

NEWSLETTER
ISSUE #2 - MAY 2023



Dear Reader,

I am pleased to introduce you the 2nd issue of the MultiplEYE newsletter.

The Multipleye COST Action has taken off successfully and is continuously growing. We have set several communication tools and channels where you can keep up with our activities. Current news is shared via Twitter (@Multipleye_COST) and Linkedin (@Multipleye COST Action) and easily found at Multipleye's Website (www.multipleye.eu).

Please, keep us informed on your activities within MultiplEYE and feel free to forward this newsletter to other interested colleagues. We are looking for support for more languages.

In this issue we will highlight the main activities that happened during the first months of 2023 and introduce you some of the key persons that support research and networking activities inside our network; the Grant Awarding Coordinator, Ana Matić Škorić and the Grant Holder Manager, Anna Bondar. I hope that reading this newsletter will inspire you and perhaps encourage you to join us.

Dr. Evis Trandafili MultiplEYE Science Communication Coordinator email: etrandafili@fti.edu.al

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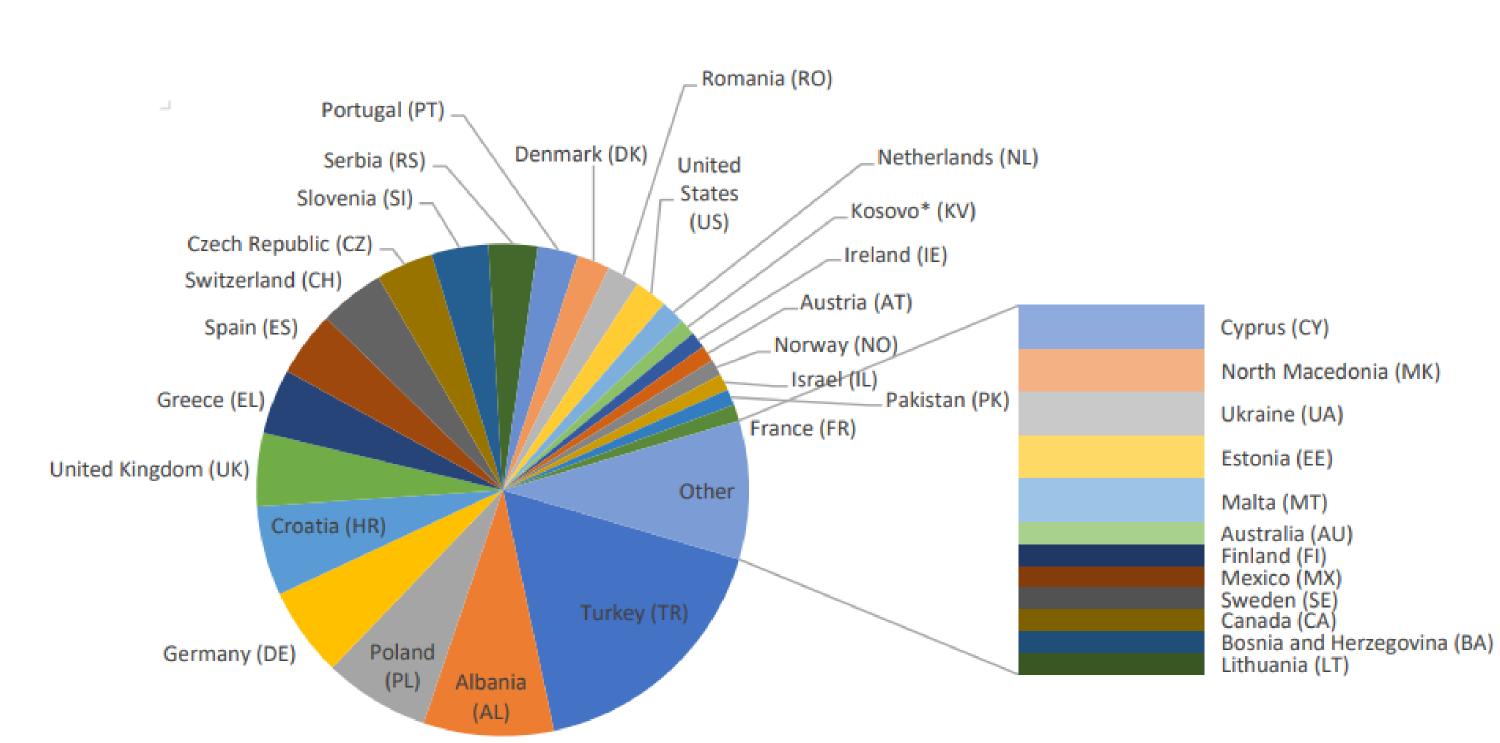
@multipleye-cost-action



I.MultiplEYE at a glance...

- 36 COUNTRIES
- **187 MEMBERS**
- 116 **WOMEN**
- 105 YOUNG RESEARCHERS

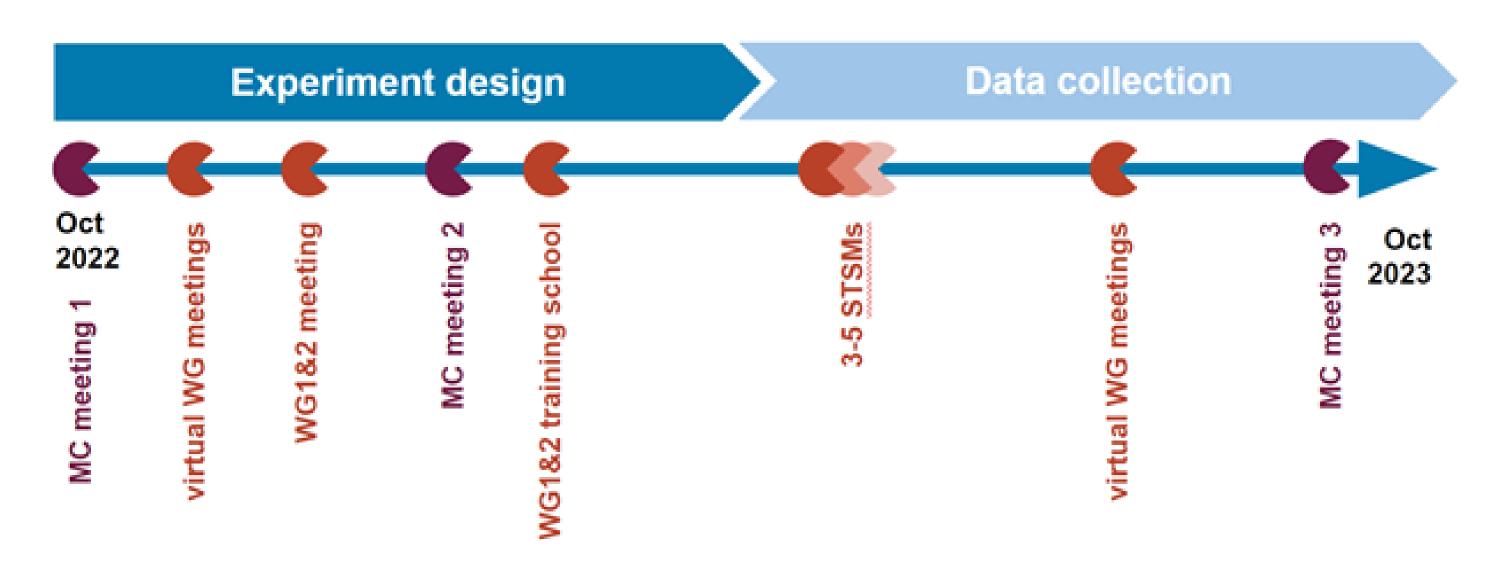
2. Participants



3. Inside the Working Groups

WORKING GROUP	LEADER	CO LEADERS	NO. MEMBERS
WG1 Enabling eye-tracking data collection	Dr. Ramunė KASPERĖ Kaunas University of Technology, Lithuania r <u>amune.kaspere@ktu.lt</u>		99
WG2 Experiment Design and Methodology	Prof Duygun EROL BARKANA Yeditepe University, Istanbul Turkey <u>duygunerol@yeditepe.edu.tr</u>	Timothy Papadopoulos University of Cyprus; Cyprus papadopoulos.timothy@ucy.ac.cy Cengiz Acartürk Jagiellonian University, Poland acarturk@gmail.com	95
WG3 Eye-tracking for Psycholinguistic Research Questions	Prof Mila VULCHANOVA Norwegian University of Science and Technology, Norway <u>mila.vulchanova@ntnu.no</u>	Vera Demberg Saarland University, Germany <u>vera@coli.uni-saarland.de</u>	87
WG4 Natural Language Processing Applications Leveraging Eye-tracking Data	Dr Jamal ABDUL NASIR University of Galway Ireland jamal.nasir@universityofgalway.ie		65
WG5 Dissemination	Dr. Evis TRANDAFILI Polytechnic University of Tirana Albania etrandafili@fti.edu.al		37

4. Action Objectives for 2023



5. Past events

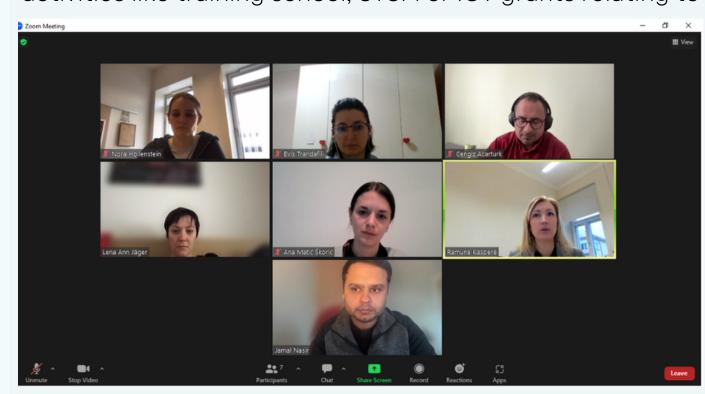
Virtual Workshop on Data Collection

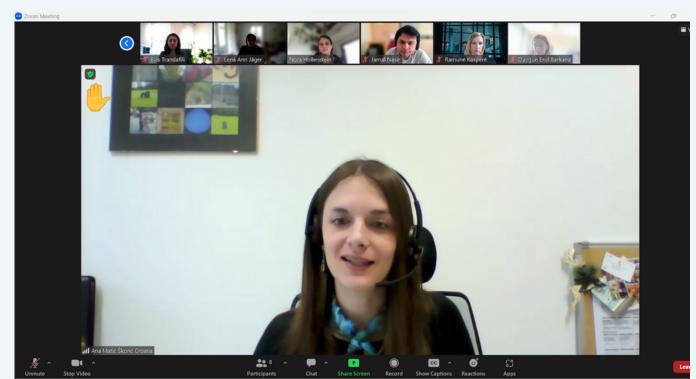
Multiple WG1 members had a virtual workshop on January 10th, 2023. The main objective of the workshop was data collection and management. In order to establish a foundation of common knowledge on which to build a collaboration, data collection plans and eye tracking data structures were discussed with the Multiple Ye's collaborator from Leibniz Institute for Psychology, Marie-Luise Müller.



Core Grup Virtual meetings

The Core Group held its 2nd and 3rd meeting to follow up on MultiplEYEs activities and objectives. The 2nd Core Group meeting was held on April 14, 2023. Both meetings were moderated online by the Chair of the Action, Dr. Nora Hollenstein. CG members discussed about new WG applications, new MC members, whereas the current status of data collection and additional updates from WGs 1-5 were summarized by the respective WG leaders. Moreover, the CG members discussed about the organization of networking activities like training school, STSM or ICT grants relating to budget and reimbursement.





Face to Face meeting in Warsaw, Poland

In the framework of COST Action MultiplEYE, WG1 and WG2 had their first-in-person meeting on February 9-10, 2023, in Warsaw. The meeting, attended by both Management Committee members and Working Group members, was held in Poland SWPS University of Social Sciences and Humanities, a leading higher education institution with over 14,500 students. The main objective is establishing the design for the MultiplEYE data collection and eye-tracking methodology. During the meeting, there were presentations and workshops, aiming at providing insight on the current situation and proposals for further contribution to the WGs and Action objectives.

On the first day, there was a welcome speech by the local hosts, Izabela Krejtz and Krzysztof Krejtz, followed by an introduction by the Action Chair, Nora Hollenstein, Motivation & goals of the meeting. The participants were then divided in two different rooms, with Ramunė KASPERĖ, the Leader of WG1, moderating WG1 workshop: stimulus collection, and Duygun Erol Barkana, Timothy Papadopoulos, Evgenia Peristera moderating the WG2 workshop: methodology for literature review. In addition, WG1&WG2 participated in a joint workshop: stimulus annotation, moderated by Svitlana Matvieieva who explained stimulus annotation, how to describe the text in the corpus, including vocabulary, topic, genre, date, translation, etc. There was also another WG1&WG2 joint workshop, "Preprocessing pipeline" with moderator Daniel Krakowczyk who presented pymovements, the pre-processing pipeline, the process of processing eye tracking data, movement signals, the concept of a big library of datasets, etc. Finally, yet importantly, Lena Jäger, the Action Vice Chair, presented the last WG1&WG2 joint workshop: experiment design. During the



workshop, Lena presented the experiment design and data collection structure.





The second day started with a joint workshop on data management & documentation, moderated by Marie-Luise Müller and Lena Jäger, where it was discussed on research data management plan, ethical responsibility for each country, difficulties of finding a common ground for each country, data access, data protection and privacy regulations, etc. It was followed by WG1 discussion: ethics approvals, moderated by Ramunė Kasperė, mainly highlighting issues related to research ethics approval. In the meantime, there was a parallel meeting of WG2 on the organization of subgroups and definition of roadmap moderated by Duygun Erol Barkana, Timothy Papadopoulos, Cengiz Acartürk. The participants were reunited in a WG1&WG2 joint workshop: implementation of the experimental moderated by Deborah Jakobi and Lena Jäger. Participants are encouraged to engage with one of the following tasks: selecting stimuli, screen layout, and other more specialized tasks. At the very end of day 2, there was a final WG1&WG2 joint discussion and distribution of tasks for next steps.



Management Committee 2nd meeting

On Februaray 23, 2023 the MultiplEYE Management Committee (MC) had its second meeting online. 26 members of MultiplEYE's MC were present online. The chair of the action, Dr. Nora Hollenstein moderated the meeting via Zoom and introduced the agenda. The purpose of the meeting was to update the management committee about the tasks delegated to the Core Group, progress and future plans of Working Groups and Upcoming Activities and follow-ups. WG leaders introduced the progress to date and Grant Awarding Coordinator and Grant Holder Manager followed up on network activities timeline, budget, and reimbursement.







Training School: Enabling Multilingual Eye-Tracking Data Collection for Human and Machine Language Processing Research

With the support of the Multipleye COST Action CA21131, Kaunas Technical University organized a three-day training school in Lithuania, on April 27-28. Kaunas University of Technology (KTU) was founded in 1922. Currently, 7298 students are studying at KTU, of whom 1141 are international students.

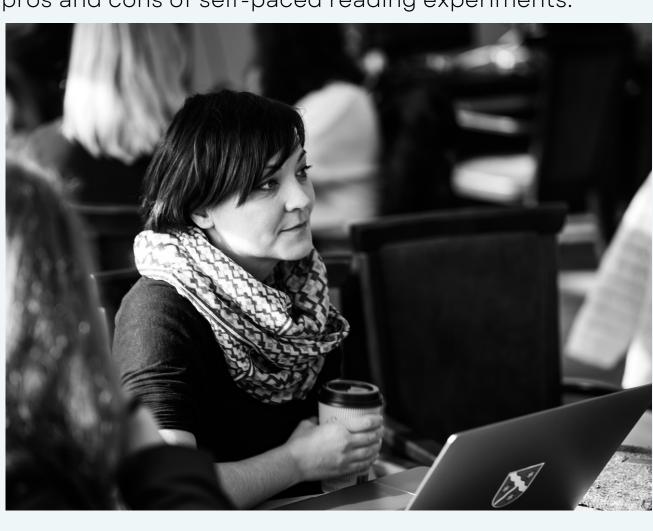
The main purpose of the training school was to introduce eye-tracking methodology, conduction of an eye-tracking experiments, demonstration of eye-tracking devices and software implementation of eye-tracking experiments.

Ramunė KASPERĖ, leader of WG1 with her excellent team hosted the training school in the Faculty of Social Science, Arts and Humanities. 73 participants participated in the training school where 11 training courses including hands-on experience were presented.





On the first day, the action vice chair Lena Jäger and WG1 leader and local host, Ramunė KASPERĖ welcomed the training school participants in the spacious hall of the university. The first trainer Irina Sekerina, presented eyetracking methodology and provided several examples, papers and use cases. The next trainer Lena Jäger, presented data collection, format of stored data and guidelines on conducting an eye-tracking experiment. Last presentation of the first day was titled "Self-paced reading: practical introduction" by Jan Chromy who provided pros and cons of self-paced reading experiments.





On the second day, Cengiz Acartürk introduced experimental design, providing cases using eye-tracking for multimodal data. Moreover, the workshop by Pawel Kasprowski explained several types of eye trackers and provided hands-on experience to play in eye-controlled games. Pawel drew attention to the need to comply with the conditions of the experiment. Finally, the workshop coordinated by Deborah Jakobi, introduced MultiplEYE experiment. She taught participants how to set up an eye-tracking experiment with Python using anaconda environment. The training school participants followed the instructions and tested the working code for the MultiplEYE experiment.

The last day started with introducing pymovements library by the trainer Daniel Krakowczyk in charge of software development. Daniel conducted a step by step workshop: how to load the dataset, process eye tracking data, shop plots and conducting research with pymovements. Finally, the training school presentations were closed with Cengiz Acartürk with practical recommendations for setting up an eye-tracking lab.



Training School Participant Profile



Sara Košutar

Faculty of Education and Rehabilitation Sciences sara.kosutar@gmail.com

<u>Sara Košutar</u> is a postdoctoral research fellow at the Department of Speech and Language Pathology, University of Zagreb. Her main scientific interests are language acquisition, language processing, with a particular focus on the study of language from a crosslinguistic perspective. She has experience in conducting experiments and language-sampling studies, using eye-tracking and various other psycholinguistic methods (questionnaires, elicited production tasks, etc.).

She holds MSc degrees in French and Croatian from the Faculty of Humanities and Social Sciences. She defended her PhD in Linguistics in September 2022. Her doctoral thesis is an eyetracking (reading) study of pronoun ambiguity resolution in Croatian.

During her PhD, Sara did a research stay at the University of Zurich and she is currently involved in several national and international projects on the acquisition and processing of Croatian, Estonian, Chinese, etc.

Sara's feedback from the Training School

I found the Multipleye COST Action particularly useful from the perspective of an early-stage researcher seeking for methodological training, international networking and new research opportunities. With the support of the Multipleye, I was able to participate in the Training school held in Kaunas on 27-28 April 2023. Although I already have experience with eye-tracking, I desired to expand my current knowledge and enhance my skills. The introductory lectures were an excellent warm-up to consolidate what I already knew, while in the lectures on experimental design and data collection I heard many practical tips on how to conduct such experiments. In fact, I have already encountered some of the pitfalls mentioned when designing and/or conducting experiments now I feel I have a much clearer picture and understanding of what an eye-tracking researcher should bear in mind. Particularly useful and new for me was the practical work with Python, which expanded my knowledge beyond my previous experience with eyetracking. Overall, I have enjoyed the benefits of the training school and I think that such activities have a positive impact on the development of expertise in this field of research.

6. MultiplEYE's networking activities organised through a Grant Awarding Process

According to the Annotated rules for COST Actions, each Action provides numerous networking activities organised through a Grant Awarding Process. Hmm, what exactly is meant by this?

Networking activities organised through a Grant Awarding Process encompass mobility of researchers and innovators and presentation at conferences organised by third parties. Simply put, the COST Action provides funding for travel, learning, dissemination, and networking. These schemes can be organised in a variety of ways, including Short Term Scientific Missions (STSMs), Inclusiveness Target Country (ITC) Conferences or Dissemination Conferences.

Below is a brief explanation of each option so that you, as members of MultiplEYE, know the options and which ones to apply for if you are eligible!

About STSMs

Short Term Scientific Missions are exchange visits aimed at supporting individual mobility, strengthening existing networks and fostering collaboration between researchers. The aim of an STSM as defined by COST Annotated Rules is to contribute to the scientific objectives of the COST Action. These Missions aim at strengthening the existing COST Actions by allowing scientists to go to an institution or laboratory in another COST country to foster collaboration, to learn a new technique, or methods of conducting experiment tools/instruments/procedures not available in their own institution/laboratory.

Typically, there are several open calls for STSMs during the Action's Grant period (for MultiplEYE, the Grant period is from October to October). Some of the calls are more specific, which is necessary when leaders feel that something specific should be done through collaborative efforts that will benefit the Action. On the other hand, some calls are more general and applicants are freer to decide whom to visit and what type of activities to undertake. Details on how to apply, i.e., the process and required documentation, can be found on our website. Calls for applications are always announced on the web, and distributed through email and various channels such as Twitter, LinkedIn or Slack. Do not hesitate, apply! Contact the potential host and organize a visit!

About ITC Conferences

ITC Conference Grants are another great option to look into! This type of grant provides financial support to young researchers and innovators affiliated in an Inclusiveness Target Country / Near Neighbour Country for their participation in high-level conferences. Grantees receive support to attend a conference and present their work (poster/oral presentation), and can make new contacts for future collaborations.

These calls do not have to be announced. You can apply at any time! Just visit our website to check the necessary requirements, log in to the e-COST system, upload the documents and submit the application. We will review it and give you an answer as soon as possible.

About Dissemination Conferences

Dissemination Conferences are not yet on our list of funding programmes on the website, but only because we need some data coming directly from MultiplEYE to disseminate. Since we are all working so hard towards our common goals, we will be updating the website soon with information on

how to apply for a Dissemination Conference Grant. Stay tuned!

Current and Forthcoming STSMs

To date, there have been three open calls for STSMs.

Open call for applications to visit Charles University in Prague. Deadline June 15, 2023. Check out the call and apply if you are interested. We will contact you through the e-COST system and help you organise your stay.

NCC lis Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Jordan, Kosovo, Lebanon, Libya, Morocco, the Palestinian Authority, Russia, Syria, Tunisia and Ukraine.

ITC list Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, North Macedonia, Hungary, Latvia, Lithuania, Malta, Moldova, Montenegro, Poland, Portugal, Romania, Serbia, Slovakia,

Slovenia, Türkiye.

Two successful STSM procedures:

- 1. Kristina Cergol and Daniel Krakowczyk currently staying at the University of Edinburgh
- 2. Mohd Faizan Ansari travelling soon to Nottingham Trent University.

Get to read about their experiences in the next newsletter!

Once we have calculated all our current costs, we will know if we have enough funds to open another STSM call in the current Grant Period, or if we have to wait until after October to open another call in the Second Grant Period. Our goal is to try to have as many STSMs as possible and to help you disseminate research results that you have gained either as part of MultiplEYE or as part of another project, but that are closely related to the goals of the Action.

Who manages these procedures?

The processes described above are usually handled by the Grant Awarding Coordinator of the Action, which in the case of MultiplEYE is Ana Matić Škorić. She is currently a postdoctoral researcher working at the Department of Speech and Language Pathology, University of Zagreb, in the Laboratory for Psycholinguistic Research. With an MA in Speech and Language Pathology and a PhD in Linguistics, research enthusiasm and passion for psycholinguistics, and finally with experience in eye-tracking, she sees great potential for this Action and feel very honoured to be an active member of the working groups and the Core Group.

In addition to the work in the working groups, her role as the Grant Awarding Coordinator is to manage and distribute the calls for proposals, contact potential hosts, communicate with the Chair, the Vice Chair and the Grant Manager of the Action, calculate funding, manage the e-COST system, review applications, send feedback, and be in close contact with each applicant to ensure that grants are awarded as smoothly as possible. Her goal is to ensure that the grant benefits both the applicant and the Action. You can contact her at any time by email at: ana.matic@erf.unizg.hr



The Action will be around for some time, so why not work, enjoy, and seize the opportunities? Ana Matić Škorić

7. Grant Holder Manager Role and Reimbursements Overview

As it is stated on the Cost Action website, the role of a Grant Holder Manager (GHM) in a COST Action is crucial for the successful implementation of the research network. As the main point of contact for participants, the GHM is responsible for effectively managing various activities within the Action. This includes handling reimbursements based on the Annotated rules for COST Actions and facilitating communication between participants for Action events.

Grant Holder Manager in MultiplEYE

In the specific case of the Multipleye Cost Action, Anna Bondar, holds the role of the Grant Holder Manager. Currently, Anna is pursuing her master's degree in the Department of Computational Linguistics at the University of Zurich. With a keen interest in eyetracking, she is delighted to be a member of Working Group 1, led by Ramunė Kaspere. .

Regarding her role as the Grant Holder Manager, Anna responsibilities Bondar's primary communication with participants, sending invitations, dissemination of reimbursement rules and addressing event-related inquiries. Additionally, Anna actively works with the Cost Action platform, encoding events

and expenses, reimbursing participants, generating Financial Reports, and submitting them to the Cost Administration.



I am particularly excited about the opportunity to contribute to data collection for my mother tongue, Ukrainian Anna Bondar Reimbursements within MultipleYE follow the guidelines outlined in the Annotated rules for COST Actions and provide a framework for participants to claim reimbursements for their eligible expenses, ensuring transparency and fairness within the MultiplEYE Cost Action. For more detailed information, please refer to the mentioned document or feel free to contact Anna Bondar directly by email at: anna.bondar@uzh.ch

Travel Reimbursement

This category covers long-distance travel expenses. Long-distance travel refers to distances exceeding 100 km using a single means of transport. For example, if a participant travels 230 km by train, this expense can be reimbursed. However, if the journey involves 70 km by train and 160 km by bus, only the bus expenses will be eligible for reimbursement (even though the total distance traveled remains 230 km). Claims for travel reimbursement are processed based on participant-provided documents, considering the mode of transportation, and are specified in the Annotated rules for COST Actions.

Daily Allowance

The daily allowance amount is calculated based on a fixed rate and the number of days a participant attended the event. Participants can also receive the daily allowance for one day before and one day after the event, with the precise amount calculated based on the departure and return times in accordance with the rates specified in the Cost Action Rules. This sum is intended to cover expenses such as accommodation, food, and local transportation for the participants.

Visa Fees

Participants can claim reimbursement for visa fees if obtaining a visa is required for travel to the event location. To be eligible for this expense, participants need to upload supporting documentation to their expense claim on the platform.

8. Member Profiles



Iza Škrjanec Saarland University skrjanec@coli.uni-saarland.de

Iza <u>Škrjanec</u> is a doctoral researcher of computational psycholinguistics in Prof. Vera Demberg's lab at Saarland University in Saarbrücken, Germany. She is interested in individual differences in language processing and what evidence of those we can find in eye movements and pupil size during reading.

Iza holds a MSc degree in computational linguistics from Saarland University and a MSc degree in information and communication technologies from the Jožef Stefan International Postgraduate School in Ljubljana, Slovenia. She completed her Bachelor's degree in translation in Ljubljana as well.

During her studies, she did an internship as a machine translation engineer at Unbabel in Lisbon, Portugal. At university, she is involved not only in research, but also teaching and student supervision.

Iza is an avid reader, film buff, rock climber and nature lover.

Why are you part of the MultiplEYE network?

I found out about the MultiplEYE COST Action from my supervisor Vera Demberg and happily joined the project at the very beginning. MultiplEYE's research agenda aligns with my academic focus in several ways. As a Slovenian living in Germany and conducting research on German, I appreciate that the project extends psycholinguistic research to languages beyond English.

Moreover, I study computational models of processing load and how these models account for individual differences, so I am also particularly looking forward to the project's intersection of natural language processing and cognitive modeling.

What are you currently working on in MultiplEYE?

Currently, I am mostly active in Working Group 1, especially in designing comprehension questions to assess text comprehension on three different levels.

What do you expect from MultiplEYE?

The meetings and the training school in Kaunas have already been very helpful: we had fruitful discussions on the challenges of experimental design and research planning. I hope to learn more about eye-tracking data processing and the link between reading behaviour and reading measures, be it via collaborations or short-term scientific missions.

9. Recent Network Publications

- Vulchanova, M., Vulchanov, V. & Allen, M. Word learning in ASD: the sensorimotor, the perceptual and the symbolic. J Cult Cogn Sci (2023). https://doi.org/10.1007/s41809-022-00117-9
- Søby, K., Milburn, E., Kristensen, L., Vulchanov, V., & Vulchanova, M. (2023). In the native speaker's eye: Online processing of anomalous learner syntax. Applied Psycholinguistics, 1-28. https://doi.org/10.1017/S0142716422000418
- Krassanakis, V. (2023). PeyeMMV: Python implementation of EyeMMV's fixation detection algorithm. Software Impacts, 100475. https://doi.org/10.1016/j.simpa.2023.100475
- Daniel G. Krakowczyk, David R. Reich, Jakob Chwastek, Assunta Süss, Paul Prasse, Deborah N. Jakobi, Oleksii Turuta, Paweł Kasprowski and Lena A. Jäger ETRA 2023. pymovements: A Python package for eye movement data processing. https://doi.org/10.48550/arXiv.2304.09859
- Shuwen Deng, David R. Reich, Paul Prasse, Patrick Haller, Tobias Scheffer and Lena A. Jäger. (2023) Eyettention: An Attentionbased Dual-Sequence Model for Predicting Human Scanpaths during Reading, To appear in The Proceedings of the ACM of Human Computer Interaction https://doi.org/10.48550/arXiv.2304.10784
- Daniel Krakowczyk, Paul Prasse, David R. Reich, Sebastian Lapuschkin, Tobias Scheffer and Lena A. Jäger, ETRA 2023. Bridging Interpretable Concepts Explain Gaze Neural Models the Gap: **Events** Deep Sequence https://doi.org/10.48550/arXiv.2304.13536
- Lago, S., Stone, K., Oltrogge, E., & Veríssimo, J. (2022, online). Possessive processing in bilingual comprehension. Language Learning. https://doi.org/10.1111/lang.12556
- Pouw, C., Hollenstein, N., and Beinborn, L.: Cross-Lingual Transfer of Cognitive Complexity, to appear in Findings of EACL, https://arxiv.org/pdf/2302.12695.pdf
- Björnsdóttir, M., Hollenstein, N., & Barrett, M. Dyslexia Prediction from Natural Reading of Danish Texts. In The 24rd Nordic Conference on Computational Linguistics. 2023.
- Ribeiro, T., Brandl, S., Søgaard, A., & Hollenstein, N. (2023). WebQAmGaze: A Multilingual Webcam Eye-Tracking-While-Reading Dataset. arXiv preprint arXiv:2303.17876. https://arxiv.org/abs/2303.17876
- Yang, Duo, and Nora Hollenstein. "PLM-AS: Pre-trained Language Models Augmented with Scanpaths for Sentiment Classification." Proceedings of the Northern Lights Deep Learning Workshop. Vol. 4. 2023. https://doi.org/10.7557/18.6797
- Khurana, V., Singla, Y. K., Hollenstein, N., Kumar, R., & Krishnamurthy, B. (2023). Synthesizing Human Gaze Feedback for Improved NLP Performance. In Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics. https://arxiv.org/abs/2302.05721

10. Recommended Activities

The Crosslinguistic Perspectives on Processing and Learning Workshop (X-PPL) brings together researchers working to expand the diversity of languages in the scope of psycholinguistic and neurolinguistic research. This workshop provides a platform for cross-linguistic research on language processing and learning.



Place: University of Zurich, Switzerland

Date: November 06-08, 2023.

Submission deadline: June 23, 2023

More information:

https://www.comparativelinguistics.uzh.ch/en/events/x-ppl2023/CfP.html