

Form to collect the information relevant for the PhD Quality Awards

PhD Student information

Surname	Bringhenti
Name	Daniele
PhD Cycle	XXXV
Tutor	Riccardo Sisto, Fulvio Valenza

Participation in Research Projects (add as many rows as necessary, 1 row per project)

Project name and short description	Competitive Selection	Project Scope	From	To	Role in project	Notes
Project name: ASTRID (Addressing Threats for virtualised services) Grant: European project H2020 grant agreement no. 786922. Description: ASTRID focused on the design of a novel paradigm to provide situational awareness for cloud applications and NFV services. There, security orchestration is the core element of the ASTRID conceptual architecture, including both service management and situational awareness.	Yes	I	01/11/2018	30/09/2021	TL	Task Leader of Task 2.4 "Orchestration" in Work Package 2
Project name: CyberSec4Europe (Cyber Security For Europe) Grant: European project H2020	Yes	I	01/02/2019	31/12/2022	P	Participant to Work Package 3

grant agreement no. 830929. Description: CyberSec4Europe addressed cybersecurity challenges within the vertical sectors of digital infrastructure, finance, government and smart cities, health and medicine and maritime transport.						
Project name: FLUIDOS (Flexible, scaLable and secUre decentralIzed OperatIong) Grant: European project grant agreement no. 101070473. Description: FLUIDOS aims to create a fluid, dynamic, scalable and trustable computing continuum that spans across devices and unifies edge and cloud in an energy-aware fashion.	Yes	I	01/11/2022	31/10/2025	P	Participant to Work Package 5

Teaching Activities in University Courses (add as many rows as necessary, 1 row per activity)

Name of the course where the activity has been done	Course type	Course CFUs	Academic year	Role in course	number of hours of teaching done	CPD evaluation (if any)	Notes
Cyber Security I	B	3	2022/23	T + L	24	N/A	This course has been taught at Università del Piemonte Orientale (Vercelli).
Formal verification of concurrent and distributed software and systems	PhD Program	4	2022/23	T	10	N/A	I specified "PhD Program" as type, as this course has been taught to students enrolled in the PhD Program in Computer and Control Engineering at Politecnico di Torino.
Distributed systems programming	M	6	2022/23	L	36	<ul style="list-style-type: none"> - Il docente rispetta gli orari di svolgimento dell'attività didattica? Soddisfazione 100%, Media 3.86 - Il docente è disponibile a fornire chiarimenti e spiegazioni? Soddisfazione 10%, Media 3.82 - Il docente interagisce efficacemente con gli studenti, stimolando l'interesse verso la materia? Soddisfazione 91%, Media 3.45 - La/Il docente ha adottato modalità di didattica e/o strumenti 	

						che facilitino un'efficace condivisione, partecipazione e interazione, utili all'apprendimento della materia? Soddisfazione 86%, Media 3.27 - Il docente espone gli argomenti in modo chiaro? Soddisfazione 86%, Media 3.36 - Indice docente: 3.552 Tasso di soddisfazione docente: 92.73% Tasso di risposta: 0.25	
Cyber Security I	B	3	2021/22	T + L	24	N/A	This course has been taught at Università del Piemonte Orientale (Vercelli).
Architettura degli elaboratori	B	12	2021/22	E	20	N/A	This course has been taught at Università del Piemonte Orientale (Vercelli).
Distributed systems programming	M	6	2021/22	L	36	- Il docente rispetta gli orari di svolgimento dell'attività didattica? Soddisfazione 100%, Media 3.82 - Il docente è disponibile a fornire chiarimenti e spiegazioni? Soddisfazione 95%, Media 3.73 - Il docente interagisce efficacemente con gli studenti, stimolando l'interesse verso la materia? Soddisfazione 100%, Media 3.5 - Il docente espone gli argomenti in modo chiaro? Soddisfazione 100%, Media 3.59 - Indice docente: 3.66 Tasso di soddisfazione	

						docente: 98.86% Tasso di risposta: 0.30	
Computer network technologies and services	M	6	2021/22	L	18	<ul style="list-style-type: none"> - Il docente rispetta gli orari di svolgimento dell'attività didattica? Soddisfazione 100%, Media 3.7 - Il docente è disponibile a fornire chiarimenti e spiegazioni? Soddisfazione 95%, Media 3.66 - Il docente interagisce efficacemente con gli studenti, stimolando l'interesse verso la materia? Soddisfazione 93%, Media 3.48 - Il docente espone gli argomenti in modo chiaro? Soddisfazione 98%, Media 3.55 - Indice docente: 3.5975 Tasso di soddisfazione docente: 96.59% Tasso di risposta: 0.21 	
Tecnologie e servizi di Rete	M	6	2021/22	L	6	N/A (because the CPD is not available under 9 hours)	
Distributed systems programming	M	6	2020/21	L	36	<ul style="list-style-type: none"> - Il docente rispetta gli orari di svolgimento dell'attività didattica? Soddisfazione 100%, Media 3.88 - Il docente è disponibile a fornire chiarimenti e spiegazioni? Soddisfazione 100%, Media 3.88 - Il docente interagisce efficacemente con gli studenti, stimolando l'interesse verso la materia? Soddisfazione 82%, Media 3.47 - Il docente espone gli argomenti in modo chiaro? Soddisfazione 88%, Media 3.59 - Indice docente: 3.705 Tasso di soddisfazione docente: 92.65% Tasso di risposta: 0.30 	

Computer network technologies and services	M	6	2020/21	L	18	<ul style="list-style-type: none"> - Il docente rispetta gli orari di svolgimento dell'attività didattica? Soddisfazione 100%, Media 3.63 - Il docente è disponibile a fornire chiarimenti e spiegazioni? Soddisfazione 100%, Media 3.63 - Il docente interagisce efficacemente con gli studenti, stimolando l'interesse verso la materia? Soddisfazione 97%, Media 3.38 - Il docente espone gli argomenti in modo chiaro? Soddisfazione 100%, Media 3.38 - Indice docente: 3.5125 Tasso di soddisfazione docente: 99.22% Tasso di risposta: 0.20 	
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Research Dissemination Activities (add as many rows as necessary, 1 row per activity)

Dissemination activity name	Date	Link	Description	Notes
Incontri del Giovedì (CNR-IEIT)	23/03/2023	https://www.youtube.com/watch?v=cJuLOMLBN2A	Invited speaker at the series of seminar organized by the CNR-IEIT, where I presented my research about network security automation.	
DAUIN PhD (Poster) Day 2022	08/11/2022	http://www.phd-dauin.polito.it/phd-poster-day-2022.html	Participation to the DAUIN PhD (Poster) Day 2022, where I presented both my PhD 3rd year poster and a demo about VEREFOO, a framework I have contributed to develop during my PhD program.	
Demonstration of VEREFOO (VERified REFinement and Optimized Orchestration)	10/06/2022	https://www.youtube.com/watch?v=QCFNLE2gHgE	Presentation of VEREFOO, a framework I have contributed to develop during my Ph.D. program, with a Youtube video. This demo was also presented at the ICICS 2022 conferences, where it was awarded the "Best Demo Award".	
PitchD by IEEE Student Branch	30/03/2022	https://www.youtube.com/watch?v=W957uYSpUqg	Speaker at the PitchD event, where my talk was entitled: "Automating Security Configuration in Virtualized Computer Networks"	

DAUIN Ph.D. Day for Companies 2021	24/11/2021	https://www.youtube.com/watch?v=Qugl-NOAPDU	Partecipitation to the DAUIN Ph.D. Day for Companies 2021, where I presented my research with a video, and discussing with people from companies.	
Demonstration of an automatic security orchestrator for smart cities	22/10/2021	https://www.youtube.com/watch?v=PXM5rcJWYc0	Presentation of how VEREFOO, a framework I have contributed to develop during my Ph.D. Program, has been used to automate access control security configuration in a use case based on a realistic smart city, in the context of the European project CyberSec4Europe (https://cybersec4europe.eu/).	
NetSoft 2023: 9th IEEE Conference on Network Softwarization	19-23/06/2023	https://netsoft2023.ieee-netsoft.org/	Presentation of the demo paper “A demonstration of VEREFOO: an automated framework for virtual firewall configuration”, and paper “Towards Security Automation in Virtual Networks”	
SecSoft 2023: 5 th International Workshop on Cyber-Security Threats, Trust and Privacy Management in Software-defined and Virtualized Infrastructures, co-located with NetSoft 2023: 9 th IEEE Conference on Network Softwarization	19/06/2023	https://www.secsoft-workshop.org/index.html	Presentation of the paper “Security automation for multi-cluster orchestration in Kubernetes”	
ITASEC 2023: Italian Conference on Cybersecurity	2-5/05/2023	https://itasec.it/	Presentation of the paper “Enhancing network security by automating VPN configuration”	
ICICS 2022: 24th International Conference on Information and Communications Security	5-8/09/2022	https://icics2022.cyber.kent.ac.uk/	Presentation of the demo “A demonstration of VEREFOO: an automated framework for virtual firewall configuration”, which was awarded the Best Demo Award	
ITASEC 2022: Italian Conference on Cybersecurity	20-23/06/2023	https://2022.itasec.it/	Presentation of the paper “Optimizing distributed firewall reconfiguration transients”	
SecSoft 2021: 3 rd International Workshop on Cyber-Security Threats, Trust and Privacy Management in Software-defined and Virtualized Infrastructures, co-located with NetSoft 2021: 7 th IEEE Conference	02/07/2021	https://www.secsoft-workshop.org/2021/index2021.html	Presentation of the paper “A novel approach for security function graph configuration and deployment”	

on Network Softwarization				
ITASEC 2021: Italian Conference on Cybersecurity	7-9/04/2021	https://2021.itasec.it/	Presentation of the paper "Automated optimal firewall orchestration and configuration in virtualized networks"	
CYSARM 2020: 2nd workshop on cybersecurity arms race, co-located with ACM CCS 2020: ACM Conference on Computer and Communications Security	13/11/2020	https://cysarm.org/2020/	Presentation of the paper "Short Paper: Automatic Configuration for an Optimal Channel Protection in Virtualized Networks"	
SecSoft 2020: 2 nd International Workshop on Cyber-Security Threats, Trust and Privacy Management in Software-defined and Virtualized Infrastructures, co-located with NetSoft 2020: 6 th IEEE Conference on Network Softwarization	03/07/2020	https://www.secsoft-workshop.org/2020/index2020.html	Presentation of the paper "Introducing programmability and automation in the synthesis of virtual firewall rules"	
NOMS 2020: IEEE/IFIP Network Operations and Management Symposium	20-24/04/2020	https://noms2020.ieee-noms.org/index.html	Presentation of the paper "Automated optimal firewall orchestration and configuration in virtualized networks"	
ITASEC 2020: Italian Conference on Cybersecurity	04-07/02/2020	https://2020.itasec.it/	Presentation of the poster "Automatic optimized configuration of network security functions" in the PhD Symposium	
ICCCS 2019: 4th IEEE International Conference on Computing, Communication & Security	20-12/10/2019	https://ieeexplore.ieee.org/xpl/conhome/8883094/proceeding	Presentation of the paper "Towards a fully automated and optimized network security functions orchestration"	

Participation in Contracts with Industrial Companies (add as many rows as necessary, 1 row per contract)

Contract name and short description	Company name	From	To	Role in contract	Notes

Patents (add as many rows as necessary, 1 row per patent)

Patent title	Patent Type	Last patent status	Date	Notes

Technology Transfer Activities (add as many rows as necessary, 1 row per activity)

Technology Transfer Activity Description	From	To	Role in activity	Notes

Awards (add as many rows as necessary, 1 row per award)

Award Description	Date	Type	Notes
"Best Demo Award" for the demo "VEREFOO: an automated framework for virtual firewall configuration" presented at ICICS 2022: the 24th International Conference on Information and Communications Security	08/09/2022	Best paper award (or similar)	
"PhD Quality Award for the 2nd year (XXXV cycle)", awarded by the Academic Board of the PhD Program in Control and Computer Engineering, Politecnico di Torino Doctoral School	22/09/2022	PhD quality award	
"Student Travel Grant", awarded by the Student Travel Grant Committee, for the participation to NetSoft 2021/co-located Workshops and the presentation of the paper	28/06/2021	Other (specify in notes)	Student Travel Grant
"Student Travel Grant", awarded by the Student Travel Grant Committee, for the participation to NetSoft 2020/co-located Workshops and the presentation of the paper	29/06/2020	Other (specify in notes)	Student Travel Grant