks

- Basic principles and examples

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October 18, Thursday

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**8:45 – 10:20**

**Building 3, room 15**

Introduction to R I

- Using RStudio with R
- Importing data
- Data structures in R
- Exporting data
- Session management
- Packages in R

**10:35 – 12:10**

**Building 3, room 15**

- Using RStudio with R
- Importing data
- Data structures in R
- Exporting data
- Session management
- Packages in R

**12:25 – 14:00**

**Building 3, room 15**

- Basics, setting, strengths and limitations

**14:45 – 16:20**

**Building 3, room 15**

- Basics, setting, strengths and limitations

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 October 19, Wednesday
 

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**8:45 – 12:10**  
**Building 3, room 15**

Introduction to R I

- Using RStudio with R
- Importing data
- Data structures in R
- Exporting data
- Session management
- Packages in R

**14:45 – 16:20**  
**Building 4, room 020**

- Interpreting linear and mixed-effects models
- Reporting linear and mixed-effects models

**16:35 – 18:10**  
**Building 4, room 020**

Linear and linear mixed-effects models

- Analysis of reaction times
- Fitting bi- and multivariate linear models
- Fitting bi- and multivariate linear mixed-effects models

**18:25 – 20:00**  
**Building 2, room 228**

Experimental methods in linguistic studies

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 October 20, Thursday
 

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**8:45 – 10:20**  
**Building 3, room 15**

Introduction to R II

- Variable types
- Summarizing data in R
- Visualizing data
- Some uni- and bivariate methods for linguistic data
- P-values and confidence intervals

**10:35 – 12:10**  
**Building 3, room 15**

Introduction to R II

- Variable types
- Summarizing data in R
- Visualizing data
- Some uni- and bivariate methods for linguistic data
- P-values and confidence intervals

**12:25 – 14:00**  
**Building 3, room 15**

Eye-tracking II

- Going through some exemplar tracker studies

**14:45 – 16:20**  
**Building 3, room 15**

Generalized linear and generalized linear mixed-effects models

- Analysis of errors in a lexical decision task
- Analysis of binomial response variables based on corpus data
- Fitting bi- and multivariate generalized linear models
- Fitting bi- and multivariate generalized linear mixed-effects model
- Interpreting generalized linear and mixed-effects models
- Reporting generalized linear and mixed-effects models

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 October 21, Friday
 

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**8:45 – 10:20**  
**Building 3, room 15**

Introduction to R II

- Variable types
- Summarizing data in R using dplyr
- Visualizing data
- Some uni- and bivariate methods for linguistic data
- P-values and confidence intervals

**10:35 – 12:10**  
**Building 3, room 15**

Introduction to R II

- Variable types
- Summarizing data in R using dplyr
- Visualizing data
- Some uni- and bivariate methods for linguistic data
- P-values and confidence intervals

**12:25 – 14:00**  
**Building 4, room 020**

Talking students' experimental practicalities

- Discussing students' practical matters concerning ongoing tracker and other experimental studies

**14:45 – 16:20**  
**Building 4, room 020**

Generalized additive mixed-effects models

- Analysis of eye-tracking data based on a sentence reading task
- Fitting multivariate generalized additive mixed-effects models
- Interpreting generalized additive mixed-effects models through data visualization

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 October 22, Saturday
 

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**10.35 – 12.10**  
**Building 4, room 020**

Discussion

- Students may present their own projects and discuss potential issues related to but not limited to:
  - Design
  - Analysis

**12.25 – 14.00**  
**Building 4, room 020**

Discussion

- Students may present their own projects and discuss potential issues related to but not limited to:
  - Design
  - Analysis

