

TWENTY TWENTY-TWO was a great millésime: we published 16 (!) papers—a record for us—received accolades, and welcomed 3 members. Obviously, I am thrilled. Yet, I also know that great research vintages, like wines, are unpredictable and hard-to-reproduce: better enjoy them while they last. The flip side? This year was also *incredibly* busy. That said, our now almost-empty pipeline coupled with upcoming PhD graduations/incoming students gives us plenty of opportunities to start new projects, and in new areas too. So while 2023 ought to see a reduced throughput (which is somehow ironic for networking people), it also promises to be refreshing!

As usual, the year started with us shooting for SIGCOMM. Doing so was absolutely worth it as we got **three papers** in. Our first paper, led by Edgar Costa Molero, explored how to quickly detect gray failures that affect a subset of the traffic. Our second paper, led by Albert Gran Alcoz, explored how to efficiently mitigate shape-shifting Denial-of-Service attacks. Our third paper, led by Vamsi Addanki, explored how to manage buffer space for better performance in datacenters.

In March, we learned that our own **Rüdiger Birkner won the EuroSys Roger Needham PhD Award!** The award recognizes each year one PhD thesis coming from a European university regarded as “an exceptional, innovative contribution in the systems area”. In April, Roland Meier presented ditto at NDSS. ditto is a switch architecture which prevents traffic analysis by obfuscating traffic at line rate. In June, **Yu Chen joined us as a PhD student** after completing her MsC thesis in our group. Yu works on network verification and synthesis.



This year’s retreat brought us to the footsteps of the Mont Blanc. We spent 2.5 days enjoying the views while brainstorming about research topics. Unsurprisingly, a lot of our discussions revolved around (network) sustainability such as relying on solar energy to power the Internet backbone.

We took this picture on top of the Aiguille du Midi, at 3,842 m. In our backdrop, you can spot many 4,000 m peaks, including the Grandes Jorasses (4,208 m).

Presenting at SIGCOMM was the high note of our summer. I enjoyed reconnecting with “old” friends (my last in-person SIGCOMM was in 2017!), meeting new people, and chatting about research. In July, Romain Jacob presented a paper on reducing the Internet energy consumption by toggling devices on/off. In September, **two new post-docs joined us:** Georgia Fragkouli (from EPFL) and Muoi Tran (from NUS). Later in September, **Roland Meier defended his PhD thesis** entitled “Improving Network Security through Obfuscation”.

The fall and winter seasons were arguably our busiest with papers at SOSR, IMC, ICNP, and EuroP4. We further presented **two papers at HotNets:** Tobias Bühler presented how to mine network data out of millions of GitHub repositories, while Alexander Dietmüller presented how to train models that generalize well across tasks and network settings. Finally, Luca Beurer-Kellner presented our very **first paper at NeurIPS** on how to synthesize network-wide configurations from data.

For the **third time in a row**, one of ours has received the **outstanding Teaching Assistant Award** from ETHZ’s students association (AMIV). After Edgar Costa Molero in 2021, both **Tobias Bühler and Roland Schmid were recognized in 2022** for their contributions to “Communication Networks” and “Discrete Event Systems”, respectively. ETH students have now awarded one teaching assistant in each of our lectures!

Our plans for 2023 are still in flux, but I can safely say that **2023 will again be both exciting and fulfilling.** To begin with, we will have reasons to celebrate with the PhD graduations of Tobias and Edgar (in the spring). We also look forward to welcoming new members, including Theo von Arx in May. And, **in case you wonder: yes, we are hiring! Just ping me.** Research-wise, our recent burst of acceptance will allow us to explore new areas. I will also be busy co-chairing NSDI’24. Teaching-wise, we will work hard to refresh our materials, especially for our advanced lecture. 2023. Here. We. Come!

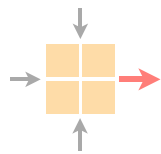
Activity report

Tue 10 Jan 2023

Prof. Laurent Vanbever

<https://nsg.ee.ethz.ch>

We are hiring! Please ping us.



Networked Systems

ETH Zürich — seit 2015