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KOSTAS CHOUMAS

GENERAL INFORMATION

First Name: Kostas
Last Name: Choumas
Date of Birth: 08/08/1984
Place of Birth: Drama, Greece
Nationality: Greek
Gender: Male
Military Obligations: Fulfilled

EDUCATION AND TRAINING

- **10/2009 - 09/2015 : Ph.D. at University of Thessaly**, Department of Electrical and Computer Engineering, Volos, Greece.
 - Thesis Title: “Resource allocation in wireless ad hoc networks”, supervised by Professor Leandros Tassiulas and Associate Professor Thanasis Korakis.
- **09/2007 - 06/2008 : M.Sc. in Telecommunications, Signals and Networks at University of Thessaly**, Department of Computer and Communication Engineering, Volos, Greece (Grade: 9.69/10.0).
 - Thesis Title: “Sharing and collaboration for efficient Internet service provisioning in wireless networks”, supervised by Professor Leandros Tassiulas.
- **09/2002 - 06/2007 : 5-year Diploma Degree (B.Eng., M.Sc.) in Computer and Communication Engineering at University of Thessaly**, Department of Computer and Communication Engineering, Volos, Greece (Grade: 8.72/10.0)
 - Thesis Title: “Prioritization schemes for QoS provisioning in wireless networks”, supervised by Professor Leandros Tassiulas.
- **09/1999 - 06/2002 : 3-year High school studies in 1o Lyceum of Almiros**, Greece (Grade: 19/20).

TEACHING EXPERIENCE

- **09/2020 - 06/2021: Teaching Instructor** at the Dept. of Electrical and Computer Engineering of the **University of Thessaly** for the course of Computer Networks II, Inter-network Protocol Design and Network Optimization.
- **02/2019 - 06/2019: Teaching Instructor** at the Dept. of Electrical and Computer Engineering of the **University of Thessaly** for the course of Network Optimization.
- **02/2017 - 06/2019: Teaching Instructor** at the Dept. of Electrical and Computer Engineering of the **University of Thessaly** for the course of Computer Networks II.

- **09/2013 - 06/2017: Teaching Assistant** at the Dept. of Electrical and Computer Engineering of the **University of Thessaly** for the courses of Inter-network Protocol Design, Computer Networks I, Wireless Communications and Network Optimization.
- **10/2010 - 07/2011: Teaching Assistant** at the Dept. of Computer Science and Telecommunications of the **Technological Educational Institute of Thessaly (T.E.I.)** for the course of Artificial Intelligence.
- **10/2009 - 02/2011: Teaching Instructor** at the Specialty of Web Designer/Developer of the **Institute of Vocational Training (I.E.K.) of Volos** for the courses of Algorithms & Data Structures, Operating Systems, Computer Networks and Introduction to Information Technology.
- **02/2008 - 06/2008: Teaching Assistant** at the Dept. of Electrical and Computer Engineering of the **University of Thessaly** for the course of Scientific Computing.
- **09/2005 - 02/2006 & 09/2007 - 02/2008: Teaching Assistant** at the Dept. of Electrical and Computer Engineering of the **University of Thessaly** for the course of Linear Algebra.
- **09/2004 - 07/2009:** Rich experience on teaching Programming (C,C++,Java), Compilers and Operating Systems in private schools.

RESEARCH AND WORK EXPERIENCE

- **08/2015 - 09/2021:** Postdoctoral associate with **University of Thessaly**, Volos, Greece.
- **08/2014 - 07/2015:** Secondment from CERTH to **iquadrat**, Barcelona, Spain.
- **05/2014 - 07/2014:** Graduate research fellow with **University of Thessaly**, Volos, Greece.
- **09/2009 - 10/2010 & 01/2011 - 07/2014:** Graduate research fellow with **CERTH**, Thessaloniki, Greece.
 - **07/2012 - 08/2012:** Internship at **NICTA**, Sydney, Australia.
- **08/2008 - 08/2009:** Mandatory military service at the Computers Department of **Greek Army**.
- **08/2003 - 09/2003:** Internship at **Intracom**, Athens, Greece.

PUBLICATIONS

JOURNALS

1. K. Choumas, D. Giatsios, P. Flegkas and T. Korakis, **SDN Controller Placement and Switch Assignment for Low Power IoT**, MDPI Electronics, vol. 9, no. 2, article num. 325, February 2020.
2. Camps-Mur, J. Gutiérrez, E. Grass, A. Tzanakaki, P. Flegkas, K. Choumas, D. Giatsios, A. Beldachi, T. Diallo, J. Zou, P. Legg, J. Bartelt, J. K. Chaudhary, A. Betzler, J. J. Aleixendri, R. González and D. Simeonidou, **5G-XHaul: A novel wireless-optical SDN transport network to support joint 5G backhaul and fronthaul services**, IEEE Communications Magazine, vol. 57, no. 7, pp. 99-105, July 2019.
3. K. Choumas, I. Syrigos, T. Korakis and L. Tassiulas, **Video aware Multicast Opportunistic Routing over 802.11 two-hop mesh networks**, IEEE Transactions on Vehicular Technology, vol. 66, no. 9, pp. 8372-8384, September 2017.
4. G. Paschos, L. Chih-Ping, E. Modiano, K. Choumas and T. Korakis, **In-network Congestion Control for Multirate Multicast**, IEEE/ACM Transactions on Networking, vol. 24, no. 5, pp. 3043-3055, October 2016.
5. K. Choumas, S. Keranidis, T. Korakis, I. Koutsopoulos, L. Tassiulas, F. Juraschek, M. Gunes, E. Baccelli, P. Misiorek, A. Szwabe, T. Salonidis and H. Lundgren, **Optimization**

driven Multi-Hop Network Design and Experimentation: The Approach of the FP7 Project OPNEX, IEEE Communications Magazine, Radio Communication Series, vol. 50, no. 6, pp. 122-130, June 2012.

BOOK CHAPTERS

1. K. Choumas, T. Korakis, J. Ordiz, A. Skarmeta, P. Martinez-Julia, T. You, H. Jung, H. Lee, T. "Taekyoung" Kwon, L. Baron, S. Fdida, W. Seok, M. Lee, J. Kim, S. Chong and B. Vermeulen, **Federated Experimentation Infrastructure Interconnecting Sites from Both Europe and South Korea (SmartFIRE)**, Building the Future Internet through FIRE, ch. 30, pp 717-743, River Publishers, June 2017.

INTERNATIONAL CONFERENCES

1. K. Choumas and T. Korakis, **When Raft Meets SDN: How to Elect a Leader over a Network**, Proceedings of IEEE NetSoft 2020, Ghent, Belgium, June-July 2020.
2. D. Camps, F. Canellas, A. Machwe, J. Paracuellos, K. Choumas, D. Giatsios, T. Korakis and H. R. Kouchaksaraei, **5GOS: Demonstrating multi-domain orchestration of end-to-end virtual RAN services**, Proceedings of IEEE NetSoft 2020, Ghent, Belgium, June-July 2020.
3. M. Karatisoglou, K. Choumas and T. Korakis, **Controller Placement for Minimum Control Traffic in OpenDaylight Clustering**, Proceedings of IEEE WF-5G 2019, Dresden, Germany, September-October 2019.
4. P. Karamichailidis, K. Choumas and T. Korakis, **Enabling Multi-Domain Orchestration using Open Source MANO, OpenStack and OpenDaylight**, Proceedings of IEEE LANMAN 2019, Paris, France, July 2019.
5. D. Giatsios, K. Choumas, P. Flegkas, T. Korakis, J.J. Aleixendri-Cruelles, D. Camps-Mur, **Design and Evaluation of a hierarchical SDN control plane for 5G transport networks**, Proceedings of IEEE ICC 2019, Shanghai, China, May 2019.
6. K. Choumas, D. Giatsios, P. Flegkas, T. Korakis, **The SDN Control Plane Challenge for Minimum Control traffic: Distributed or Centralized?**, Proceedings of IEEE CCNC 2019, Las Vegas, USA, January 2019.
7. D. Giatsios, K. Choumas, P. Flegkas, T. Korakis and D. Camps-Mur, **SDN Implementation of Slicing and Fast Failover in 5G Transport Networks**, Proceedings of IEEE EuCNC 2017, Oulu, Finland, June 2017.
8. K. Choumas, G. Paschos, T. Korakis and L. Tassiulas, **Distributed Load Shedding with Minimum Energy**, Proceedings of IEEE INFOCOM 2016, San Francisco, CA, USA, April 2016.
9. N. Makris, K. Choumas, C. Zarafetas, T. Korakis and L. Tassiulas, **Forging Client Mobility with OpenFlow: an experimental study**, proceedings of IEEE WCNC 2016, Doha, Qatar, 3-6 April 2016.
10. K. Choumas, T. Korakis, H. Lee, D. Kim, J. Suh, T. Kwon, P. Martinez-Julia, A. Skarmeta, T. You, L. Baron, S. Fdida and J. Kim, **Enabling SDN Experimentation with Wired and Wireless Resources: The SmartFIRE facility**, Proceedings of EAI CloudComp 2015, Daejeon, South Korea, October 2015, (Best paper Award).
11. K. Katsalis, K. Choumas, T. Korakis and L. Tassiulas, **Virtual 802.11 Wireless Networks with Guaranteed Throughput Sharing**, Proceedings of IEEE ISCC 2015, Larnaca, Cyprus, July 2015.
12. K. Choumas, N. Makris, T. Korakis, L. Tassiulas and M. Ott, **Testbed Innovations for Experimenting with Wired and Wireless Software Defined Networks**, Proceedings of CNERT workshop of IEEE ICDCS 2015, Columbus, Ohio, USA, June-July 2015.

13. K. Katsalis, K. Choumas, T. Korakis, M. Anastasopoulos, A. Tzanakaki, J. F. Riera and G. Landi, **Wireless Network Virtualization: The CONTENT Project Approach**, Proceedings of IEEE CAMAD 2014, Athens, Greece, December 2014.
14. K. Choumas, I. Syrigos, T. Korakis and L. Tassiulas, **Video-aware Multicast Opportunistic Routing over 802.11 mesh networks**, Proceedings of IEEE SECON 2014, Singapore, Singapore, June-July 2014.
15. H. Niavis, K. Choumas, G. Iosifidis, T. Korakis and L. Tassiulas, **Auction-based Scheduling of Wireless Testbed Resources**, Proceedings of IEEE WCNC 2014, Istanbul, Turkey, April 2014.
16. G. Paschos, C. Li, E. Modiano, K. Choumas and T. Korakis, **Multirate Multicast: Optimal Algorithms and Implementation**, Proceedings of IEEE INFOCOM 2014, Toronto, Canada, April 2014.
17. K. Choumas, N. Makris, T. Korakis, and L. Tassiulas, **Exploiting OpenFlow resources towards a Content-Centric LAN**, Proceedings of IEEE EWSDN 2013, Berlin, Germany, October 2013.
18. A. Apostolaras, K. Choumas, I. Syrigos, I. Koutsopoulos, T. Korakis, A. Argyriou and L. Tassiulas, **On the Implementation of Relay Selection Strategies for a Cooperative Diamond Network**, Proceedings of IEEE PIMRC 2013, London, UK, September 2013.
19. K. Choumas, T. Korakis, I. Koutsopoulos and L. Tassiulas, **Implementation and End-to-end Throughput Evaluation of an IEEE 802.11 compliant version of the Enhanced-Backpressure algorithm**, Proceedings of EAI TridentCom 2012, Thessaloniki, Greece, June 2012.
20. K. Choumas, T. Korakis and L. Tassiulas, **New Prioritization Schemes for QoS provisioning in 802.11 Wireless Networks**, Proceedings of IEEE LANMAN 2008, Cluj-Napoca, Romania, September 2008, (invited paper).

DEMOS / POSTERS

1. P. Karamichailidis, K. Choumas and T. Korakis, **OpenFlow enabled Integrated Routing and Bridging over Ethernet Virtual Private Networks**, Proceedings of IEEE/IFIP NOMS 2020, Budapest, Hungary, April 2020.
2. N. Makris, C. Zarafetas, K. Choumas, P. Flegkas and T. Korakis, **Virtualized Heterogeneous 5G Cloud-RAN deployment over Redundant Wireless Links**, Proceedings of IEEE LANMAN 2019, Paris, France, July 2019.
3. P. Karamichailidis, K. Choumas and T. Korakis, **Demonstrating Multi-Domain Orchestration through Open Source MANO, OpenStack and OpenDaylight**, Proceedings of IEEE NetSoft 2019, Paris, France, June 2019.
4. I. Syrigos, K. Choumas, T. Korakis and L. Tassiulas, **Demonstration of a Video-aware Multicast Opportunistic Routing protocol over 802.11 two-hop mesh networks**, Proceedings of IEEE SECON 2014, Singapore, Singapore, July 2014.
5. G. Paschos, C. Li, E. Modiano, K. Choumas and T. Korakis, **A Demonstration of Multirate Multicast Over an 802.11 Mesh Network**, Proceedings of IEEE INFOCOM 2014, Toronto, Canada, April 2014.
6. K. Choumas, T. Korakis, I. Koutsopoulos and L. Tassiulas, **A Demonstration of Video over an IEEE 802.11 compliant version of the Enhanced-Backpressure algorithm**, Proceedings of EAI TridentCom 2012, Thessaloniki, Greece, June 2012.
7. D. Giatsios, K. Choumas, D. Syrivelis, T. Korakis and L. Tassiulas, **Integrating FlowVisor access control in a publicly available OpenFlow testbed with slicing support**, Proceedings of EAI TridentCom 2012, Thessaloniki, Greece, June 2012.
8. A. Apostolaras, K. Choumas, I. Syrigos, G. Kazdaridis, T. Korakis, I. Koutsopoulos, A. Argyriou and L. Tassiulas, **A Demonstration of a Relaying Selection Scheme for Maximizing A Diamond Network's Throughput**, Proceedings of EAI TridentCom 2012, Thessaloniki, Greece, June 2012.

9. K. Choumas, T. Korakis and L. Tassiulas, **A Demonstration of Video over a User Centric Prioritization Scheme for Wireless LANs**, Proceedings of IEEE SECON 2008, San Francisco, California USA, June 2008.
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SCHOLARSHIPS AND HONORS

- **05/2018 - 07/2019: Scholarship for research on 5G networks** given through the "Supporting researchers with emphasis on new researchers" (EΔBM 34) call for proposals of the Operational Program "**Human Resources Development, Education and Lifelong Learning 2014-2020**".
 - **10/2015: Best paper award** in CloudComp 2015.
 - **09/2007 - 06/2008: Scholarship** for the M.Sc. studies given by **European Operational Programme "Education" (ΕΠΕΑΕΚ II)** (Ranked 1st in class).
 - **09/2002 - 06/2007: Scholarship** for the 5-year (B.Eng., M.Sc.) Diploma studies given by **Greek State Scholarships Foundation (IKY), Deligeorgis Foundation**, as well as award from **Technical Chamber of Greece (TEE)** (Ranked 1st in class).
 - **07/2008 & 07/2010: Full Grant** to attend the summer schools powered by **Onassis Foundation Science Lecture Series**.
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SUMMER SCHOOLS

- **07/2010: "Network and Information Security"**, Heraklion, Greece, powered by Onassis Foundation Science Lecture Series.
 - **07/2008: "Embedded networked Systems: Theory and Applications"**, Heraklion, Greece, powered by Onassis Foundation Science Lecture Series.
 - **09/2006: "Advances in Beyond 3G Wireless Communications and Networks"**, Santorini, Greece, powered by NEWCOM and CERTH.
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LANGUAGES

- Greek: Mother tongue
 - English: Proficient user, C1
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REFERRALS

- Assistant Professor **Thanasis Korakis**, University of Thessaly, Greece (korakis@uth.gr)
 - Professor **Leandros Tassiulas**, Yale University, USA (leandros.tassiulas@yale.edu)
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