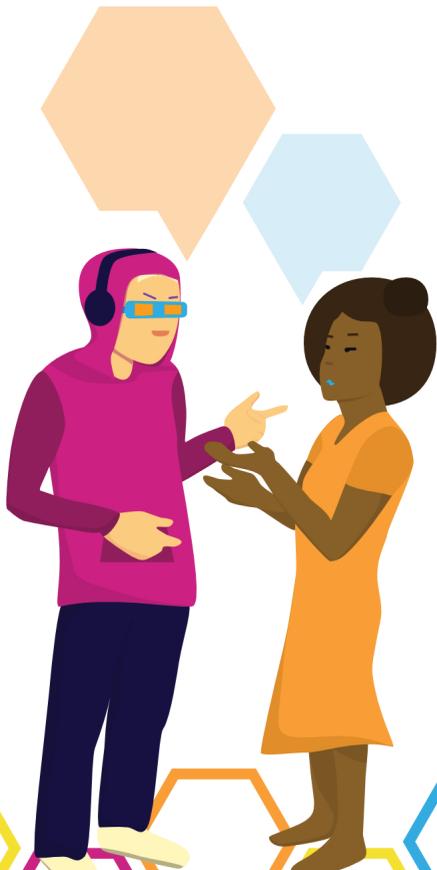




VIScon 2019

Program



Welcome to VIScon 2019

After a very successful first VIScon we decided to go even bigger this year. This year's Symposium consists of 33 amazing talks and 7 fascinating workshops. Besides that, we brought a completely new thing to this year's VIScon: For all those who don't want to stop at the theoretic knowledge about computer science, we created an exhibition.

The exhibition will take place in the afternoon of VIScon, starting at 3 pm and taking place in the big tent in front of CAB. With more than 10 exhibitants that show you what can be done by implementing computer science in projects and gadgets, you have the chance to get a glimpse on the front line of innovation.

We also want to emphasize our focus on the interdisciplinarity of computer science even more. Besides the last year's tracks called "Technical Computer Science Track" and "Entrepreneurship Track", we introduced our new "Computer Science in Engineering Track". With 8 talks and 2 workshops in this track, there are plenty of ways to explore the bridges between computer science and other disciplines.

You will get an amazing opportunity to hear first-hand how companies make use of the technologies you learn about in lectures. Meanwhile, the workshops enable you to build or learn new topics you might not encounter until after graduating.

In that means, go and experience, browse, soak in as much new information as possible, and enjoy the realm of computer science in a whole new way!

At the end of the day, we want you to walk out of the building filled with motivation, inspiration and a fire within to build and mold the IT world of the coming decades - by making new discoveries and possibly even by founding a startup.

Get inspired, network, learn and most importantly: Have fun!

Celina Rhonheimer
Head of Symposium



G11

G61

G51

G59

G52

G56

G57

H53

H52

Welcome

You can sign-in, grab your goodie bag and a coffee starting from 8:30 am. By 9:30, you should be ready for the opening ceremony and a talk by our rector.

Opening Ceremony

Keynote

Sarah Springman

Advanced Analytics for Power Grids

BKW

All Code Sucks

Beekeeper

Pricing Climate Change For Investors

Carbon Delta

A Guide to Mobile Location Data

FAIRTIQ

Networking Lunches 1

Esri

IoT in Practice: Swiss Success Stories

Ergon

Visual-Inertial SLAM: From Flying Robots to Virtual Worlds

Facebook

The Humans in the Loop

GetYourGuide

Networking Lunches 2

Hello World! with HoloLens 2

The Good, the Bad and the Cyber

Automatic Slide Layout

Thriving in CS as an "outsider" ... and Staying Happy!

From Data to Forecast

My own custom Kafka Cluster in 60 seconds

unit8

ESA BIC

InfoGuard

think-cell

EBP

Enzian: a Research Computer

Prof. T. Roscoe

Machine Learning in Web App Security

Airlock

How the Cloud Evolves

Swisscom

Graph-Based ML for Health Care

Oracle

Millennials are rewriting the Swiss IT Landscape

ipt

When Sh!t Hits the Fan

Oneconsult

From Research Code to Industry Grade with SCION

Anapaya Systems

Talos, the Deep Learning Solution of Credit Suisse

Credit Suisse

From Zero to Singularity - Designing the AI That Humans Need

IBM

Defending against Wi-Fi Hacks

Zühlke

Implementing a Privacy-Compliant Software Solution

Starmind

Experiencing Web of Things

Siemens

Site Reliability Engineering at Google

Google

Why you should care about your internet connected toaster

Redguard

Vision & AI for Sports Broadcasting

Vizrt

Visual Inertial System for 3D Laser Scanners

Leica Geosystems

Exploring Graph Analytics and Visualization with Oracle Technologies

Oracle

Container Orchestration with Kubernetes

Beekeeper

Design Thinking

tiam

SCION Future Internet

SCION

Virtual Reality on Oculus Go

Accenture

Closing Ceremony

Lightning Talks

Esri
Scewo
SysSec
unit8
ESA BIC

Collaboration Between Architects and Software Engineers
From Scaveo to Scewo Bro
Do You Need a Blockchain?
From a Start-Up Diary: Dealing With Uncertainty
Launch Your Startup In Space

Technical Computer Science Track

Computer Science in Engineering Track

Entrepreneurship Track

VIScon General

Food

Lightning Talk

Workshop

Breakfast

Lunch

Exhibition

Apéro (tent in front of CAB)

Lukas Bischofberger

✉ bischofberger@anapaya.net

Lukas Bischofberger is an ETH Alumnus, former active VIS member, software engineer and resident hipster at Anapaya Systems. At the young start up, he initially took on the task of optimizing the developer experience. Among others, he has been the main driving force in adopting a solid CI architecture, and building a hermetic testing environment based on containerization. Nowadays, his focus has shifted to developing more customer facing technologies.



From research code to industry grade with SCION

What started as a research project is now trying to take over the world!

At Anapaya Systems, we are leveraging the SCION Internet architecture to offer next-generation Internet services to our customers. This entails further developing and transforming the researchy codebase, and building a product that can survive in the real world. In this talk we will go over the patterns that have helped us reduce the inherited pain points and improve the developer experience. We will show some steps that need to be taken to deploy networking software into the wild, and also discuss what tooling and processes have shown to be effective and where the future might take us.

Dominik Roos

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is an ETH Alumnus, software engineer and passionate gopher at Anapaya Systems. His focus is on the core infrastructure services, which entails re-architecturing the inherited research project into something production ready. As a proponent of good coding practices, he occasionally pesters his fellow Anapayas during code reviews about style, test coverage and modularity.





Juan A. Garcia Pardo

✉ juan.garcia@inf.ethz.ch

Juan was born in Valencia, Spain many years ago. He studied at the Universitat Politècnica de València and obtained his MSc in computer science, starting his Ph.D. in machine learning right after. During his studies he managed to teach at two (other) universities in the same city, and worked to help in a variety of projects for different swiss companies, such as Swisscom and Lindt. That is when he discovered a bit of Switzerland, and decided he would not finish his Ph.D. studies but move to work in R&D for Leica Geosystems in Sankt Gallen. He discovered and read about SCION in 2017 and joined the Network Security group at ETH in 2018, to help with this fascinating project. He co-operates SCIONLab.



Giacomo Giulari

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Giacomo is an Electrical Engineer by training with a fascination for all things CS. He is currently a PhD student at the Network Security group at ETH, which he joined after finishing his Master Thesis on next-generation satellite Internet routing. An enthusiast for modeling and simulations, he likes to use these tools both for research and scientific dissemination. His recent interests include satellite networks, quality of service systems for the Internet and medical imaging.



Kamila Součková

✉ skamila@ethz.ch

Kamila is an enthusiastic contributor to too many projects. Most recently, she has become involved with the SCION internet architecture, completing her Master's in the NetSec group at ETH by implementing a prototype high-speed SCION router in hardware. Today, she continues to work on SCION, especially in areas related to the data plane, the SCIONLab global research network, and also outreach and communication with SCION contributors outside of ETH. In her free time, she makes sure she has no free time by travelling and teaching CS in a variety of venues.

SCION Future Internet

Experience the Next Generation Internet Architecture SCION in our workshop. Find the best paths to the destinations; go around undesired ones. Win the competition by coding the best algorithm.

In our VISCon workshop, students not only learn about state-of-the-art research about Path-aware Networks, but get the chance to experience this technology hands-on.

The two hour session starts with a quick overview of SCION, a next-generation Internet architecture developed at ETHZ. We highlight on some of the problems and shortcomings of the current Internet, while showing at the same time how SCION can solve them.

The remaining hour and a half is devoted to a practical, fun competition. Students have to code a client application (python) to communicate with servers deployed in our testing infrastructure. The goal is to solve networking problems such as unavailable routers, extremely low bandwidth, heavy packet loss at the links etc., by leveraging the cutting-edge features of SCION. The more content students are able to get across the network and the fastest, the higher their final score. This game is repeated multiple times, so that they can learn from their mistakes and improve the performance of their application.

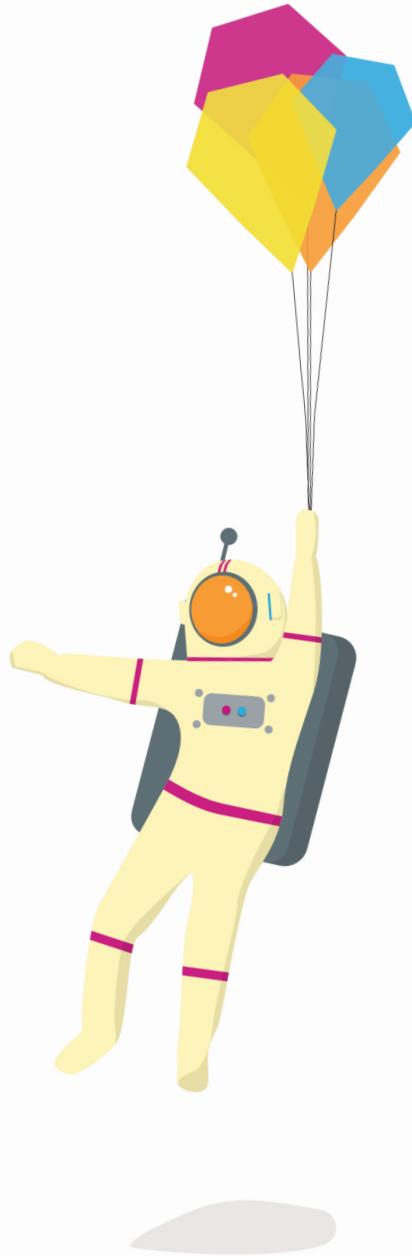
To ease the bootstrapping and speed up development, we provide some basic examples of clients. Students can then readily start with the fun problem-solving tasks, while becoming acquainted with the simplified SCION API. In parallel, we set up a simple infrastructure to keep track of the game score, so students can get feedback on how many points they scored in every scenario in real-time.

To participate, Students will have to bring their own laptop, capable of running VirtualBox virtual machines or Docker containers, and the ability to connect to wifi.

The winner (highest score) of the competition will get a SCION-themed prize!! (to be determined). We will reserve around 10 minutes at the end to discuss interesting implementation strategies that emerged during the competition.



SCION



VIS con
SYMPOSIUM
HACKATHON