

## Report on the outcomes of a presentation and participation in a ITC Conference<sup>1</sup>

**Action number: CA20111**

**Grantee name: Viktor Bense**

### **Conference Details**

Conference title: 30th International Conference on Types for Proofs and Programs

Conference web-page: <https://types2024.itu.dk/>

Conference venue<sup>2</sup>: In-person, Copenhagen, Denmark

Conference start and end date: 10/06/2024 to 14/06/2024

### **Accepted contribution details**

Title of the presentation: Strict syntax of type theory via alpha-normalisation

Type of the presentation: oral

Co-authors: Ambrus Kaposi, Szumi Xie

Other details of the presentation: Title of the session: [Session 10: Models of Type Theory](#)

### **Outcome of the conference participation**

Description of the outcome of the presentation of the accepted contribution, in terms of grantee's visibility, including the establishment of new contacts for future collaborations.

*(max.500 word)*

The TYPES conference was incredibly interesting and informative. It also gave me some ideas about my own research and helps me deepen my knowledge in not just type theory, but proof theory, smart contracts and category theory. The conference had a lot of different topics, of which some of my favourites were:

- Implementations of proof assistants: the new type based termination checking for Agda by Kanstantsin Nisht and Andreas Abel.
- New type theories, including Poset Type Theory by Thierry Coquand and Jonas Höfer.
- Usage of two-level type theory: using dependent types at compile time and using

---

<sup>1</sup> This report is submitted by the grantee to the Action MC for approval and for claiming payment of the awarded grant. The Grant Awarding Coordinator coordinates the evaluation of this report on behalf of the Action MC and instructs the GH for payment of the Grant.

<sup>2</sup> For an online conference, specify virtual participation; for hybrid conferences, specify whether it is an in-person or virtual participation.

polarised lambda-calculus at runtime by András Kovács.

- “Proofs are programs” in MLTT by Pierre-Marie Pédrot.

During the event I got to know many wonderful researchers whom I only knew via online sites, talks, now I've got the chance to meet them in-person as well from many universities, including University of Gothenburg, Imperial College London, University of Nottingham, University of Cambridge, Inria and many many more.

I feel like my presentation about formalising type theory in a new way using alpha-normalforms made a considerable impact on the community, hopefully researchers of the same area were inspired and gave them new ideas on formalising other kinds of type theories. This was my first time as a presenter and it made me excited to attend future conferences.

I made a lot of new connections and in the future I wish to work with them as well as other EuroProofNet members, especially with Thorsten Altenkirch, Jacob Neumann, Andreas Abel and Pierre-Marie Pédrot. I am already working with Balázs Frei from Imperial College London which hopefully turns out to be a joint-publication.

**Acknowledgement of inclusion of necessary supporting documents to claim the grant**

I confirm that the following documents have been uploaded on e-COST as an integral part of this report:

- the certificate of conference attendance.
- the programme of the conference or book of abstracts / proceedings indicating the presentation (oral or poster) of the grantee.
- copy of the given presentation (oral or poster).