Newsletter Vereniging voor Logica

Spring Edition - April 2024

Message from the Board

This newsletter marks the beginning of spring, with plenty of events to look forward to. The VvL is in the meantime still gaining members, and aims to keep introducing more events and initiate more collaborations. This edition of the newsletter contains some news items or events for every VvL member, younger or older, logic expert or novice. Don't forget to scroll down for two new member's contributions and, of course, the logic puzzle.

If you have any comments or suggestions, or if you would rather not receive this newsletter, please send an e-mail to bestuur@verenigingvoorlogica.nl.

Members of the VvL

- The VvL currently has **271 members**. Compared to the last newsletter in October 2023, this is an increase of **7.11%** (and 19 members). If you meet potential new members, don't hesitate to encourage them to apply!
- We have members from many different institutions, based in Amsterdam, Utrecht, Groningen, Nijmegen, Tilburg, Eindhoven, Delft, Twente, Leiden and Rotterdam, and we even have some internationally based members.
- Among the 130 most recent membership registrations, 19% are bachelor or master students, 35% are PhD students, 31% are other academic staff, and 15% fall under logic alumni working outside an academic setting and members from the general public.

News

- **Call for Nominations: VvL Master's Thesis Award 2024.** The VvL is happy to announce the VvL Master's Thesis Award 2024. Any Master's thesis with a topic in logic or in philosophy of the exact sciences (interpreted broadly, including, for example, foundations of mathematics and computer science, applications in artificial intelligence, models of cognition, causal inference, and the formal study of natural language) is eligible to be nominated for the award, provided that it is written as part of a Master's program at a Dutch university and the corresponding Master's graduation date lies between 1 January 2023 and 31 December 2023. The submission deadline is **April 15, 2024**. More information about nomination and submission can be found here. The winners will receive a small prize and will be invited to present at the VvL Annual Seminar 2024.

- **International Logic Olympiad 2024.** The Stanford Logic Group is organizing an international logic contest offering high school students worldwide a chance to showcase excellence in logic and problem-solving, with aims to internationalize logic education. All high school students, 8th grade and up are eligible, and so this contest is also open to secondary school students in the Netherlands. There will be three preliminary online testing rounds, culminating in a three-day on-campus final round at Stanford University. The final round will include the awarding of prizes, guest presentations, and campus tours. Registration for the olympiad closes on **April 20, 2024**. More information can be found here.

- **Beth Foundation call for grant applications.** We draw your attention to the opportunity to apply for a grant to cover expenses associated with research, study trips, translation or the organization of scientific meetings with a maximum of EUR 3,000. Applications for a grant must concern research focused on modern logic, philosophy of science, history of logic, history of the philosophy of science or scientific philosophy in general. This year, the E.W. Beth foundation aims to grant proposals with innovative ideas that have the most impact for both the applicant and the goals of the E.W. Beth Foundation. The deadline to submit your application is **April 17, 2024**. More information can be found here.

- **"Oneindig in de wiskunde": course for senior citizens.** The HOVO (Hoger Onderwijs Voor Ouderen) institute of Leiden University offers education for everyone aged 50 years or higher. As part of this institute, K.P. Hart will be offering a course on infinity in mathematics. In six lectures, this course will show several aspects of working with infinity in mathematics, including Cantor's discovery of degrees of infinity, and infinity as occurring in analysis. The intended audience is curious about infinity in mathematics, and is not afraid of formulas and clear-cut definitions. The course starts on **April 10, 2024**, and will take place in Leiden. For more information and registration, see the website.

Upcoming Events

- **Logic at Large Lecture 2024.** The VvL Logic at Large Lectures are annual, public lectures organized for a general audience. Over the past three years, renowned international speakers have presented interesting talks, including Moshe Vardi on computer science and logic, Joel Hamkins on infinite games, and Lukasz Kaiser on OpenAI. The upcoming Logic at Large Lecture is currently being organized and will take place around May/June 2024. Stay tuned for more information.

- **Dutch Logic PhD Day 2024.** The Dutch Logic PhD Day is a VvL event that aims to connect PhD students in logic and related areas from all over the Netherlands. We hope that this will encourage collaborations and the exchange of ideas between PhD students, leading to a more unified Dutch research community in logic for young researchers. Besides two (more senior) main speakers, the event will provide the opportunity for PhD students in the Netherlands to present about their own research. The Dutch Logic PhD Day 2024 will take place at VU University (Amsterdam) on **June 21, 2024**, so save the date! The call for submission and participation will follow soon. See for a picture of the two previous editions below, which took place in Utrecht (2022) and Groningen (2023).

- **Two events in Amsterdam.** We would like to draw your attention to two upcoming international workshops that will take place in Amsterdam this year. First, the **Workshop on Theory and Applications of Craig Interpolation and Beth Definability** (**CIBD 2024**) will take place on **April 22-23, 2024**. The workshop aims to bring together experts from different research communities in order to discuss research relating to Craig interpolation and Beth definability. For more information, see the website. Second, **Computability in Europe 2024** (**CiE 2024**) will take place on **July 8-12, 2024**. CiE brings together both basic and application oriented research in computability related areas of science. The conference welcomes research contributions on computability-related fields of science including mathematics, theoretical computer science, logic, quantum computability, cryptography, information theory, computational biology, computational linguistics, history and philosophy of computability, and many other related subjects. More information can be found here.

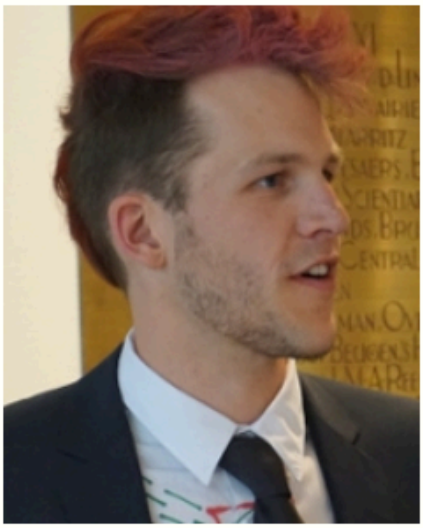
- **Seminar in honour of K.P. Hart's retirement**. TU Delft will host "A seminar on Logic, Set Theory, Topology" consisting of an afternoon of talks in honour of K.P. Hart's retirement. The afternoon will take place on 20 June 2024 from 13:30 to 16:45, and will be followed by a reception. Speakers will be Alan Dow, István Juhász, Teun Koetsier and Ionica Smeets. Registration is required for those who would like to attend the event - more information can be found here.


Past Events

- **Two "VvL Essentials" seminars.** VvL Essentials talks have been recently introduced by the VvL, and introduce early-career logicians to a field they may not be familiar with. This forms a low-threshold way to broaden their knowledge of the field at large, and encourages collaborations. The very first edition of VvL Essentials was organized by Rodrigo Almeida (PhD student at the ILLC) and Giovanni Varricchione (PhD student at Utrecht University). Marianna Girlando (ILLC) presented the talk **Proof Theory Essentials**. The second edition, organized additionally by Nima Motamed (PhD student at Utrecht University), took place on November 28, and featured Rustam Galimullin who presented **Dynamic Epistemic Logic Essentials**. We look forward to many future editions.
- **VvL Annual Seminar 2023.** The second edition of the VvL Annual Seminar took place on December 8, 2023 and was organized by Colin Caret and Johannes Korbmacher in Utrecht. Dragan Doder presented the VvL lecture as a main speaker, after which an awards ceremony was held for the winners of the MSc Thesis Prize 2022, who were also given the opportunity to present about their thesis. An impression of the event is given by the pictures below, featuring the organizers, and the certificates handed over to the winners Søren Brinck Knudstorp, Rodrigo Almeida and Raoul Koudijs by thesis prize committee member Fan Yang. After all this, a dinner was organized in the Academiegebouw in Utrecht, followed by drinks. This year's edition will surely be another success!


CERTIFICATE

Geef de Pen Door



In this section, a VvL member introduces themselves, so that the association can get to know its diverse collection of members better. For the fifth edition, Henning Basold (Universiteit Leiden) will introduce himself.

"My name is Henning Basold and I am a computer scientist in the fortunate position to pursue my passion for logic and maths in my work as university lecturer at the Leiden University. Perhaps surprisingly, I became a VvL member only a year ago in April 2023, but I wanted to join the community of logicians, and help fostering our exchange and strengthening our position within the evermore harsh academic environment.

Logic, in many facets, takes a central role in my work, be it in research, education and even service tasks. My research is on describing, understanding and reasoning about systems. These are often computer systems, but I have also worked on other kinds like chemical reactions, probabilistic systems, and differential equations. My research has two main strands. One is on developing languages to describe systems that have certain properties already by construction, typically in the form of description or programming languages with types. The second strand is improving the usability of logic for reasoning about systems behaviour, where I am mostly interested in proofs and proof assistants based in type theory, and how to combine type theory with non-standard features of logic like modal logic, probabilistic reasoning and homotopy theory.

In education, logic also plays an important role, for once because I am teaching an introductory logic course. In general, I try to teach students to think logically and abstractly with the intent to provide a good foundation for coping with any new technology that may come their way. The trick for me is to find the pure logical thinking even in applications. If there is anything as logicians that we should teach people around us then it is to overcome, what Susan Stebbing called, potted thinking.

Logic also appears in my free time activities, which are making music (piano and synthesiser), electronics and reading philosophy, history, maths and prose. Last but not least, I enjoy my free time in activities and discussions with my partner and our daughter."

Questions in Logic

In this section, a VvL member explains what drives their research in logic. They illustrate a question (with or without an answer) in logic in an accessible way: this can be a problem they are currently working on, the motivation behind a broader area of research, or an already known result that they simply find interesting. This time Vlasta Sikimić (Assistant Professor at Technische Universiteit Eindhoven) will talk about her research.

"I am an assistant professor of philosophy of science at Eindhoven University of Technology. I am fascinated with the ways we process information and learn. My research focus is on social epistemology of science and education. This field of research investigates how we acquire knowledge within a group, update our beliefs, react to misinformation, but also learn using AI. For instance, fostering diverse perspectives within a research team can yield innovative scientific hypotheses when inclusion principles are applied. Moreover, many components of science can be automatized including the review process, but is this justifiable? In the era of AI, it is crucial to grasp the reliability and limitations of knowledge generated through AI tools, alongside navigating the trade-offs between ethical data practices and knowledge reliability.

I am interested in both formal and theoretical components of social epistemology. For instance, I worked on agent-based modelling of information exchange within a scientific team. From the theoretical perspective, I explore epistemic virtues. The virtuous reasoning is assuming the middle ground, by avoiding both extremes such as uncritical reliance on algorithmic suggestions and outright prohibition of large language models in scientific writing.

I expect a significant impact of the theory of epistemic virtues both in philosophy and in psychology. In particular, the virtue framework can help us assume proper attitudes towards biased and uninformative AI generated content. More importantly, training programs on epistemic virtues can improve our use of this content.

I was first exposed to social epistemology at UvA during a Master of Logic project on Information Dynamics given by Sonja Smets and Alexandru Baltag. Here we discussed phenomena such as information cascades, polarization, and pluralistic ignorance. Later, I also had the opportunity to work in the team of Alessandra Palmigiano and Giuseppe Greco. I am happy to be back in the Netherlands and contribute to the VvL community. Hopefully, I could inspire some early-career members in the same way I was once inspired."

Logic Puzzle

Solve the puzzle!

The answer will be given in the next edition of the VvL Newsletter.

9.

Here is a well-known logic puzzle: Given that there are more

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inhabitants of New York City than there are hairs on the head of any inhabitant, and that no inhabitant is totally bald, does it necessarily follow that there must be at least two inhabitants with exactly the same number of hairs?

Here is a little variant of this problem: In the town of Podunk, the following facts are true:

(1) No two inhabitants have exactly the same number of hairs.
(2) No inhabitant has exactly 518 hairs.
(3) There are more imhabitants than there are hairs on the head of any one inhabitant.

What is the largest possible number of inhabitants of Podunk?

The solution to the puzzle in the previous newsletter is given here.

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I shall first prove that C cannot be a zombie. Well, suppose he were. Then A and B must be brothers, hence both human or both zombies. Suppose they are both human. Then "Bal" really does mean *yes*, hence A in effect answered *yes* to whether the defendant is innocent, so the defendant is innocent. Suppose A,B are both zombies. Then "Bal" really means *no*, and since A is a zombie and answered *no* to whether the defendant is innocent, then the defendant is innocent. So if C is a zombie then the defendant is innocent (regardless of whether A,B are both human or both zombies). On the other hand, if C is a zombie then the defendant must be guilty, since C says he is innocent. This is a contradiction; therefore C can't be a zombie, so he is human. And since C says the defendant is innocent, then the defendant really is innocent.

Source puzzle: Raymond M. Smullyan, What Is The Name Of This Book? (2011)