Georgios XYLOURIS

Married, two children, 48 years old.
nationality: Hellenic
army service: fulfilled
addr: 6 Skopa Str, 17122, Nea Smyrni, Athens
tel: +30-210-9516725
mob: +30-6949-505501
e:xilouris@iit.demokritos.gr,
scholar:https://scholar.google.com/citations?user=eydLJrwAAAAJ

Curriculum Vitae

Functional Scientific Personel (C) | Head of NCSR Demokritos' Network Operations Center

---

Short CV

Mr. Georgios Xylouris graduated on June 1999 from the Department of Physics of University of Ioannina. On September 2001 he received his Master's (M.Sc.) degree in automation systems from the National Technical University of Athens (NTUA).

He joined the Media Networks Laboratory of National Center for Scientific Research "Demokritos" in 2000, to work on his M.Sc. thesis on digital video broadcasting standard - terrestrial (DVB-T) for enabling data communications. After receiving his M.Sc. and till recently, he has been occupied as Research Associate in the Media Networks Laboratory working on European Research and Development projects in the fields of data networks, telecommunications and service management. On March 2021 – he was elected as *Functional Scientific Personnel, Grade C* for the Institute of Informatics and Telecommunications.

Upon resuming his position, has been appointed as the Head of Network Operations Center of NCSR Demokritos. During this period along with the NOC personnel, he has been driving the evolution of the campus network and computing infrastructure. In addition he is involved in many internal Organisation projects in matters aligned with his expertise.

He has developed the Data Center of the Media Networks Lab, and is responsible for the deployment and management of wired and wireless network infrastructures including heterogeneous, multi-domain deployments; deployment and management of the Data Center and Cloud infrastructures including several virtualisation technologies of computing, networking and storage; deployment and management of network services such as firewalls, routers, etc. He also participates in the sysadmin team of IIT, contributing to the management, monitoring, reconfiguration and planning of the IIT's network.

He is the head of CORE Research Group of Institute of Informatics and Telecommunications of NCSR Demokritos, enumerating 14 members currently involved in 10 EC funded research projects (Coordinating 4 and acting as Technical Manager for one).

Short CV (continued)

In the frame of his participation in EU Research and Development projects, he has experience in the design and implementation of DevOps workflows for virtualised network infrastructures supporting Continuous Integration / Continuous Development pipeline. The tools that are exploited in the DevOps chain are GitHub, GitLab platforms treated as "single truth source", automation servers such as Jenkins supporting specific scripts and pipelines. The whole system was exploiting virtulisation capabilities of the infrastructure such as Docker. This experience was acquired while working on two EC funded project oriented to DevOps for 5G networks (H2020 SONATA and H2020 5GTANGO). Part of the network automation for the NOC operations are exploiting this experience in the provision of IaaS and network services for the faculty members and the administrative units of NCSRD.

He has also experience in the design and implementation of infrastructures supporting Network Softwarisation and Programmability. The technologies exploited are Network Function Virtualisation (NFV) and Software Defined Networks (SDN) protocols and architectures. The experience in this field required efficient knowledge on datacenter and cloud technologies, network acceleration optimisations for virtualised components and SDN controllers such as OpenDaylight, protocols and Customer of the self equipment deployment, configuration and programming. This experience was acquired while working on several EC funded projects from the early days of NFV (i.e. T-NOVA) following with the evolution towards 5G. He was the technical Manager of project T-NOVA.

He has experience in deployment and configuration of telemetry and monitoring solutions for physical and virtualised infrastructures, as detailed further into this document.

Following a bottom up approach, from the infrastructure towards the management, he is experienced in the deployment and management and configuration of heterogeneous infrastructures focusing on the provision of end-to-end QoS, traffic engineering exploiting MPLS and Carrier Ethernet and Network Slicing (especially for 5G networks). Finally as part of the focus in the Zero touch network and Service Management (ZSM) he is experienced in solutions for network anomaly detection and automatic policy application for increasing security of software networks.

He has participated in numerous EU-funded projects with various roles and responsibilities, dealing with a variety of development and research activities. He has served as Technical coordinator in FP7-T-NOVA which was one of the pioneer projects in Network Function Virtualisation and Software Defined Networks. He has strong technical and research expertise in the fields of Network Virtualisation and Management, Programmable Networks, Cloud Networks, Satellite Networks, Media delivery technologies and Performance Evaluation of IT services. At the moment he the Coordinator of one EC project and Scientific Responsible for 5 in the fields of Cloud Continuum, SNS and Cybersecurity.

He is the author of more than 114 publications (h-index 24) in journals (25), book chapters (5), conferences (84) and editorials (1). Through his involvement in funded research projects he has authored of numerous project deliverables and technical reports. He serves as a member of the Organising Committee of IEEE NFV-SDN and IEEE Network Softwarisation (NetSoft) conferences. The structure of this document is as follows, initially I provide you with my Education information, followed by my Professional and Research expertise. Next section provides information on research and development activities were I have participate as an expert in the topics mentioned. The next section provides information on my academic/educational activities having been occupied in various institutions as laboratory associate. In the same frame I present you the dissertations that I have personally supervised as part of my previous involvement. In the following section, I am presenting you some other activities in the academic community such as invited keynotes participation in TPCs and organisation committees for several conferences as well as reviewer for prestigious journals.Finally the CV presents my additional skills. I present also in this document the detailed list of publications. The full list along with the abstracts describing the work is provided in a separate document.

Education

1999 – 2001	• MSc degree in **"Automation Systems"** from the National Technical University of Athens (NTUA). Thesis: "Design, Implementation and performance evaluation of an asymmetric telecommunications system", Supervisor Prof. Emeritus Kiamal Pekmestzi, School of Electrical and Computer Engineering, NTUA, Greece.
1994 – 1999	• BSc degree in **Physics** from University of Ioannina. Thesis: "Electrical characterisation of p-i-n photodiodes AlGaAs/GaAs", Supervisor: Dr. Evangelos Evangelou, Dept. of Physics, University of Ioannina, Greece.

Professional and Research Experience

Professional Experience

2021 – . . .	• **Head of Network Operations Center of NCSR Demokritos**

Upon assuming the position of Functional Scientific Personnel in NCSR Demokritos, I was assigned as a the Head of the NOC for all the network infrastructure and services of the NCSRD Campus. During the past three years, I have led the restructuring and consecutive upgrade of the infrastructure and services further expanding the virtualisation of the infrastructure and services, the observability of the network. In addition proper steps towards strengthening of the Cybersecurity of the organisation have been made. The NOC operates more than 200 physical multi-vendor network elements (e.g. switches, routers, Access Points etc) and serves more than 500 faculty and visitors on daily basis plus 40 small SMEs and StartUps hosted in Lefkippos Technological Park. In addition to NCSRD own efforts, the NOC and me as Local Responsible have supervised the execution of the Project HEPHAESTUS[1] which provides funding for the upgrade and expansion of network infrastructure across Academic and Research Organisations in Greece and is coordinated by GRNET. A complete overhaul of the core and distribution network of NCSRD has been achieved leading to a more resilient and performing network.
Briefly the following objectives have been achieved:

- Design and deployment of the new Fiber Infrastructure across the campus

- Design, deployment and operation of new Core and Distribution infrastructure

- Design, deployment and operation of new Access network infrastructure

- Design, deployment and operation of new Campus wide Wireless infrastructure (WiFi

- Design and deployment of Network monitoring and anomaly detection framework

- Enhancement of Cybersecurity with central firewall (FortiGate) and central policies for all subscribers and services.

- AI-based network anomaly detection and remediation

---

[1]https://grnet.gr/business-directory/hephaestus/

- Migration from old network infrastructure to the new

- Centralisation of services e.g. Mail, DNS, Antispam, Antivirus, AAA etc

- Consulting and provisioning for the deployment of Smart Services (i.e. Fire Detection, Power Metering etc) in new and old buildings of the campus.

• New Buildings Construction and Data Center

Participate in the coordination team for the New Buildings requirements elicitation and specifications related to network infrastructure. In addition I am involved in the supervision of the new NCSRD Data Center, part of the new Institute of Informatics and Telecommunications building.

2001 – 2022 **• Implementation and Management of Media Networks Laboratory network equipment and Data Center**

The Media Network Laboratory infrastructure comprises of a large number of network equipment (i.e. switches, routers), workstations supporting various technologies and protocols. During this period, I have been the system administrator of the Laboratory managing, maintaining and updating the infrastructure in order to be exploited at various research activities of the Laboratory. A summary of the activities is as follows:

- Deployment, configuration and management of the Laboratory network infrastructure – Currently the network infrastructure comprises of more than 10 managed switches supporting legacy and Software Defined Network (SDN) capabilities. The network is segmented using a large number of VLANs for sufficient management and isolation. For the management of the SDN part of the network, OpenDaylight SDN Controller is used, legacy part of the network is managed by Opensource NMS platforms (i.e. OpenNMS) and frameworks offering automation of the network operations such as Ansible.

- Deployment, configuration and management of heterogeneous wireless network infrastructure – The infrastructure of MediaNetworks Laboratory traditionally supported various wireless technologies either for use as production network or for research purposes. The technologies currently concurrently deployed and maintained by me are the WiFi network based on 802.11ac used by the staff of the Laboratory and the experimental 5G/4G Infrastructure. The latter extends beyond the Laboratory to the NCSRD campus realised in several installed points of presence utilising campus optical network.

- Deployment, configuration and management of the Data Center of the Media Networks Laboratory – The infrastructure available for the data center enumerates more than 40 workstations in various configurations and capabilities. From this pool of resources several clusters are created upon request to cope with the research projects' requirements. A large portion of the available workstations in organised under Canonical Metal-as-a-Service (MAAS) platform to enable automatic provision and installation of operational systems as well as virtualisation solutions (i.e. Kubernetes, Openstack). In addition other virtualisation solutions like ESX, Docker are supported directly on the workstation. As such a 4 node K8s cluster on bare metal is installed and maintained for research purposes.

Professional and Research Experience (continued)

- Monitoring and telemetry of the infrastructure overall – The infrastructure monitoring is essential for such an extended infrastructure, this is achieved by Prometheus framework hierarchical deployment in order to collect monitoring and telemetry by the whole heterogeneous infrastructure including network, computing and radio elements both physical and virtual. The visualisation of the infrastructure resources is achieved via Grafana framework and accompanied by LibreNMS.

2018 – 2021

- **Participation in the Institute of Informatics and Telecommunications of NCSR "Demokritos" sysadmin team** – I am providing administration and management expertise in the reconfiguration and planning of the IIT infrastructure in order to enhance security, service performance and introduce new management tools. In addition, I participate in the consulting team for the future evolution of the network infrastructure of IIT following the expansion of IIT to new buildings. In summary the following activities took place so far:

  - Installation of new Firewall/Gateway for the IIT network based on opensource implementation (i.e. pfSense). In addition reconfiguration of network segment and ip addressing for all the networks behind the firewall

  - Installation and configuration of new monitoring software based on opensource tools such as: LibreNMS for SNMP data collection and Grafana for visualisation.

  - Installation and configuration of virtualsation infrastructure based on Proxmox (free edition).

  - Installation and configuration of Freenas storage node

  - Participation in the watchdog team for debugging and first response in case of network alerts or service unavailability

Professional and Research Experience (continued)

2019 – 2021
- **Collaboration with Ariadne-t NOC of NCSR "Demokritos" system administrators** – The collaboration refers mainly to activities that require direct peering with the top level network administrators regarding the following services:

    - Management and administration of the non-production/experimental network segment used by the Media Network Laboratory.

    - Management and administration of the local campus optical network for the needs of the distributed 5G/4G infrastructure

    - Management and administration of the Q-in-Q virtual switch to OTEACADEMY via GRNET.

    - Monitoring of the provided infrastructure and resources for optimal operation

    - Debugging and troubleshooting

Research Experience

3/2021 – . . .
- Functional Scientific Personnel, Grade C. Head of CORE Research Group focusing in the topics of Software Networks, Cloud/Edge/IoT Continuum Orchestration, and Cybersecurity.

6/2020 – 3/201
- Research Assistant at the Institute of Informatics and Telecommunications of National Center for Scientific Research "Demokritos" (NCSRD) in the frame of European funded research projects.

10/2015 – 08/2016
- Research Associate at the Department of Applied Informatics and Multimedia of Technological Education Institution of Crete.

2001 – 2020
- Research Associate at the Institute of Informatics and Telecommunications (IIT) of National Center for Scientific Research "Demokritos" (NCSRD) in the frame of European funded research projects.

- Experience in the design and implementation of DevOps workflows for virtualised network infrastructures provision supporting Continuous Integration / Continuous Development pipeline. The tools that are exploited in the DevOps chain are GitHub, GitLab platforms treated as "single truth source", automation servers such as Jenkins supporting specific scripts and pipelines. The whole system was exploiting virtualisation capabilities of the infrastructure such as Docker. The experience was acquired while working on two EC funded project oriented to DevOps for 5G networks (H2020 SONATA and H2020 5GTANGO).

Professional and Research Experience (continued)

- Experience in the design and implementation of infrastructures supporting Network Softwarisation and Programmability. Ultimately, technologies exploited are Network Function Virtualisation (NFV) and Software Defined Neworks (SDN) protocols and architectures. The experience in this field required efficient knowledge on datacenter and cloud technologies, network acceleration optimisations for virtualised components and SDN controllers such as OpenDaylight, protocols and Customer of the self equipment deployment, configuration and programming. The experience was acquired while working on several EC funded projects from the early days of NFV (i.e. T-NOVA) following with the evolution towards 5G.
- Experience in monitoring and telemetry solutions for physical and virtualised infrastructures. The solutions that were developed focus in the monitoring of virtualised and physical infrastructures beyond the legacy network monitoring , towards streaming telemetry for the facilitation of Zero Touch Network and Services Management (ZSM).
- Experience in management and configuration of heterogeneous infrastructures. During the course of the years, various technologies has been deployed in the Lab and solutions for end-to-end provision of resources across those technologies has been assessed. Multi-administrative domain and Multi-technology domain management frameworks have been developed in this scope. Recently the topic of Network Slicing in 5G networks that embraces end-to-end provision of resources in various domains (i.e. network, radio, computing) is being researched and management solutions are being developed.
- Experience in anomaly detection and security. Taking advantage of the expertise acquired in monitoring and telemetry of virtual/physical infrastructures, the integration of anomaly detection frameworks such as Apache Spot and Apache Metron has been performed. Their efficiency has been tested versus other tools that offer intrusion detection (i.e. Snort) in order to assess their applicability for strengthening security.

Research and Development Activities

1/2024 – . . .	**Scientific Responsible** for EC Project 6G CLOUD (Service-oriented 6G network architecture for distributed, intelligent, and sustainable cloud-native communication systems)
10/2024 – . . .	**Coordinator and Scientific Responsible** for EC Project COBALT (Certification for Cybersecurity in EU ICT using Decentralized Digital Twinning)
1/2023 – . . .	**Scientific Responsible** for EC Project PRIVATEER (Privacy first Security Enablers for 6G Networks)
12/2022 – . . .	**Scientific Responsible** for EC Project AInception (AI Framework for Improving Cyber Defence Operations)
9/2022 – . . .	**Scientific Responsible** for EC Project ICOS (Towards a functional continuum operating system)

Research and Development Activities (continued)

7/2020 – 3/2021	• Principal Investigator, ORION INNOVATIONS P.C., EC funded research project H2020 PALANTIR **"Practical Autonomous Cyberhealth for resilient SMEs & Microenterprises"**. Leading the tasks related to Risk Assessment Framework design and implementation as well as the Integration, Validation and Pilots Work-package.
3/2020 – 3/2021	• Research Associate, NCSRD. EC funded research project H2020 INSPIRE-5GPLUS **"Intelligent Security and Pervasive Trust for 5G and Beyond"**. Leader of the Athens 5G Infrastructure and responsible for the 5G threat surface analysis and system requirements.
12/2019 – 3/2021	• Research Associate, NCSRD. EC funded research project H2020 5G!DRONES **"Unmanned Aerial Vehicle Vertical Applications' Trials Leveraging Advanced 5G Facilities"**. The involvement in this project's activities was to implement the required 5G and network infrastructure both on-board the Drone prototype and also on the ground in order to realise the trial scenarios planned for the NCSRD testbed.
2018 – 2022	• Research Associate, NCSRD. EC funded research project H2020 5GENESIS **"5th Generation End-to-end Network, Experimentation, System Integration, and Showcasing"**. Leader of the Athens 5G Infrastructure and technical supervision of the Slice Manager implementation and trial execution.
2018 – 2020	• Research Associate, NCSRD. EC funded research project H2020 5G-TANGO **"5G Development and validation platform for global industry-specific network services and apps"**. Technical Management for the workpackage related to the infrastructure supporting DevOps, experimentation and pilots. Support and extension of the DevOps approaches introduced by previous project H2020 SONATA.
2017 – 2020	• Research Associate, NCSRD. EC funded research project H2020 MATILDA **"A Holistic, Innovative Framework for the Design, Development and Orchestration of 5G-Ready Applications and Network Services Over Sliced Programmable Infrastructure"**. In the frame of this project, I was involved in the administration and management of the virtualised infrastructure for the facilitation of NetApp and NFV service deployment.
2016 – 2018	• Research Associate, NCSRD. EC funded research project H2020 SONATA **"Agile Service Development and Orchestration in 5G Virtualized Networks"**. In the frame of this project, I lead the technical workpackage on Pilot Infrastructure and Large-scale evaluation campaigns. In addition I have participated in the Architecture definition and specifications and DevOps operations pipeline design and implementation. The research area of the project is within the area of 5G architectures and more precisely the adoption of NFV and SDN technologies supporting Service and Network Programmability via Continuous Development and Continuous Integration (CI/CD) practices.
2015 – 2017	• Research Associate, NCSRD. EC funded research project H2020 ICT VITAL **"VIrtualized hybrid satellite-TerrestriAl systems for resilient and fLexible future networks "**. In the frame of this project, system architecture design is undergo. Future research involves the system evaluation related to the hybrid federated satellite-ground network performance. The system is implemented using SDN and NFV concepts.

Research and Development Activities (continued)

2014 – 2016

- Technical Coordinator, NCSRD. EC funded Research Program FP7 ICT T-NOVA **"Network Function-as-a-Service over Virtualised Infrastructures"**. During the program a Virtualised Infrastructure was studied, designed and implemented with the intent of providing support for the execution of Virtualised Network Functions (VNF). The research field falls within the area of Network Function Virtualisation and Software Defined Networks (SDN). Additionally results were disseminated to the related standardisation organisations, i.e ETSI NFV ISG and IETF NFVRG, where I am currently actively participating. Finally, I served as Technical Manager for the whole duration of the project. The project received "excelent" remark at the final review for fulfilling all objectives.

2010 – 2013

- Research Associate, NCSRD. EC funded Research Program FP7 ICT ALICANTE **"Media Ecosystem Deployment through Ubiquitous Content-Aware Network Environments"**. In the frame of the project a Media Aware Network Node (MANE) was designed and implemented. The node was able to used Deep Packet Inspection (DPI) methods in order to support content awareness and classify the traffic flows in order to apply policies (i.e DiffServ) and/or switching (i.e. MPLS).

2008 – 2010

- Research Associate, NCSRD. EC funded Research Program FP7 ICT ADAMANTIUM **"Adaptive Management of media distribution based on satisfaction oriented user modelling"**. In the frame of the program. an IP Multimedia System (IMS) has been deployed in order to manage services over 3G and WiFi (802.11) networks. The area of research included the development and evaluation of a Resource Management system compatible with IMS approach.

2003 – 2008

- Research Associate, NCSRD. EC Funded Research Programs FP5 ICT ENTHRONE I and FP6 ICT ENTHRONE II **"End-to-End QoS through integrated management of content, networks and terminals"**. In the context of this research activity, the support of end-to-end QoS over heterogeneous core and access networks was studied. In detail the access network were based on DVB (-S, -T), WiMAX and WiFi (802.11e) technologies. The core networks were based on IP/MPLS technologies supporting Service Differentiation (DIffServ). A cross-layer management system was developed in order to allow the end-to-end link provision across all domains.

2001 – 2003

- Research Associate, NCSRD. EC Funded Research Program FP5 IST REPOSIT **"Realtime dynamic bandwidth optimisation in satellite networks"**. In the field of the program an novel architecture was designed and implemented for the interconnection of terrestrial ground satellite stations via On-Board Processing Satellite infrastructure. In addition a dynamic bandwidth management system was developed taking into account both IP based service and DVB (MPEG-2 TS) based TV services.
- Research Associate, NCSRD. EC Funded Research Program FP5 IST SOQUET **"System for management of quality of service in 3G networks"**. In the context of the program a study of multimedia service delivery to mobile devices was conducted. The protocols used for the mobile devises were based on GSM/GPRS, WiFi and DVB-T.

Research and Development Activities (continued)

2000 – 2002
- Research Associate, NCSRD. EC Funded Research Program FP5 IST MAMBO **"Multi-services management wireless network with bandwidth optimisation"**. A study and evaluation of the architecture for distribution of interactive IP based services over a hybrid Terrestrial DVB platform. The evaluated system involved a feedback loop mechanism that controlled the traffic prioritisation and the assignment of network resource with the aim of improving or stabilising the perceived video quality.

Teaching Experience

10/2009 – 6/2010
- Laboratory Associate in Department of Informatics Engineering, Technological Educational Institute of Crete (TEIC). Modules taught:

  - **Data Networks** - Lab course

  - **Digital Video Broadcasting (DVB)** - Lab course, winter semester

  - **Interactive Terrestrial Digital Video Broadcasting (DVB-T)** - Lab course, spring semester

10/2008 – 06/2009
- Laboratory Associate in Department of Informatics Engineering, Technological Educational Institute of Crete (TEIC). Modules taught:

  - **Data Networks** - Lab course

  - **Digital Video Broadcasting (DVB)** - Lab course, winter semester

  - **Interactive Terrestrial Digital Video Broadcasting (DVB-T)** - Lab course, spring semester

10/2007 – 06/2008
- Laboratory Associate in Department of Informatics Engineering, Technological Educational Institute of Crete (TEIC). Modules taught:

  - **Data Networks** - Lab course

10/2006 – 06/2007
- Laboratory Associate in Department of Informatics Engineering, Technological Educational Institute of Crete (TEIC). Modules taught:

  - **Data Networks** (Lab)

10/2004 – 06/2005
- Laboratory Associate in Department of Informatics Engineering, Technological Educational Institute of Crete (TEIC). Modules taught:

  - **Digital Video Broadcasting (DVB)** - Lab course, winter semester

  - **Interactive Terrestrial Digital Video Broadcasting (DVB-T)** - Theory course, spring semester

  - **Interactive Terrestrial Digital Video Broadcasting (DVB-T)**- Lab course, spring semester

Teaching Experience (continued)

04/2004 – 06/2005   • Laboratory Associate in Department of Electronic Engineering Educators, School of Pedagogical and Technological Education, Athens. Modules taught:

- **Laboratory of Automation Systems**

Dissertation Supervision

2011   • M. Karapiperakis, I. Sfakianakis, "Desing and implementation of an architecture supporting network virtualisation exploiting OpenSolaris for the distribution of multimedia content with QoS. Department of Informatics Engineering, TEI Crete.

2010   • C. Koutsogiannis, "Design and implementation of a Wireless Mesh network infrastructure".Department of Informatics Engineering, TEI Crete.

2009   • G. Grigoriadis, "Study of ground station interconnection using OBP satellite payloads". Department of Informatics Engineering, TEI Crete.

2008   • G. Peponakis, S. Giatrakis, "Use of OPNET for the simulation of Data Networks". Department of Informatics Engineering, TEI Crete.

Invited Presentations

14/02/2024   • Presentation on "Moving target defence as a proactive defence element in future telecom networks" at CyberSecurity Meetup for OTE Group by IT Innovation Center OTE Group of Companies

2019   • Keynote on "An NFV/SDN DevOps platform for 5G: The case of Smart Manufacturing" at Integrated workshop on 5G, Security and AI (5GSecAI) in conjunction with NFV-SDN 2019.

2018   • Presentation on "Orchestrating 5G Network and Services Using LSO Presto" at MEF18, Oct. 29 - Nov 2., 2018, Los Angeles – *Orchestration of 5G-based services using LSO is an essential tool for effective multi-domain service fulfilment and assurance. In this session, we are going to explore the MEF work around 5G transport, network slicing, orchestration, and fixed wireless access. For the MEF 3.0 implementation project, NEC/Netcracker and IIT Demokritos will demonstrate how a commercial LSO implementation can fulfil and activate a MEF service and network slicing via the LSO Presto Network Resource Provisioning (NRP) API across its standards-based 5G Ready network. This session will highlight integration issues and the usability of the LSO Presto interface to keep pace with rapid developments of both LSO implementations and emerging 5G and network slicing technologies.*

2017   • Keynote on "SONATA NS development and deployment workflows" at SDN NFV WORLD CONGRESS 2017, 9-13 Oct. 2017, The Hague.

Participation in review panels and TPCs

Conference/Workshop Organiser

2020 • Demo Chair for IEEE Conference on Network Softwarization (IEEE NetSoft 2020) 2020
 • Organising committee for IEEE Conference on Network Function Virtualization and Software Defined Networks (IEEE NFV-SDN 2020) - Demo co-chair

2019 • Organising committee for IEEE Conference on Network Function Virtualization and Software Defined Networks (IEEE NFV-SDN 2019) - Demo co-chair
 • Organising committee for IEEE Conference on Network Softwarization(IEEE NetSoft 2020) - Demo co-chair

2018 • Organising committee for IEEE Conference on Network Function Virtualization and Software Defined Networks (IEEE NFV-SDN 2018) - Workshops co-chair

2017 • Organising committee for IEEE Conference on Network Function Virtualization and Software Defined Networks (IEEE NFV-SDN 2017) - Workshops co-chair

2016 • Organising committee for IEEE Conference on Network Function Virtualization and Software Defined Networks (IEEE NFV-SDN 2016) - Workshops co-chair
 • Publicity Chair and TPC for IEEE Conference on Network Softwarization (IEEE NetSoft 2016) 2016
 • Organiser for Workshop on Network Function Virtualisation and Programmable Networks, co-located with EuCNC 2016.
 • Organising Committee for the 1st and 2nd Workshop on Media Aware Networking (WoMAN)

2015 • Organiser for Workshop on Network Function Virtualisation and Programmable Networks, co-located with EuCNC 2015.

Guest Editor

2022 • Expert Author in ENISA Report on "Security Challenges in fixed-line networks"
2009 • Guest Editor at International Journal of Digital Multimedia Broadcasting, Special Issue edition on "IP and Broadcasting Systems Convergence"

Tutorials

2022 • "AI/ML-based Solutions for Automating Security in Future 6G Networks", 2022 IEEE 95th Vehicular Technology Conference: VTC2022-Spring.

International Journal Reviewer

 • Computer Networks, Elsevier
 • Computer Communications, Elsevier
 • Computer Standards & Interfaces, Elsevier
 • Journal of Network and Computer Applications
 • IEEE Transactions on Networks and Service Management
 • Intl. Journal of Digital Multimedia Broadcasting
 • IEEE Communications Magazine

Participation in Technical Program Committees

- TPC Member of the 2024 15th International Conference on Communications (COMM)
- TPC Member for IEEE ICME2011, Int. Workshop on Multimedia-Aware Networking
- TPC Member for EUSIPCO 2012
- TPC Member for IEEE SDN/NFV Conference 2015 to 2024
- TPC Member for IEEE NetSoft Conference 2015 to 2024
- TPC Member for International Workshop on Quality of Multimedia Experience (QoMEX) 2016, 2017,2018
- TPC Member for IEEE Intl. Conf. On Communications (ICC) 2018, 2019, 2020
- TPC Member for Int. Conf. On Telecommunications and Multimedia (TEMU) 2010, 2012, 2014

Expert Evaluator

- Evaluator for IMAGINE-B5G[2] EC Project Second Phase of Open Calls
- Evaluator for 5GINFIRE[3] EC Project Open Calls
- Reviewer for ENISA report "NFV Security in 5G - Challenges and Best Practices"[4]
- EU Defence Innovation Scheme (EUDIS) "Digital in Defence" – Serve as Mentor

Innovation Activities

2024	• MotorOil Hellas – collaboration in European Defence Fund and Horizon Europe projects in Cyber and Telecom topics
	• OTE – collaboration in Cyberdefence project and training activities
2023	• Naval Group – collaboration in European Defence Fund topics such as CyberSecurity and Telecommunications

Skills

Foreign Languages

- First Certificate in English (B2) from Cambridge University awarded with grade C.
- Basic knowledge of German Language

Computer

- Software development (C, C++, Fortran, Python)
- Excellent knowledge of Operating Systems (Linux, BSD, MAC OS, Windows)
- IT Service deployment and management

---

[2]https://imagineb5g.eu

[3]https://5ginfire.eu

[4]https://www.enisa.europa.eu/publications/nfv-security-in-5g-challenges-and-best-practices

Skills (continued)

- Software Network architectures, tools and protocols
- Trained for the Management and Operation of HUAWEI Network Equipment as part of the HEPHAESTUS Activities
- Trained for the Management and Operation of CISCO Cisco Unified Communications Manager (CUCM) as part of the HEPHAESTUS provisions for VoIP infrastructure

Competencies

- More than 15 year experience in Project Management and Project Coordination and Technical Management.
- Experienced proposal bidder specialised in EC funding proposals.
- Active in Standardisation fora such as IETF, ETSI and MEF.

Publications

International Journals

2024
- **J.25** – G. Xylouris, N. Nomikos, A. Kalafatelis, A. E. Giannopoulos, S. Spantideas, and P. Trakadas, "Sailing into the Future: Technologies, Challenges, and Opportunities for Maritime Communication Networks in the 6G Era," *FRONTIERS In Communications and Networks*, Accepted, to appear
- **J.24** – E. Rodriguez, X. Masip-Bruin, J. Martrat, R. Diaz, A. Jukan, F. Granelli, P. Trakadas, and G. Xilouris, "A Security Services Management Architecture Toward Resilient 6G Wireless and Computing Ecosystems," *IEEE Access*, Accepted, to appear
- **J.23** – P. K. Gkonis, N. Nomikos, P. Trakadas, L. Sarakis, G. Xylouris, X. Masip-Bruin, and J. Martrat, "Leveraging Network Data Analytics Function and Machine Learning for Data Collection, Resource Optimization, Security and Privacy in 6G Networks," *IEEE Access*, vol. 12, pp. 21320–21336, 2024

2023
- **J.22** – M. Batistatos, M.-A. Kourtis, G. Xilouris, D. Santorinaios, A. Oikonomakis, E.-Z. Bozis, and A. Kourtis, "Wi-Fi 6 aerial relay node in 5G network for emergency operations," *AEU - International Journal of Electronics and Communications*, vol. 170, p. 154776, 2023
- **J.21** – M.-A. Kourtis, M. Batistatos, G. Xylouris, A. Oikonomakis, D. Santorinaios, C. Zarakovitis, and I. Chochliouros, "Energy Efficiency in Agriculture through Tokenization of 5G and Edge Applications," *Energies*, vol. 16, no. 13, 2023
- **J.20** – M. Compastié, A. López Martínez, C. Fernández, M. Gil Pérez, S. Tsarsitalidis, G. Xylouris, I. Mlakar, M. A. Kourtis, and V. Šafran, "PALANTIR: An NFV-Based Security-as-a-Service Approach for Automating Threat Mitigation," *Sensors*, vol. 23, no. 3, 2023

2022
- **J.19** – M.-A. Kourtis, A. Oikonomakis, D. Santorinaios, T. Anagnostopoulos, G. Xilouris, A. Kourtis, I. Chochliouros, and C. Zarakovitis, "5G NPN performance evaluation for I4.0 environments," *Applied Sciences*, vol. 12, no. 15, 2022

2021
- **J.18** – W. Soussi, M. Christopoulou, G. Xilouris, and G. Gür, "Moving Target Defense as a Proactive Defense Element for Beyond 5G," *IEEE Communications Standards Magazine*, vol. 5, pp. 72–79, Sep. 2021

- **J.17** – M.-A. Kourtis, T. Sarlas, T. Anagnostopoulos, S. Kukliński, L. Tomaszewski, M. Wierzbicki, A. Oikonomakis, G. Xilouris, I. P. Chochliouros, N. Yi, A. Kostopoulos, and H. Koumaras, "Network slicing for 5G edge services," *Internet Technology Letters*, vol. 4, no. 6, p. e289, 2021
- **J.16** – M.-A. Kourtis, T. Sarlas, G. Xilouris, M. C. Batistatos, C. C. Zarakovitis, I. P. Chochliouros, and H. Koumaras, "Conceptual Evaluation of a 5G Network Slicing Technique for Emergency Communications and Preliminary Estimate of Energy Trade-Off," *Energies*, vol. 14, no. 21, 2021
- **J.15** – H. Koumaras, G. Makropoulos, M. Batistatos, S. Kolometsos, A. Gogos, G. Xilouris, A. Sarlas, and M.-A. Kourtis, "5G-Enabled UAVs with Command and Control Software Component at the Edge for Supporting Energy Efficient Opportunistic Networks," *Energies*, vol. 14, no. 5, 2021

2019
- **J.14** – M. Peuster, S. Schneider, M. Zhao, G. Xilouris, P. Trakadas, F. Vicens, W. Tavernier, T. Soenen, R. Vilalta, G. Andreou, D. Kyriazis, and H. Karl, "Introducing automated verification and validation for virtualized network functions and services," *IEEE Communications Magazine*, vol. 57, pp. 96–102, May 2019
- **J.13** – T. Soenen, W. Tavernier, M. Peuster, F. Vicens, G. Xilouris, S. Kolometsos, M. Kourtis, and D. Colle, "Empowering Network Service Developers: Enhanced NFV DevOps and Programmable MANO," *IEEE Communications Magazine*, vol. 57, pp. 89–95, May 2019
- **J.12** – M. Kourtis, B. Blanco, J. Pérez-Romero, D. Makris, M. J. Mcgrath, G. Xilouris, D. Munaretto, R. Solozabal, A. Sanchoyerto, I. Giannoulakis, E. Kafetzakis, V. Riccobene, E. Jimeno, A. Kourtis, R. Ferrús, F. Liberal, H. Koumaras, A. Kostopoulos, and I. Chochli-ouros, "A Cloud-Enabled Small Cell Architecture in 5G Networks for Broadcast/Multicast Services," *IEEE Transactions on Broadcasting*, vol. 65, pp. 414–424, June 2019

2017
- **J.11** – M. A. Kourtis, M. J. McGrath, G. Gardikis, G. Xilouris, V. Riccobene, P. Papadimitriou, E. Trouva, F. Liberati, M. Trubian, J. Batalle, H. Koumaras, D. Dietrich, A. Ramos, J. F. Riera, J. Bonnet, A. Pietrabissa, A. Ceselli, and A. Petrini, "T-NOVA: An Open-Source MANO Stack for NFV Infrastructures," *IEEE Transactions on Network and Service Management*, vol. 14, pp. 586–602, Sept 2017
- **J.10** – B. Blanco, J. O. Fajardo, I. Giannoulakis, E. Kafetzakis, S. Peng, J. Pérez-Romero, I. Trajkovska, P. S. Khodashenas, L. Goratti, M. Paolino, E. Sfakianakis, F. Liberal, and G. Xilouris, "Technology pillars in the architecture of future 5G mobile networks: NFV, MEC and SDN," *Computer Standards & Interfaces*, Jan. 2017
- **J.9** – I. Trajkovska, M.-A. Kourtis, C. Sakkas, D. Baudinot, J. Silva, P. Harsh, G. Xylouris, T. M. Bohnert, and H. Koumaras, "SDN-based service function chaining mechanism and service prototype implementation in {NFV} scenario," *Computer Standards & Interfaces*, pp. –, 2017

2016
- **J.8** – H. Karl, S. Dräxler, M. Peuster, A. Galis, M. Bredel, A. Ramos, J. Martrat, M. S. Siddiqui, S. van Rossem, W. Tavernier, and G. Xilouris, "DevOps for network function virtualisation: an architectural approach," *Transactions on Emerging Telecommunications Technologies*, vol. 27, no. 9, pp. 1206–1215, 2016

2013
- **J.7** – M. Grafl, C. Timmerer, H. Hellwagner, G. Xilouris, G. Gardikis, D. Renzi, S. Battista, E. Borcoci, and D. Negru, "Scalable Media Coding Enabling Content-Aware Networking," *MultiMedia, IEEE*, vol. 20, pp. 30–41, April 2013

2012
- **J.6** – G. Gardikis, L. Boula, G. Xilouris, A. Kourtis, E. Pallis, M. Sidibe, and D. Negru, "Cross-layer monitoring in iptv networks," *IEEE Communications Magazine*, vol. 50, pp. 76–84, July 2012

Publications (continued)

- **J.5** – G. Gardikis, G. Xilouris, E. Pallis, and A. Kourtis, "Joint assessment of network- and perceived-qos in video delivery networks," *Telecommunication Systems*, vol. 49, no. 1, pp. 75–84, 2012

2008
- **J.4** – G. Gardikis, G. Xilouris, H. Skianis, and A. Kourtis, "Broadband multimedia on the move with DVB-H," *Multimedia Tools Appl.*, vol. 36(1-2), pp. 133–144, January 2008

2006
- **J.3** – G. Xilouris, G. Gardikis, H. Koumaras, and A. Kourtis, "Unidirectional Lightweight Encapsulation performance evaluation and application perspectives," *Transactions on Broadcasting*, vol. 52, pp. 374–380, September 2006

- **J.2** – H. Koumaras, G. Gardikis, G. Xilouris, E. Pallis, and A. Kourtis, "Shot boundary detection without threshold parameters," *Journal of Electronic Imaging*, vol. 15, no. 2, pp. 1 – 3, 2006

2005
- **J.1** – G. Xilouris, A. Kourtis, and G. Stefanou, "A mesh topology DVB-S network architecture for node interconnection, featuring QoS capabilities," *Computer Networks*, vol. 48, pp. 45–56, May 2005

Book Chapters and Collections

2018
- B.5 – H. Koumaras, G. Gardikis, C. Sakkas, G. Xilouris, V. Koumaras, and M. A. Kourtis, "Nfv-based scenarios for satellite{terrestrial integration," in *Satellite Communications in the 5G Era*, Telecommunications, pp. 103–123, Institution of Engineering and Technology, 2018

2016
- B.4 – H. Koumaras, C. Damaskos, G. Diakoumakos, M. Kourtis, G. Xilouris, G., G., V. Koumaras, and T. Siakoulis, "Virtualization evolution: From it infrastructure abstraction of cloud computing to virtualization of network functions," in *Web-Based Services: Concepts, Methodologies, Tools, and Applications* (G. Mastorakis, C. X. Mavromoustakis, and E. Pallis, eds.), ISBN: 978-1-59904-953-3, pp. 2345–2372, DOI: 10.4018/978-1-4666-9466-8.ch104: IGI Global Publishing, jan 2016

2011
- B.3 – H. Koumaras, D. Negru, E. Borcoci, V. Koumaras, C. Troulos, Y. Lapid, E. Pallis, M. Sidibé, A. Pinto, G. Gardikis, G. Xilouris, and C. Timmerer, "Media ecosystems: A novel approach for content-awareness in future networks," in *The Future Internet* (J. Domingue, A. Galis, A. Gavras, T. Zahariadis, D. Lambert, F. Cleary, P. Daras, S. Krco, H. Müller, M.-S. Li, H. Schaffers, V. Lotz, F. Alvarez, B. Stiller, S. Karnouskos, S. Avessta, and M. Nilsson, eds.), LNCS, pp. 369–380, Berlin, Heidelberg: Springer Berlin Heidelberg, 2011

2008
- B.2 – H. Koumaras, E. Pallis, G. Xilouris, A. Kourtis, and D. Martakos, "Perceived quality evaluation for multimedia services," in *Multimedia Technologies: Concepts, Methodologies, Tools, and Applications* (M. R. Syed, ed.), ISBN: 978-1-59904-953-3, pp. 758–762, DOI: 10.4018/978-1-59904-953-3.ch101: IGI Global, jan 2008

2007
- B.1 – H. Koumaras, G. Xilouris, E. Pallis, G. Gardikis, and A. Kourtis, "Shot boundary detection techniques for video sequences," in *Encyclopedia of Mobile Computing and Services*, ISBN: 978-1-59904-675-4, pp. 889–893, Information Science Reference Pub., Oct 2007

Publications (continued)

International Conferences

- C.84 - I. Koufos, M. Christopoulou, G. Xilouris, M. Kourtis, M. Souvalioti, and P. Trakadas, "Automation of attack graph-based risk assessment with OSCAL," in *Distributed Computing and Artificial Intelligence (DCAI), Special Sessions I, 21st International Conference*, July 2024

- C.83 - A. Farao, G. Paparis, M. Kourtis, M. Anastassova, C. Bolzmacher, S. Bouilland, E. Markakis, I. Koufos, I. Politis, C. Xenakis, and G. Xilouris, "Leveraging self-sovereign identity for e-Health applications," in *Distributed Computing and Artificial Intelligence (DCAI), Special Sessions I, 21st International Conference*, July 2024

- C.82 - M. Kourtis, I. Gutierrez, E. Areizaga, G. Alexandridis, W. Tavernier, A. Imeri, N. Tcholtchev, G. Xilouris, P. Trakadas, I. Chochliouros, and I. Koufos, "Oasees: Leveraging dao-based programmable swarms for optimized edge-to-cloud data processing," in *Distributed Computing and Artificial Intelligence (DCAI), Special Sessions I, 21st International Conference*, July 2024

- C.81 - E.-Z. G. Bozis, N. C. Sagias, M. C. Batistatos, M.-A. Kourtis, G. K. Xilouris, and A. Kourtis, "A versatile 5g standalone testbed based on commodity hardware," in *2024 Panhellenic Conference on Electronics & Telecommunications (PACET)*, pp. 1–4, March 2024

- C.80 - D. Masouros, D. Soudris, G. Gardikis, V. Katsarou, M. Christopoulou, G. Xilouris, H. Ramón, A. Pastor, F. Scaglione, C. Petrollini, A. Pinto, J. P. Vilela, A. Karamatskou, N. Papadakis, A. Angelogianni, T. Giannetsos, L. J. G. Villalba, J. A. Alonso-López, M. Strand, G. Grov, A. N. Bikos, K. Ramantas, R. Santos, F. Silva, and N. Tsampieris, "Towards Privacy-First Security Enablers for 6G Networks: The PRIVATEER Approach," in *Embedded Computer Systems: Architectures, Modeling, and Simulation* (C. Silvano, C. Pilato, and M. Reichenbach, eds.), (Cham), pp. 379–391, Springer Nature Switzerland, 2023

- C.79 - I. P. Chochliouros, M. A. Kourtis, G. Xilouris, W. Tavernier, E. A. Sanchez, M. Anastassova, C. Bolzmacher, N. Tcholtchev, A. Corsi, P. Trakadas, M. Millet, C. Xenakis, A. Imeri, F. Bellesini, P. D'Ostilio, A. Markakis, I. B. Engin, A. Litke, L. M. Quarato, D. Cugat, G. Gardikis, C. Zarakovitis, S. Bouilland, Z. Zaharis, C. Lessi, D. Arvanitozisis, and A. S. Spiliopoulou, "OASEES: An Innovative Scope for a DAO-Based Programmable Swarm Solution, for Decentralizing AI Applications Close to Data Generation Locations," in *Artificial Intelligence Applications and Innovations. AIAI 2023 IFIP WG 12.5 International Workshops* (I. Maglogiannis, L. Iliadis, A. Papaleonidas, and I. Chochliouros, eds.), (Cham), pp. 91–105, Springer Nature Switzerland, 2023

- C.78 - M. A. Kourtis, G. Xilouris, M. Batistatos, A. Kourtis, and A. Markakis, "Emergency communications leveraging decentralized swarm computing," in *Proceedings of Cyber-Physical Systems and Internet of Things Week 2023*, CPS-IoT Week '23, (New York, NY, USA), p. 302{306, Association for Computing Machinery, 2023

Publications (continued)

- C.77 - W. Soussi, M. Christopoulou, G. Xilouris, E. M. d. Oca, V. Lefebvre, G. Gür, and B. Stiller, "Demo: Closed-Loop Security Orchestration in the Telco Cloud for Moving Target Defense," in *NOMS 2023-2023 IEEE/IFIP Network Operations and Management Symposium*, pp. 1–3, 2023

- C.76 - M. C. Batistatos, M.-A. Kourtis, G. K. Xilouris, D. Santorinaios, A. Oikonomakis, E.-Z. G. Bozis, I. D. Moscholios, N. C. Sagias, and A. Kourtis, "Wi-Fi 6 Aerial Relay Node for Emergency Operations," in *2022 Panhellenic Conference on Electronics & Telecommunications (PACET)*, pp. 1–5, 2022

- C.75 - M. C. Batistatos, M.-A. Kourtis, G. K. Xilouris, D. Santorinaios, A. Oikonomakis, and A. Kourtis, "A technological framework for leveraging first responders' efficiency and safety," in *2022 Panhellenic Conference on Electronics & Telecommunications (PACET)*, pp. 1–6, 2022

- C.74 - A. Rabitsch, T. Anagnostopoulos, K.-J. Grinnemo, J. McNamara, A.-M. Bosneag, M. Alexandros Kourtis, G. Xilouris, O. Alay, and A. Brunstrom, "Integrated network and end-host policy management for network slicing," in *2022 18th International Conference on Network and Service Management (CNSM)*, pp. 226–232, 2022

- C.73 - O. Kompougias, D. Papadopoulos, E. Mantas, A. Litke, N. Papadakis, D. Paraschos, A. Kourtis, and G. Xylouris, "Iot botnet detection on flow data using autoencoders," in *2021 IEEE International Mediterranean Conference on Communications and Networking (MeditCom)*, pp. 506–511, Sep. 2021

- C.72 - M.-A. Kourtis, A. Oikonomakis, D. Papadopoulos, G. Xylouris, and I. P. Chochliouros, "Leveraging deep learning for network anomaly detection," in *2021 Sixth International Conference on Fog and Mobile Edge Computing (FMEC)*, pp. 1–6, Dec 2021

- C.71 - P. Matzakos, H. Koumaras, D. Tsolkas, M. Christopoulou, G. Xilouris, and F. Kaltenberger, "An open source 5g experimentation testbed," in *2021 IEEE International Mediterranean Conference on Communications and Networking (MeditCom)*, pp. 1–2, 2021

- C.70 - E. Mantas, D. Papadopoulos, C. Fernández, N. Ortiz, M. Compastié, A. L. Martínez, M. G. Pérez, A. Kourtis, G. Xylouris, I. Mlakar, S. Tsarsitalidis, D. Klonidis, I. Pedone, D. Canavese, G. M. Pérez, D. Sanvito, V. Logothetis, D. Lopez, A. Pastor, A. Lioy, L. Jacquin, R. Bifulco, A. Kapodistria, A. Priovolos, G. Gardikis, I. Neokosmidis, T. Rokkas, N. Papadakis, D. Paraschos, P. Jeran, A. Litke, and G. Athanasiou, "Practical autonomous cyberhealth for resilient micro, small and medium-sized enterprises," in *2021 IEEE International Mediterranean Conference on Communications and Networking (MeditCom)*, pp. 500–505, Sep. 2021

- C.69 - M.-A. Kourtis, M. Batistatos, G. Xilouris, T. Sarlas, T. Anagnostopoulos, I. P. Chochliouros, and A. Kourtis, "5G slicing for emergency communications," in *2021 Eighth International Conference on Software Defined Systems (SDS)*, pp. 1–6, 2021

Publications (continued)

- C.68 - G. Xylouris, M. Christopoulou, H. Koumaras, M.-A. Kourtis, M. Emmelmann, D. Triantafyllopoulou, Y. Rahulan, I. G. Muriel, A. D. Zayas, E. Atxutegi, G. Gardikis, D. Lioprasitis, D. Tsolkas, P. Kostakis, E. Aumayr, A.-M. Bosneag, O. Alay, V. Frascolla, and A. Brunstrom, "Experimentation and 5G KPI measurements in the 5GENESIS platforms," in *Proceedings of the 1st Workshop on 5G Measurements, Modeling, and Use Cases*, 5G-MeMU '21, (New York, NY, USA), p. 1{7, Association for Computing Machinery, 2021

- C.67 - A. Rabitsch, G. Xilouris, T. Anagnostopoulos, K.-J. Grinnemo, T. Sarlas, A. Brunstrom, O. Alay, and G. Caso, "Extending network slice management to the end-host," in *Proceedings of the 1st Workshop on 5G Measurements, Modeling, and Use Cases*, 5G-MeMU '21, (New York, NY, USA), p. 20{26, Association for Computing Machinery, 2021

- C.66 - M. Christopoulou, G. Xilouris, A. Sarlas, H. Koumaras, M.-A. Kourtis, and T. Anagnostopoulos, "5G experimentation: The experience of the athens 5GENESIS facility," in *2021 IFIP/IEEE International Symposium on Integrated Network Management (IM)*, pp. 783–787, 2021

- C.65 - M.-A. Kourtis, T. Anagnostopoulos, S. Kukliński, M. Wierzbicki, A. Oikonomakis, G. Xilouris, I. P. Chochliouros, N. Yi, A. Kostopoulos, L. Tomaszewski, T. Sarlas, and H. Koumaras, "5g network slicing enabling edge services," in *2020 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN)*, pp. 155–160, Nov 2020

- C.64 - M. Christopoulou, W. Soussi, G. Xilouris, G. Gür, E. Montes de Oca, H. Koumaras, and B. Stiller, "Ai-enabled slice protection exploiting moving target defense in 6g networks," in *2021 Joint European Conference on Networks and Communications & 6G Summit (EuCNC/6G Summit), virtual, 8-11 June 2021*, ZHAW Zürcher Hochschule für Angewandte Wissenschaften, 2021

- C.63 - K. Michail-Alexandros, C. Dimitris, X. George, T. Sarlas, S. Thomas, and K. Anastasios, "Evaluation of edge technologies over 5g networks," in *Information Technology and Systems* (Á. Rocha, C. Ferrás, C. E. Montenegro Marin, and V. H. Medina García, eds.), (Cham), pp. 407–417, Springer International Publishing, 2020

- C.62 - J. Ortiz, R. Sanchez-Iborra, J. B. Bernabe, A. Skarmeta, C. Benzaid, T. Taleb, P. Alemany, R. Muñoz, R. Vilalta, C. Gaber, *et al.*, "INSPIRE-5Gplus: intelligent security and pervasive trust for 5G and beyond networks," in *Proceedings of the 15th International Conference on Availability, Reliability and Security*, pp. 1–10, 2020

- C.61 - M. Kourtis, T. Sarlas, C. Keuker, J. Morgade, D. Umap, V. Bayon, G. Xilouris, T. Soenen, A. Kostopoulos, I. Chochliouros, and H. Koumaras, "Video broadcast services over 5g networks," in *2020 23rd Conference on Innovation in Clouds, Internet and Networks and Workshops (ICIN)*, pp. 118–122, 2020

Publications (continued)

- C.60 - T. Soenen, F. Vicens, J. Bonnet, C. Parada, E. Kapassa, M. Touloupou, E. Fotopoulou, A. Zafeiropoulos, A. Pol, S. Kolometsos, G. Xilouris, P. Alemany, R. Vilalta, P. Trakadas, P. Karkazis, M. Peuster, and W. Tavernier, "SLA-controlled proxy service through customisable MANO supporting operator policies," in *2019 IFIP/IEEE Symposium on Integrated Network and Service Management (IM)*, pp. 707–708, 2019

- C.59 - M. Kourtis, G. Xilouris, D. Makris, A. Sarlas, T. Soenen, H. Koumaras, and A. Kourtis, "An end-to-end carrier ethernet MEF enabled 5G network architecture," in *2019 IFIP/IEEE Symposium on Integrated Network and Service Management (IM)*, pp. 20–24, April 2019

- C.58 - G. K. Xilouris, M. C. Batistatos, G. E. Athanasiadou, G. Tsoulos, H. B. Pervaiz, and C. C. Zarakovitis, "UAV-assisted 5G network architecture with slicing and virtualization," in *2018 IEEE Globecom Workshops (GC Wkshps)*, pp. 1–7, Dec 2018

- C.57 - H. Koumaras, D. Makris, A. Foteas, G. Xilouris, M. Kourtis, V. Koumaras, and J. Cosmas, "An SDN-based WiFi-VLC coupled system for optimised service provision in 5G networks," in *2018 IEEE 19th International Symposium on "A World of Wireless, Mobile and Multimedia Networks" (WoWMoM)*, pp. 14–17, June 2018

- C.56 - T. Soenen, W. Tavernier, G. Xilouris, S. Kolometsos, F. Vicens, E. M. Uriarte, and S. Siddiqui, "Service specific management and orchestration for a content delivery network," in *2018 4th IEEE Conference on Network Softwarization and Workshops (NetSoft)*, pp. 326–328, June 2018

- C.55 - C. Parada, J. Bonnet, E. Fotopoulou, A. Zafeiropoulos, E. Kapassa, M. Touloupou, D. Kyriazis, R. Vilalta, R. Muñoz, R. Casellas, R. Martínez, and G. Xilouris, "5GTango: A Beyond-MANO service platform," in *2018 European Conference on Networks and Communications (EuCNC)*, pp. 26–30, June 2018

- C.54 - C. M. Mathas, O. E. Segou, G. Xylouris, D. Christinakis, M.-A. Kourtis, C. Vassilakis, and A. Kourtis, "Evaluation of apache spot's machine learning capabilities in an sdn/nfv enabled environment," in *Proceedings of the 13th International Conference on Availability, Reliability and Security*, ARES 2018, (New York, NY, USA), pp. 52:1–52:10, ACM, 2018

- C.53 - G. Xilouris, S. Kolometsos, C. Xilouris, J. F. Hidalgo, S. Siddiqui, A. Rocha, S. Castro, F. Vicens, and J. Martrat, "DevOps based service orchestration in 5G virtualised networks - SONATA project demo," in *2017 IEEE Conference on Network Softwarization (NetSoft)*, pp. 1–3, July 2017

- C.52 - G. Gardikis, K. Tzoulas, K. Tripolitis, A. Bartzas, S. Costicoglou, A. Lioy, B. Gaston, C. Fernandez, C. Davila, A. Litke, N. Papadakis, D. Papadopoulos, A. Pastor, J. Nunez, L. Jacquin, H. Attak, N. Davri, G. Xylouris, M. Kafetzakis, D. Katsianis, I. Neokosmidis, M. Terranova, C. Giustozzi, T. Batista, R. Preto, E. Trouva, Y. Angelopoulos, and A. Kourtis, "SHIELD: A novel nfv-based cybersecurity framework," in *2017 IEEE Conference on Network Softwarization (NetSoft)*, pp. 1–6, July 2017

Publications (continued)

- C.51 - I. Giannoulakis, G. Xylouris, E. Kafetzakis, A. Kourtis, J. O. Fajardo, P. S. Khodashenas, A. Albanese, H. Mouratidis, and V. Vassilakis, "System architecture and deployment scenarios for SESAME: Small cells coodination for multi-tenancy and edge services," in *2016 IEEE NetSoft Conference and Workshops (NetSoft)*, pp. 447–452, June 2016

- C.50 - I. Giannoulakis, E. Kafetzakis, G. Xylouris, G. Gardikis, and A. Kourtis, "On the applications of efficient nfv management towards 5g networking," in *1st International Conference on 5G for Ubiquitous Connectivity*, IEEE, 12 2014

- C.49 - J. Carapinha, M. D. Girolamo, G. Monteleone, A. Ramos, and G. Xilouris, "VN-FaaS with end-to-end full service orchestration," in *2016 Fifth European Workshop on Software-Defined Networks (EWSDN)*, pp. 57–58, Oct 2016

- C.48 - V. Riccobene, M. J. McGrath, M. Kourtis, G. Xilouris, and H. Koumaras, "Automated generation of VNF deployment rules using infrastructure affinity characterization," in *2016 IEEE NetSoft Conference and Workshops (NetSoft)*, pp. 226–233, June 2016

- C.47 - M. McGrath, V. Riccobene, G. Petralia, G. Xilouris, and M.-A. Kourtis, "Performant deployment of a virtualised network functions in a data center environment using resource aware scheduling," in *Proceedings of the 2015 IFIP/IEEE International Symposium on Integrated Network Management, IM 2015*, pp. 1131–1132, 2015

- C.46 - M. Kourtis, G. Xilouris, V. Riccobene, M. J. McGrath, G. Petralia, H. Koumaras, G. Gardikis, and F. Liberal, "Enhancing vnf performance by exploiting sr-iov and dpdk packet processing acceleration," in *2015 IEEE Conference on Network Function Virtualization and Software Defined Network (NFV-SDN)*, pp. 74–78, Nov 2015

- C.45 - N. Herbaut, D. Negru, G. Xilouris, and Y. Chen, "Migrating to an NFV-based home gateway: introducing a Surrogate VNF approach," in *6th Network of the Future (NoF), IEEE Int, Conf. On*, (Montreal, Canada), pp. 18–23, Sept. 30 - Oct. 2 2015

- C.44 - G. Xilouris, E. Trouva, F. Lobillo, J. M. Soares, J. Carapinha, M. J. McGrath, G. Gardikis, P. Paglierani, E. Pallis, L. Zuccaro, Y. Rebahi, and A. Kourtis, "T-NOVA: A marketplace for virtualized network functions," in *2014 European Conference on Networks and Communications (EuCNC)*, pp. 1–5, June 2014

- C.43 - I. Giannoulakis, E. Kafetzakis, G. Xylouris, G. Gardikis, and A. Kourtis, "On the applications of efficient NFV management towards 5G networking," in *1st International Conference on 5G for Ubiquitous Connectivity*, pp. 1–5, Nov 2014

- C.42 - A. Beben, P. Wiśniewski, J. M. Batalla, and G. Xilouris, "A scalable and flexible packet forwarding method for future internet networks," in *Globecom* (IEEE, ed.), (Austin, TX), pp. 2027–2033, December 2014

- C.41 - G. Gardikis, G. Xilouris, K. Sarsembagieva, A. Kourtis, and D. Negru, "A network cost provision framework for network-aware applications," in *Network Operations and Management Symposium (NOMS), 2014 IEEE*, pp. 1–6, May 2014

Publications (continued)

- C.40 - K. Sarsembagieva, G. Gardikis, G. Xilouris, A. Kourtis, and P. Demestichas, "Efficient planning of virtual network services," in *EUROCON, 2013 IEEE*, pp. 668–672, July 2013

- C.39 - G. Xilouris, G. Gardikis, K. Sarsembagieva, and A. Kourtis, "SNMP-driven active measurements in DiffServ networks," in *Communications (ICC), 2013 IEEE International Conference on*, pp. 2545–2549, June 2013

- C.38 - M. Grafl, C. Timmerer, M. Waltl, D. Renzi, S. Battista, G. Xilouris, N. Zotos, and A. Chernilov, "Distributed adaptation decision-taking framework and scalable video coding tunneling for edge and in-network media adaptation," in *Telecommunications and Multimedia (TEMU), 2012 International Conference on*, pp. 163–168, July 2012

- C.37 - C. Troulos and G. Xilouris, "Network media ecosystems: The opportunity for network providers," in *Telecommunications and Multimedia (TEMU), 2012 International Conference on*, pp. 112–117, July 2012

- C.36 - N. Vorniotakis, G. Xilouris, G. Gardikis, N. Zotos, A. Kourtis, and E. Pallis, "A preliminary implementation of a content-aware network node," in *2011 IEEE International Conference on Multimedia and Expo (ICME 2011)*, (Los Alamitos, CA, USA), pp. 1–6, IEEE Computer Society, jul 2011

- C.35 - G. Gardikis, G. Xilouris, A. Kourtis, D. Negru, Y. Chen, P. Anapliotis, and E. Pallis, "Media ecosystem deployment in a content-aware future internet architecture," in *2011 IEEE Symposium on Computers and Communications (ISCC)*, pp. 544–549, June 2011

- C.34 - E. Borcoci, M. Stanciu, D. Niculescu, and G. Xilouris, "Quality of services assurance for multimedia flows based on content-aware networking," *The Fourth International Conference on Communication Theory, Reliability, and Quality of Service, CQTR 2011*, pp. 66–71, April 2011 - Best Paper Award

- C.33 - E. Borcoci, M. Stanciu, D. Niculescu, D. Negru, and G. Xilouris, "Connectivity services management in multi-domain content-aware networks for multimedia applications," in *Third International Conference on Evolving Internet, INTERNET 2011*, (Luxembourg), pp. 66–71, July 2011 - Best Paper Award

- C.32 - E. Borcoci, S. Obreja, C. Timmerer, and G. Xilouris, "Service provider and content aware network provider cross-layer optimisation of multimedia distribution," in *2011 IEEE International Conference on Multimedia and Expo*, pp. 1–6, July 2011

- C.31 - N. Zotos, G. Xilouris, A. Kourtis, D. Renzi, and B. Shao, "Performance evaluation of h264/svc streaming system featuring real-time in-network adaptation," in *2011 IEEE Nineteenth IEEE International Workshop on Quality of Service*, pp. 1–3, June 2011

- C.30 - B. Shao, D. Renzi, P. Amon, G. Xilouris, N. Zotos, S. Battista, A. Kourtis, and M. Mattavelli, "An adaptive system for real-time scalable video streaming with end-to-end qos control," in *Image Analysis for Multimedia Interactive Services (WIAMIS), 2010 11th International Workshop on*, pp. 1–4, April 2010

Publications (continued)

- C.29 - M. Sidibe, H. Koumaras, G. Xilouris, A. Mehaoua, and A. Kourtis, "A perceived quality-aware cross layer monitoring framework for real-time media content adaptation," in *Information Infrastructure Symposium, 2009. GIIS '09. Global*, pp. 1–6, June 2009

- C.28 - N. Zotos, G. Xilouris, E. Pallis, and A. Kourtis, "An MPLS-DiffServ experimental core network infrastructure for E2E QoS content delivery," in *Computer Systems and Applications, 2008. AICCSA 2008. IEEE/ACS International Conference on*, pp. 947–951, March 2008

- C.27 - T. Pliakas, G. Xilouris, N. Zotos, and A. Kourtis, "A demonstration infrastructure for E2E QoS services provisioning," in *Automation, Quality and Testing, Robotics, 2008. AQTR 2008. IEEE International Conference on*, vol. 1, pp. 382–386, May 2008

- C.26 - G. Gardikis, G. Xilouris, C. Skianis, and A. Kourtis, "Broadband multimedia on the move with dvb-h," *Multimedia Tools Appl.*, vol. 36, p. 133{144, Jan. 2008

- C.25 - G. Gardikis, G. Xilouris, H. Koumaras, E. Pallis, and A. Kourtis, "Real-time, dynamic resource allocation in DVB-S.2/DVB-RCS networks," in *Interworking 2006 Conference*, (Santiago, Chile), January 15-19 2007

- C.24 - G. Xilouris, T. Pliakas, and A. Kourtis, "ENTHRONE experimental infrastructure for E2E QOS provisioning," in *Personal, Indoor and Mobile Radio Communications, 2007. PIMRC 2007. IEEE 18th International Symposium on*, pp. 1–6, Sept 2007

- C.23 - G. Xilouris, G. Kormentzas, A. Kourtis, and A. Manolitzas, "Joint DiffServ and BM operation in a heterogeneous IP/DVB network," in *1st International Workshop on IP over Broadcasting Networks, ICC/IEEE*, (Istanbul, Turkey), pp. 13–17, 11-15 June 2006

- C.22 - G. Gardikis, G. Xilouris, H. Koumaras, and A. Kourtis, "Multi-layer resource management in DVB-S2 networks: The IMOSAN approach," in *Int. Conf. on Telecommunications and Multimedia*, (Heraklion, Greece), July 5-7 2006

- C.21 - G. Xilouris, G. Kormentzas, and A. Kourtis, "Traffic differentiation support in a heterogeneous IP/DVB network," in *IST Mobile SUMMIT*, (Mykonos, Greece), June 4-8 2006

- C.20 - H. Koumaras, C. Skianis, G. Xilouris, G. Gardikis, and A. Kourtis, "A markov modified model of H.264 VBR video traffic," in *IST Mobile SUMMIT*, (Mykonos, Greece), June 4-8 2006

- C.19 - G. Gardikis, G. Kormentzas, G. Xilouris, H. Koumaras, and A. Kourtis, "Broadband data access over hybrid DVB-T networks," in *3rd Inter. Conference on Performance Modelling and Evaluation of Heterogeneous Networks, Het-NeTs05*, (Ilkley, United Kingdom), July 2005

Publications (continued)

- C.18 - A. Mehaoua, T. Ahmed, A. H. Asgari, G. Kormentzas, and G. Xilouris, "Inter-domain QoS monitoring system for supporting service assurance and resource management across heterogeneous networks," in *International Workshop on Next Generation Networking Middleware (NGNM05)*, May 2005

- C.17 - T. Ahmed, A. h. Asgari, E. Borcoci, S. Eccles, G. Kormentzas, A. Kourtis, A. Mehaoua, and G. Xilouris, "Enthrone Core Networking Elements for End-to-End QoS Provision over Heterogeneous Settings," in *Enthrone Core Networking Elements for End-to-End QoS Provision over Heterogeneous Settings in IST Mobile & Wireless Communications Summit*, (France), 06 2005

- C.16 - E. Pallis, C. Mantakas, G. Xilouris, G. Gardikis, and A. Kourtis, "Digital switchover: An alternative solution towards broadband access for all citizens," in *1st International Workshop on Shaping the Broadband Society*, (Setubal, Portugal), pp. 31–40, August 2004

- C.15 - H. Koumaras, E. Pallis, G. Xilouris, A. Kourtis, and D. Martakos, "Pre-encoding PQoS assessment method for optimized resource utilization," in *2nd Inter. Conference on Performance Modelling and Evaluation of Heterogeneous Networks, Het-NeTs04*, (Ilkley, United Kingdom), pp. 14/1–14/10, July 2004

- C.14 - C. Skianis, G. Xilouris, G. Kormentzas, and A. Kourtis, "A testbed environment for validation of end-to-end QoS provision for the content delivery chain over heterogeneous systems," in *2nd Inter. Conference on Performance Modelling and Evaluation of Heterogeneous Networks, Het-NeTs04*, (Ilkley, United Kingdom), pp. 89/1–89/8, July 2004

- C.13 - G. Xilouris, A. Kourtis, and G. Stefanou, "Dynamic bandwidth allocation for LAN2LAN interconnection using DVB-S satellite transmission," in *2nd Inter. Conference on Performance Modelling and Evaluation of Heterogeneous Networks, Het-NeTs04*, (Ilkley, United Kingdom), pp. 88/1–88/11, July 2004

- C.12 - C. Skianis, G. Kormentzas, A. Kourtis, G. Xilouris, and et al, "ENTHRONE perspective for E2E QoS," in *13th IST Mobile & Wireless Communications Summit*, vol. 1, (Lyon, France), pp. 96–100, June 2004

- C.11 - G. Xilouris, A. Kourtis, and G. Stefanou, "An emulated regenerative satellite environment, featuring dynamic bandwidth management," in *13th IST Mobile & Wireless Communications Summit*, vol. 1, (Lyon, France), pp. 250–256, June 2004

- C.10 - E. Pallis, C. Mantakas, G. Xilouris, G. Gardikis, and A. Kourtis, "Digital Switchover and Broadband Access: Drawing-up the routes towards NGN," *Next Genearation Networking Middleware (NGNM), 1st International Conf. on*, pp. 32–36, may 2004

- C.09 - A. Kourtis, C. Skianis, G. Kormentzas, G. Xilouris, and et al, "Provisioning of End to End QoS in diverse environments: The ENTHRONE perspective," in *WSEAS Transactions on Communications*, vol. 3, pp. 626–631, April 2004

Publications (continued)

- C.08 - D. Negru, G. Xilouris, H. Hadjadj-Aoul, A. Mehaoua, and E. Pallis, "Mobility issues in a DVB-T environment," in *WSEAS Transactions on Communications*, vol. 3, pp. 647–652, April 2004

- C.07 - E. Pallis, A. Kourtis, C. Mantakas, G. Xilouris, and G. Gardikis, "The new interconnecting television: an alternative approach to next generation broadband networking," in *Telecommunications, 2003. ConTEL 2003. Proceedings of the 7th International Conference on*, vol. 2, pp. 709–712 vol.2, June 2003

- C.06 - E. Pallis, C. Mantakas, G. Xilouris, G. Gardikis, and A. Kourtis, "Digital Switchover: developing infrastructures for broadband access," in *IPSI 2003 VIP Forum*, (Montenegro), 4-11 October 2003

- C.05 - G. Xilouris, A. Kourtis, G. Stefanou, and E. Pallis, "A laboratory regenerative satellite platform with dynamic bandwidth management capabilities," in *1st Inter. Conference on Performance Modelling and Evaluation of Heterogeneous Networks*, (Ilkley, United Kingdom), pp. 45/1–45/7, July 2003

- C.04 - E. Pallis, G. Xilouris, G. Gardikis, and A. Kourtis, "The use of a DVB-T platform as an IP backbone for interconnection of LANs," in *6th WSEAS CSCC Multiconference*, (Rethymnon, Crete), pp. 64–67, July 2002

- C.03 - G. Gardikis, G. Xilouris, E. Pallis, and A. Kourtis, "An interactive DVB-T platform with broadband LMDS uplink," in *IST Mobile and Wireless Telecommunications Summit*, (Thessaloniki, Greece), pp. 288–291, 2002

- C.02 - G. Xilouris, G. Gardikis, E. Pallis, and A. Kourtis, "Reverse path technologies in interactive DVB-T broadcasting," in *IST Mobile and Wireless Telecommunications Summit*, (Thessaloniki, Greece), pp. 292–295, 2002

- C.01 - E.Pallis, A.Kourtis, G.Gardikis, and G.Xilouris, "Electronic news gathering via a wireless broadband infrastructure," in *5th WSES/CSCC*, (Rethymno, Greece), pp. 266–272, July 2001

Journal Editorials in Special Issues as Guest Editor

- Ed.01 - G. Gardikis, G. Xilouris, M. Montpetit, A. Vanelli-Coralli, and D. Negru, "IP and Broadcasting Systems Convergence," *Int. Journal of Multimedia Broadcasting*, p. 2, April 2010