IOTWeek

Dublin — June 20-23, 2022

Vulnerability Assessment and Robust Defenses for Optimized Attacks in Dynamic SDNs

Viviana Arrigoni

GLOBAL VISION:
IoT TODAY AND BEYOND

IOTForum

Participants

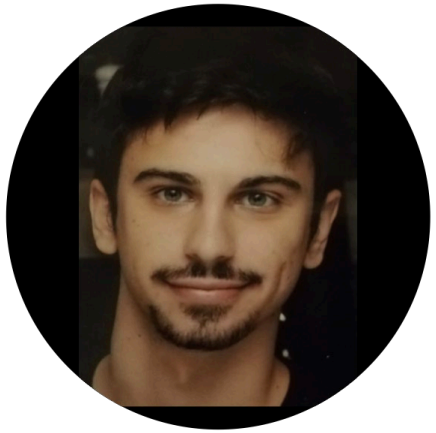
IOTWeek
Dublin — June 20-23, 2022

Prof. Novella Bartolini

Viviana Arrigoni, PhD

Prof. Ting He

Matteo Prata



Federico Trombetti

Tian Xie

Sanchal Thakkar

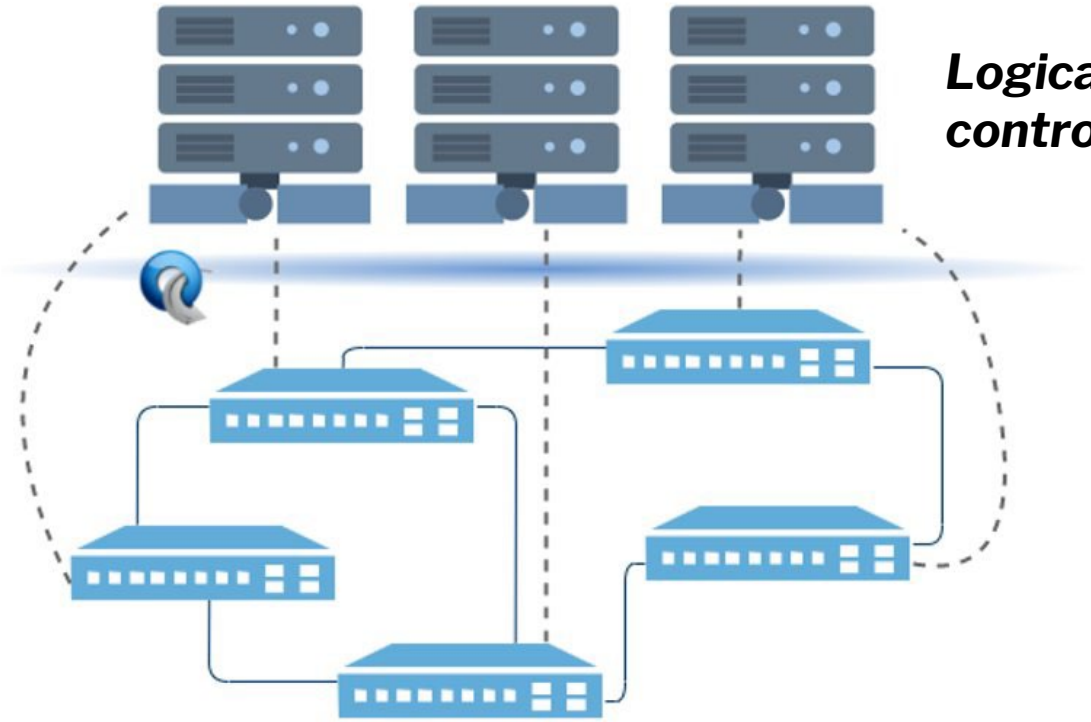
Software-Defined Networking

IOTWeek
Dublin — June 20-23, 2022

Control plane

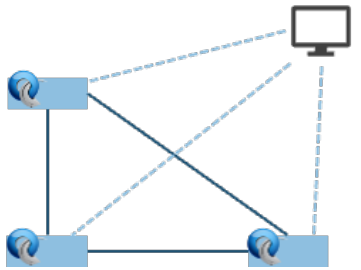
Logically centralised controller

Data plane



NFV
CLOUD
IoT
SD-WAN

Testbeds

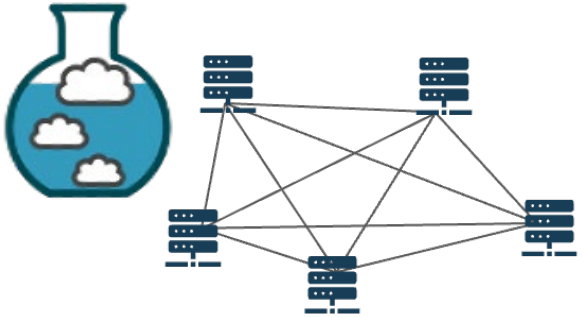


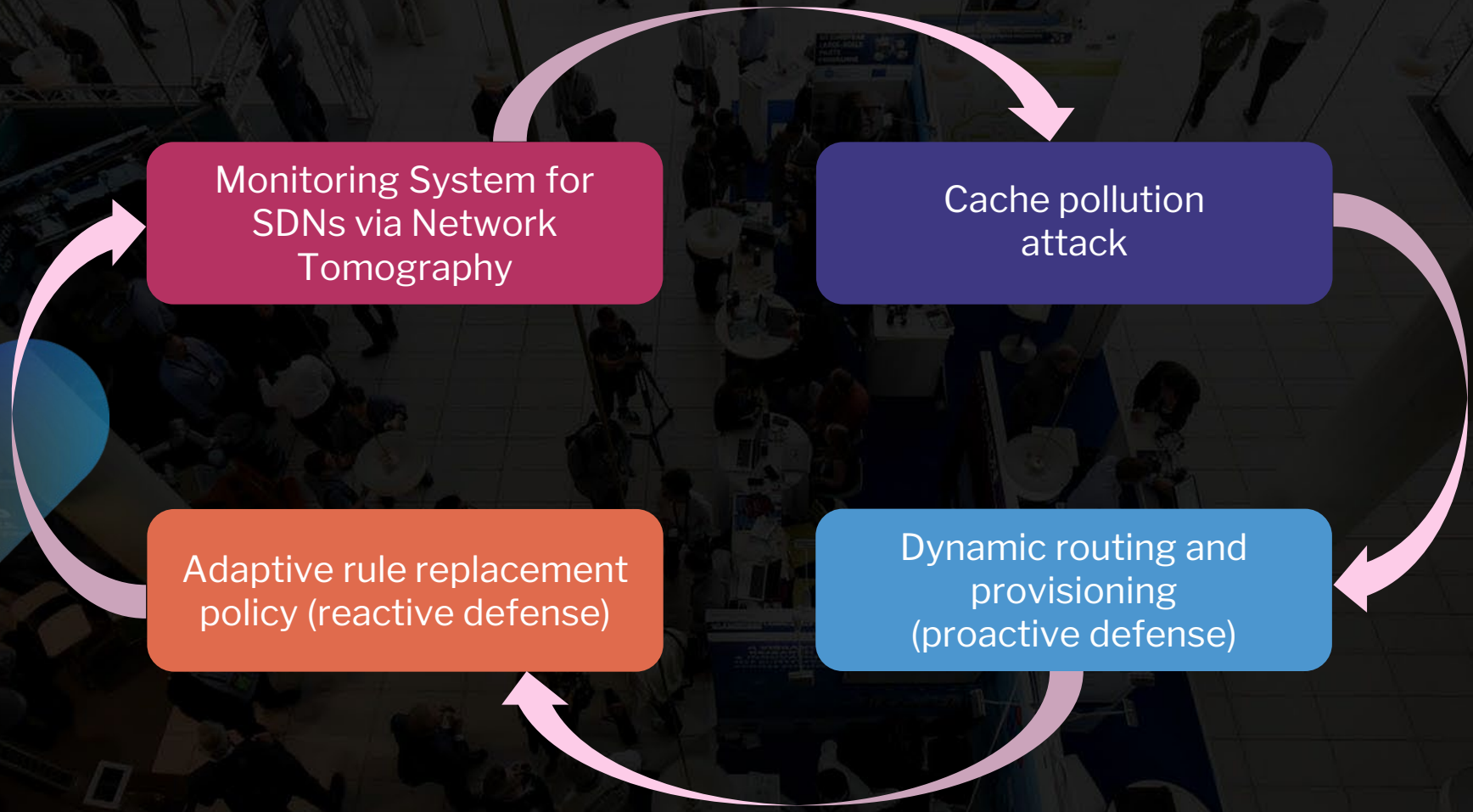
aruba 2930M 48G switch

Prototype

Distributed emulation

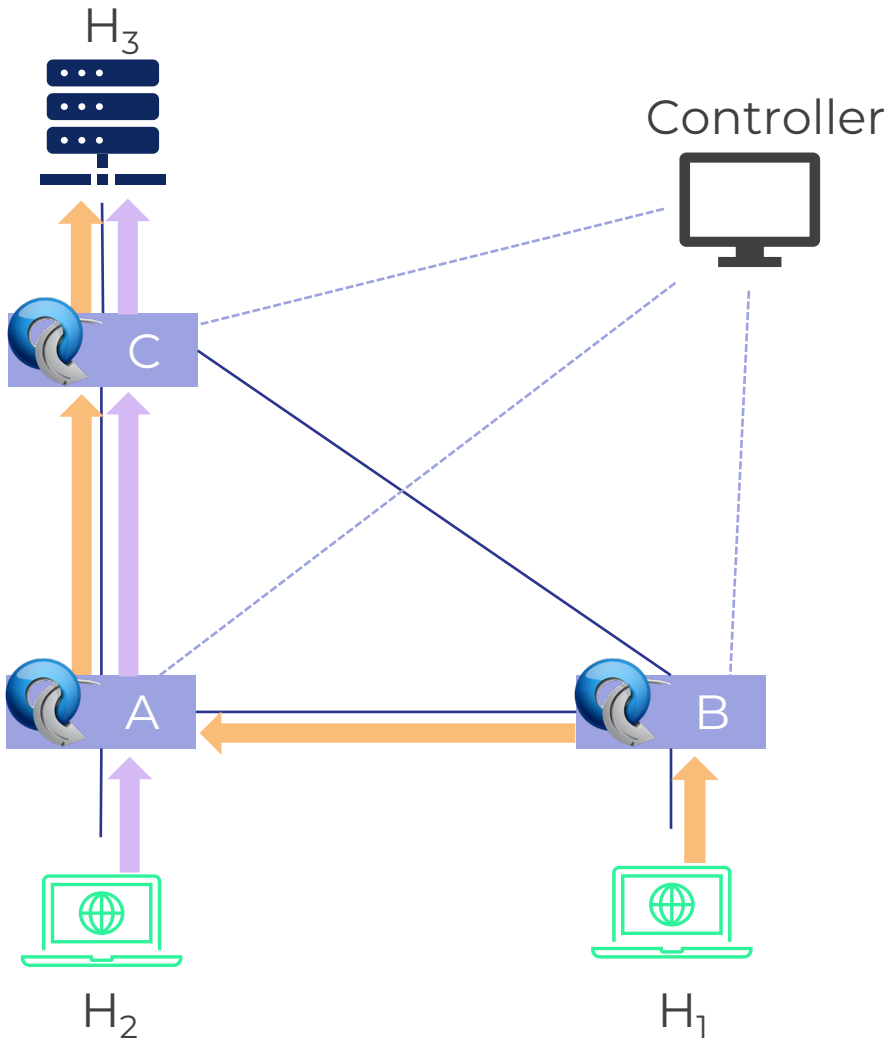
Local emulation




Monitoring System for SDNs via Network Tomography
Cache pollution attack
Dynamic routing and provisioning (proactive defense)
Adaptive rule replacement policy (reactive defense)

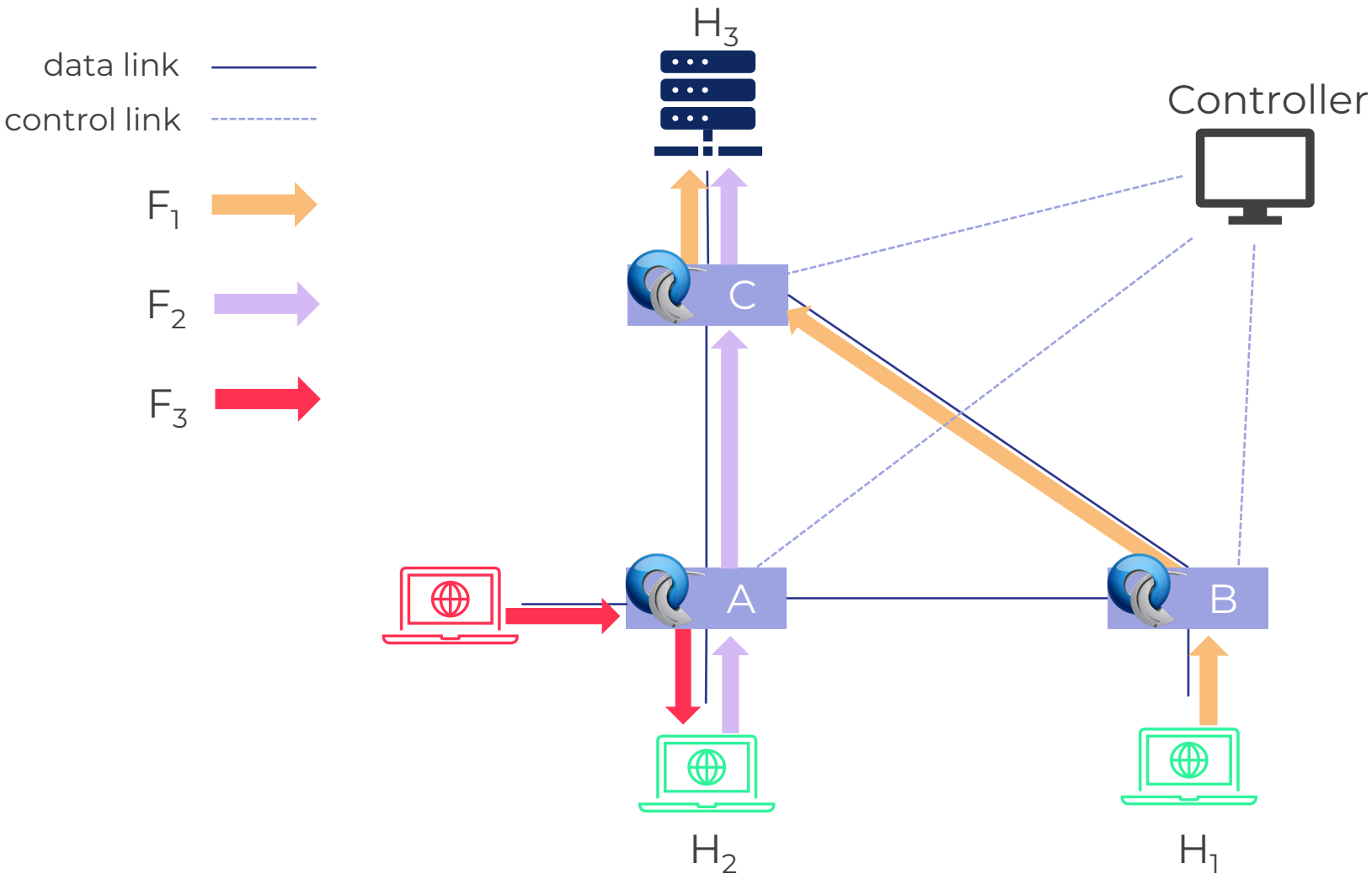
Experiments

data link
control link
F_1
F_2



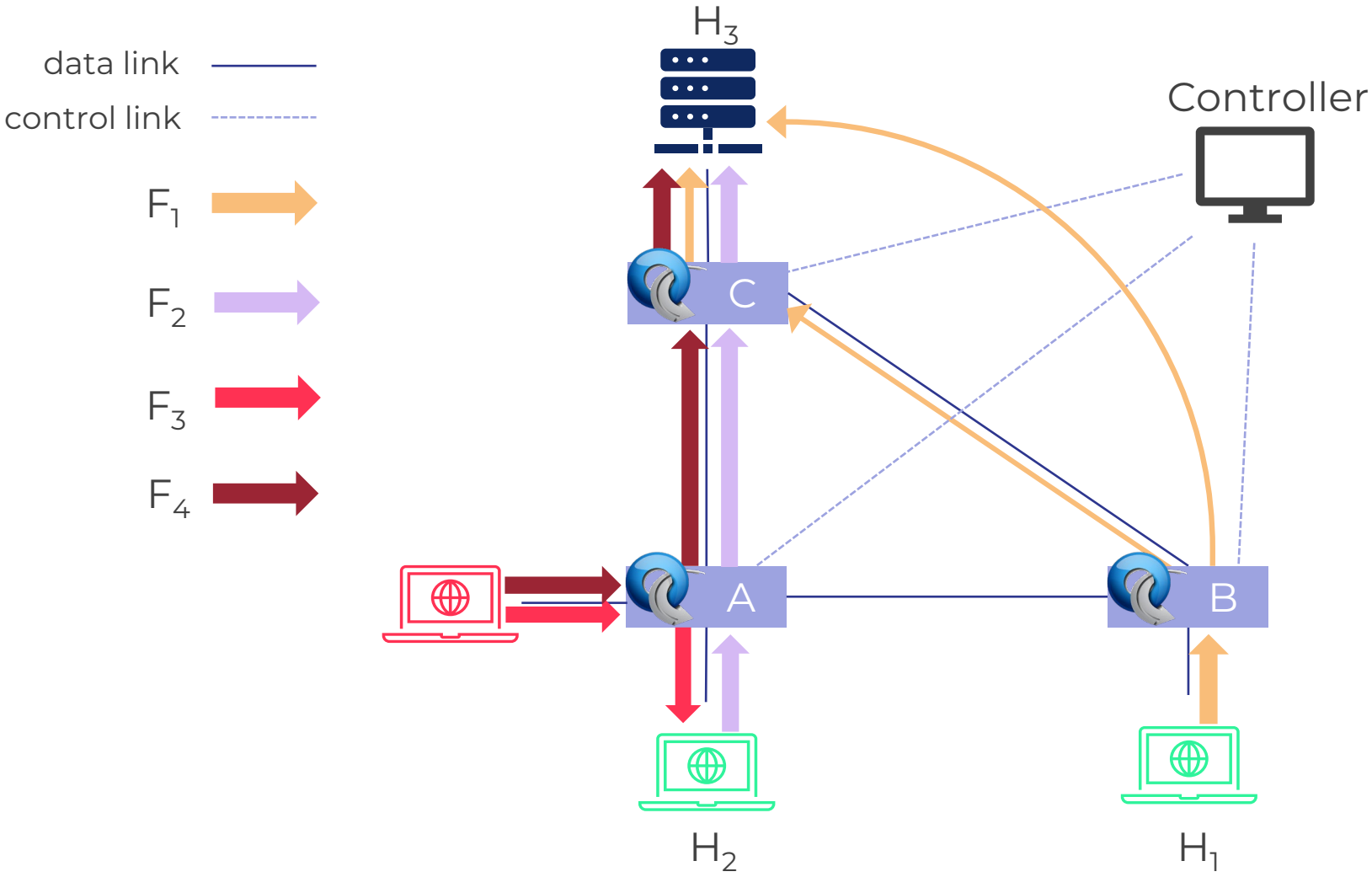
Initial Configuration

Experiments



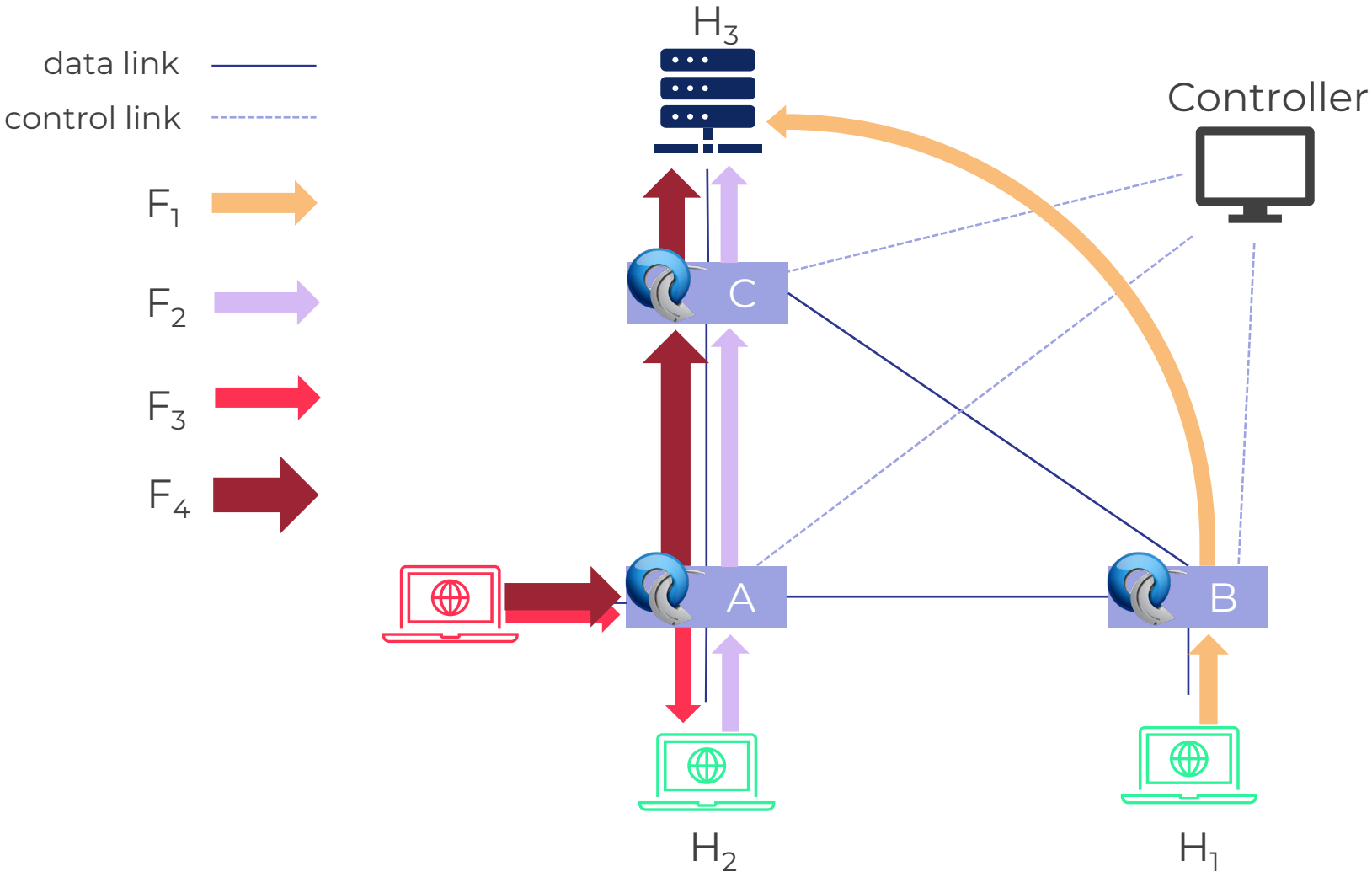
1st scenario

Experiments



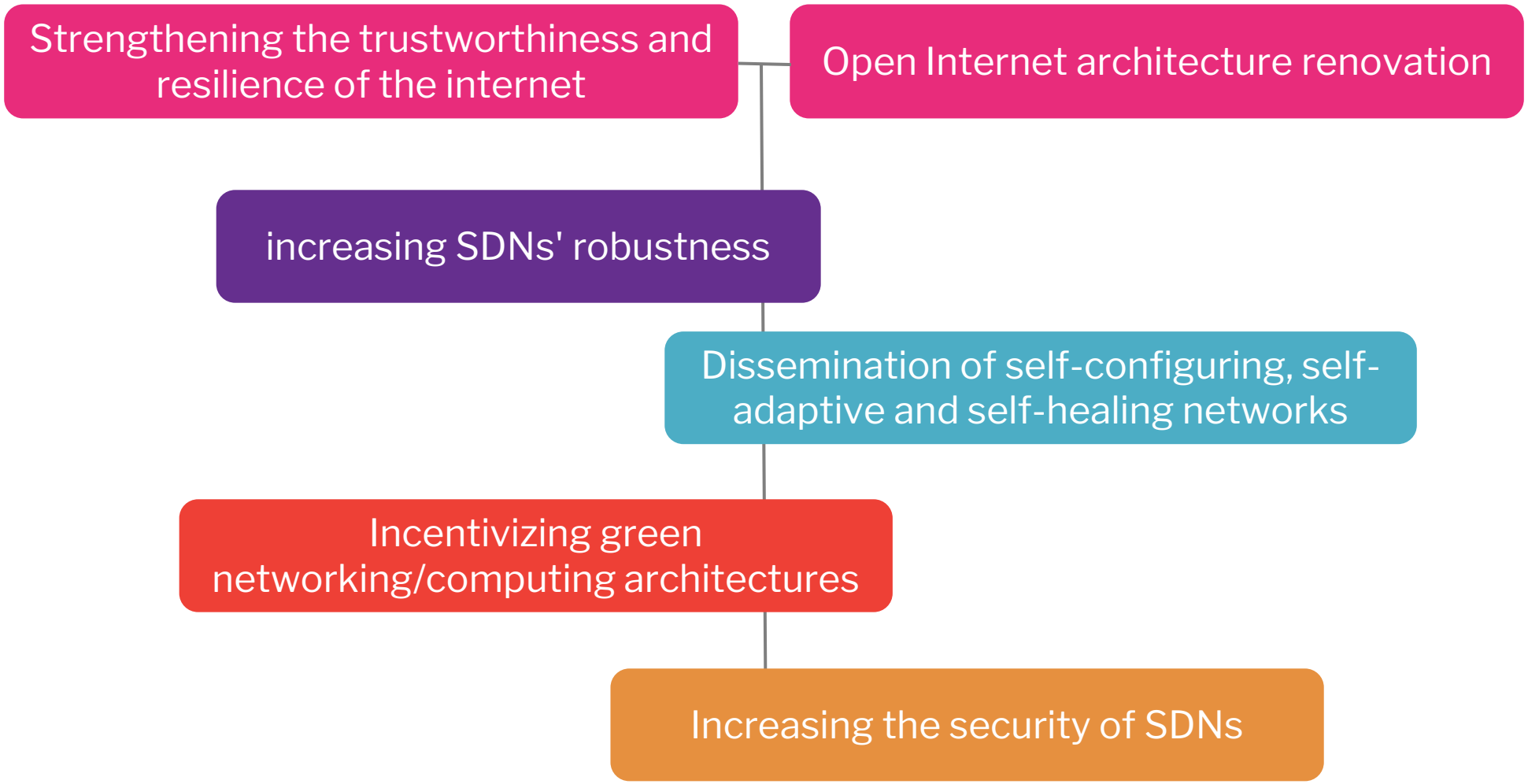
2nd scenario

Experiments



3rd scenario

Goals & Applications



IOTWeek

Dublin — June 20-23, 2022

Thank you!

Viviana Arrigoni: arrigoni@di.uniroma1.it

iotweek.org