

Nikos Fotiou - Curriculum Vitae

Researcher, Mobile Multimedia Laboratory
Athens University of Economics and Business,
Department of Informatics,
email: fotiou@aueb.gr

Studies

2008 - 2014 Athens University of Economics and Business, Department of Informatics, Ph.D.
in Computer Science

2005 - 2006 Royal Institute of Technology (KTH), Sweden, M.Sc. in Internetworking

2000 - 2005 University of the Aegean, Department of Information and Communication
Systems Engineering, Diploma in ICS Engineering

Professional activities

- Reviewer for the Croatian Science Foundation
- Topic editor of MDPI Sensors
- Guest editor of MDPI Future Internet (guest edited SI on “Information-Centric Networking”)
- TPC member of IEEE GloTS, 2020, NDSS-DISS 2020, IEEE ISCC 2020, IEEE Globecom 2018, IEEE ISCC 2017, IEEE Globecom 2017

Research Projects

01.2018 - now EU-H2020 SOFIE

04.2018 - 12.2018 EU-H2020 open call project, UNSURPASSED

02.2018 - 04.2018 EU-H2020 open call project, BeSMART

06.2017 - 10.2018 EU-H2020 open call project, ACHILLES

08.2015 - 12.2017 EU-H2020, POINT

02.2014 - 07.2015 GR-GSRT/ARISTEIA II: Information-Centric future mobile and wireless
Access Networks (I-CAN)

08.2011 - 11.2013 ESA ϕ SAT: The Role of Satellite in Future Internet Services

09.2010 - 02.2013 EU-FP7, PURSUIT: Publish-Subscribe Internet Technology

01.2008 - 09.2010 EU-FP7, PSIRP: Publish-Subscribe Internet Routing Paradigm

01.2008 - 06.2011 EU-FP7 EURO-NF: Anticipating the Network of the Future

Fellowships and awards

- 2018** Best paper award for the paper “Interacting with the Internet of Things Using Smart Contracts and Blockchain Technologies” in SpaCCS 2018, Melbourne, Australia
- 2018** Third prize of the H2020-SoftFIRE challenge in the programmability category, Paris, France
- 2017** Best demo award for the demo “ICN enabling CoAP Extensions for IP based IoT devices” in the 4th ACM Conference on Information-Centric Networking, Berlin, Germany
- 2016** Research Impact Award of the innovation competition on entrepreneurship and innovations
- 2012** Best paper award for the paper “Access Control Enforcement Delegation for Information-Centric Networking Architecture”, in ACM SIGCOMM Workshop on ICN Helsinki, Finland
- 2010** Best student paper award for the paper “Fighting Spam in Publish/Subscribe Networks Using Information Ranking”, in 6th Euro-NF Conference on NGI, Paris, France

Publications

Citations indices (based on Google Scholar)

Citations 2409

h-index 16

i10-index 27

My co-authors list includes 29 scientists from 13 institutions, located in 7 countries

Journal Publications

1. Y. Thomas, N. Fotiou, S. Toumpis, G.C. Polyzos, “Improving mobile ad hoc networks using hybrid IP-Information Centric Networking,” Elsevier Computer Communications, 2020
2. V.A. Siris, D. Dimopoulos, N. Fotiou, S. Voulgaris, G.C. Polyzos, "Decentralized authorization in constrained IoT environments exploiting interledger mechanisms", In Elsevier Computer Communications, 2020
3. V.A. Siris, P. Nikander, S. Voulgaris, N. Fotiou, D. Lagutin, G.C. Polyzos, "Interledger Approache", In IEEE Access, 2019
4. N. Fotiou, G.C. Polyzos, “Name-Based Security for Information-Centric Networking Architectures,” MDPI Future Internet, 2019
5. S. Voulgaris, N. Fotiou, V.A. Siris, G.C. Polyzos, M. Jaatinen, Y. Oikonomidis, "Blockchain Technology for Intelligent Environments," MDPI Future Internet, 2019
6. Y. Kortensniemi, D. Lagutin, T. Elo, N. Fotiou, “Improving the Privacy of IoT with Decentralised Identifiers (DIDs)”, Journal of Computer Networks and Communications, Hindawi, 2019
7. V.A. Siris, N. Fotiou, A. Mertzianis, G.C. Polyzos, “Smart Application-aware IoT Data Collection”, Journal of Reliable Intelligent Environments, Springer, 2019

8. N. Fotiou, B.A. Alzahrani, "Rendezvous-based access control for information-centric architectures," *Int J Network Mgmt*, Springer, vol. 28, no. 1, 2018
9. T. de Cola, A. Ginesi, G. Giambene, G.C. Polyzos, V.A. Siris, N. Fotiou, Y. Thomas, "Network and Protocol Architectures for Future Satellite Systems," *Foundations and Trends in Networking*, vol. 12, no. 1-2, pp. 1-161, 2017
10. N. Fotiou, G. Xylomenos "An Improved Scheme for Protecting Medical Data in Public Clouds", *Communications in Computer and Information Science*, Springer, vol. 736, pp. 66-79, 2017
11. N. Fotiou, A. Machas, G.C. Polyzos, G. Xylomenos, "Access control as a service for the Cloud", *Journal of Internet Services and Applications*, Springer, vol. 6, no. 1, pp. 1-15, 2015
12. G.C. Polyzos, N. Fotiou "Building a reliable Internet of Things using Information-Centric Networking", *Journal of Reliable Intelligent Environments*, Springer, vol. 6, no. 1, pp 47-58, 2015
13. N. Fotiou, D. Trossen, G.F. Marias, A. Kostopoulos, G.C. Polyzos, "Enhancing information lookup privacy through homomorphic encryption," *Security and Communication Networks*, Wiley, vol. 7, no. 4, pp. 700-713, 2014
14. P.Zhang, N. Fotiou, B.E. Helvik, G.F. Marias, G.C. Polyzos, "Analysis of the effect of InfoRanking on content pollution in peer-to-peer systems," *Security and Communication Networks*, Wiley, vol. 7, no. 4, pp. 700-713, 2014
15. C. Doukas, N. Fotiou, G.C. Polyzos, I. Maglogiannis, "Cognitive and Context Aware Assistive Environments Using Future Internet Technologies," *Universal Access in the Information Society*, Springer, vol. 13, no. 1, pp. 59-72, 2014
16. N. Fotiou, K. Katsaros, G.C. Polyzos, M. Sarela, D. Trossen, G. Xylomenos, "Handling Mobility in Future Publish-Subscribe Information-Centric Networks," *Telecommunication Systems*, Springer, vol. 53, no. 3, pp. 299-314, 2013
17. G. Xylomenos, C. Ververidis, N. Fotiou, C. Tsilopoulos, X. Vasilakos, K. Katsaros, G.C. Polyzos, "A Survey of Information-Centric Networking Research," *IEEE Communications Surveys & Tutorials*, vol. 16, no. 2, pp. 1024-1049, 2013
18. N. Fotiou, G.C. Polyzos, D. Trossen, "Illustrating a Publish-Subscribe Internet Architecture," *Telecommunication Systems*, Springer, vol. 51, no. 4, pp. 233-245, 2012

Book Articles

1. T.de Cola, A. Ginesi, G. Giambene, G. C. Polyzos, V. A. Siris, N. Fotiou, Y. Thomas, "Network and Protocol Architectures for Future Satellite Systems," in *Foundations and Trends in Networking*, Now Publishers, 2017
2. N. Fotiou, G.F. Marias, G.C. Polyzos, "Publish-Subscribe Internet networking Security Aspects," in *Trustworthy Internet*, G. Bianchi, L. Salgarelli, N. Blefari-Melazzi, eds., Springer, 2011

Refereed International Conference and Workshop Papers

1. C. Karapapas, I. Pittaras, N. Fotiou, G.C. Polyzos, "Ransomware as a Service using Smart Contracts and IPFS," in *IEEE ICBC 2020*, Toronto, Canada, 2020
2. N. Fotiou, I. Pittaras, V.A. Siris, S. Voulgaris, G.C. Polyzos, "OAuth 2.0 authorization using blockchain-based tokens," in *NDSS workshop on Decentralized IoT Systems and Security (DISS)*, San Diego, CA, USA, 2020

3. N. Fotiou, V.A. Siris, M. Marchese, F. Davoli, L. Boero, G.C. Polyzos, "Exploiting Satellite Broadcast despite HTTPS," in IEEE Global Communications Conference (GLOBECOM), Hawaii, USA, 2019
4. V.A. Siris, D. Dimopoulos, N. Fotiou, S. Voulgaris, G.C. Polyzos, "IoT Resource Access utilizing Blockchains and Trusted Execution Environments," IEEE Global IoT Summit (GloTS), Aarhus, Denmark, 2019
5. V.A. Siris, D. Dimopoulos, N. Fotiou, S. Voulgaris, G.C. Polyzos, "Trusted D2D-based IoT Resource Access using Smart Contracts," in 20th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (IEEE WoWMoM 2019) Washington DC, USA, 2019
6. N. Fotiou, I. Pitarras, V.A. Siris, S. Voulgaris, G.C. Polyzos, "Secure IoT access at scale using blockchains and smart contracts," in 8th IEEE WoWMoM Workshop on the Internet of Things: Smart Objects and Services, IoT-SoS 2019, Washington DC, USA, 2019
7. V.A. Siris, D. Dimopoulos, N. Fotiou, S. Voulgaris, G.C. Polyzos, "OAuth 2.0 meets Blockchain for Authorization in Constrained IoT Environments," IEEE 5th World Forum on Internet of Things, Limerick, Ireland, 2019
8. V.A. Siris, D. Dimopoulos, N. Fotiou, S. Voulgaris, G.C. Polyzos, "Interledger Smart Contracts for Decentralized Authorization to Constrained Things," 2nd Workshop on Cryptocurrencies and Blockchains for Distributed Systems (CryBlock 2019), co-located with IEEE INFOCOM 2019, Paris, France, 2019
9. N. Fotiou, V. A. Siris, S. Voulgaris, G.C. Polyzos, D. Lagutin "Bridging the cyber and physical worlds using blockchains and smart contracts" in NDSS workshop on Decentralized IoT Systems and Security (DISS), San Diego, CA, USA, 2019
10. D. Lagutin, Y. Kortessniemi, N. Fotiou, V.A. Siris, "Enabling Decentralised Identifiers and Verifiable Credentials for Constrained Internet-of-Things Devices using OAuth-based Delegation," NDSS Workshop on Decentralized IoT Systems and Security (DISS), San Diego, CA, USA, 2019
11. N. Fotiou, V. A. Siris, G.C. Polyzos, "Interacting with the Internet of Things Using Smart Contracts and Blockchain Technologies," Proc. of Security, Privacy, and Anonymity in Computation, Communication, and Storage 2018 (SpaCCS 2018), Melbourne, Australia, 2018
12. N. Fotiou, G.C. Polyzos, "Authentication and Authorization for Interoperable IoT Architectures", Proc. of the First ESORICS Workshop on Emerging Technologies for Authorization and Authentication, Valencia, Spain, 2018
13. N. Fotiou, V. A. Siris, A. Mertzianis, G.C. Polyzos, "Smart IoT Data Collection", Proc. Seventh IEEE WoWMoM Workshop on the Internet of Things: Smart Objects and Services (IoT-SoS), Chania, Greece, 2018
14. N. Fotiou, G.C. Polyzos, "Smart contracts for the Internet of Things: opportunities and challenges", Proc. of the European Conference on Networks and Communications (EUCNC), Ljubljana, Slovenia, 2018
15. N. Fotiou, G. C. Polyzos, "Blockchain-assisted Information Distribution for the Internet of Things", Proc. of the 4th International Workshop on Information Integration in Cyber Physical Systems (IICPS 2017), San Diego, California, USA, 2017
16. N. Fotiou, V A. Siris, G. Xylomenos, G. C. Polyzos, K. V. Katsaros, G. Petropoulos "Edge-ICN and its application to the Internet of Things", Proc. of the IFIP Networking Workshop on Information-Centric Fog Computing (ICFC), Stockholm, Sweden, 2017

17. N. Fotiou, G. Xylomenos, G. C. Polyzos, "Securing Information-Centric Networking without negating Middleboxes", Proc. of the 8th IFIP International Conference on New Technologies, Mobility and Security (NTMS), Larnaca, Cyprus, 2016
18. N. Fotiou, G. C. Polyzos, "Decentralized name-based security for content distribution using blockchains", Proc. of the Multimedia Streaming in Information-Content-Centric Networks (MuSIC) Workshop, 2016
19. N. Fotiou, G. C. Polyzos, "Securing Content Sharing over ICN", Proc. of the 3rd ACM Conference on Information-Centric Networking (ACM-ICN 2016), Kyoto, Japan, 2016
20. N. Fotiou, T. Kotsonis, G. F. Marias, G. C. Polyzos, "Access Control for the Internet of Things", Proc. of the International Workshop on Secure Internet of Things 2016 (SIoT 2016), Heraklion, Greece, 2016
21. N. Fotiou, G. Xylomenos, "Protecting medical data stored in public Clouds", Proc. of the 2nd International Conference on Information and Communication Technologies for Ageing Well and e-Health (ICT4AWE), Rome, Italy, 2016
22. D. Trossen, M. J. Reed, J. Riihijärvi, M. Georgiades, N. Fotiou, G. Xylomenos, "iP Over ICN - The Better IP?", Proc. of the European Conference on Networks and Communications (EUCNC), Paris, France, 2015
23. V. A. Siris, N. Fotiou, D. Dimopoulos, G. C. Polyzos, "I-CAN: Information-Centric Access Networking – Architecture and Experiments", Proc. of the European Conference on Networks and Communications (EUCNC), Paris, France, 2015
24. N. Fotiou, G. C. Polyzos, "Enabling NAME-based security and trust," Proc. of the 9th IFIP WG 11.11 International Conference on Trust Management, Hamburg, Germany, 2015
25. N. Fotiou, Y. Thomas, V. A. Siris, G. C. Polyzos, "Security Requirements and Solutions for Integrated Satellite-Terrestrial Information-Centric Networks," Proc. of the 7th Advanced Satellite Multimedia Systems Conference, 13th Signal Processing for Space Communications Workshop ASMS/SPSC, Livorno, Italy, 2014
26. V.G. Douros, N. Fotiou, C. G. Polyzos, "Fighting packet storms in mobile networks with information-centrism," Q-ICN Workshop, Rhodes, Greece, 2014
27. N. Fotiou and C. G. Polyzos, "Realizing the Internet of Things using Information-Centric Networking," Q-ICN Workshop, Rhodes, Greece, 2014
28. N. Fotiou, S. Arianfar, M. Sarela G.C. Polyzos, "A framework for privacy analysis of ICN architectures," Proc. Second Annual Privacy Forum, APF 2014, Athens, Greece, 2014
29. N. Fotiou, A. Machas, G.C. Polyzos and G. Xylomenos, "Access control delegation for the Cloud," Proc. IEEE CrossCloud Workshop 2014, Toronto, Canada, 2014
30. M. Giannikos, K. Kokoli, N. Fotiou, G. Marias and G.C. Polyzos, "Towards Secure and Context-Aware Information Lookup for the Internet of Things," Proc. International Conference on Computing, Networking and Communications (ICNC 2013), San Diego, USA, 2013
31. N. Fotiou, G.F. Marias, G.C. Polyzos, "Access Control Enforcement Delegation for Information-Centric Networking Architectures," Proc. of ACM SIGCOMM Workshop on Information-Centric Networking (ICN-2012), Helsinki, Finland, August 2012 (Best paper award)
32. G.F. Marias, N. Fotiou, G.C. Polyzos, "Efficient information lookup for the Internet of Things," Proc. First IEEE WoWMoM Workshop on the Internet of Things: Smart Objects and Services, San Francisco, CA, USA, June 2012
33. N. Fotiou, G.F. Marias, G.C. Polyzos, "Fighting phishing the information-centric way," Proc. Fifth IFIP International Conference on New Technologies, Mobility and Security (NTMS 2012), Istanbul, Turkey, May 2012

34. K. V. Katsaros, N. Fotiou, X. Vasilakos, C. N. Ververidis, C. Tsilopoulos, G. Xylomenos, G.C. Polyzos, "On Inter-domain Name Resolution for Information-Centric Networks," IFIP Networking 2012, Prague, Czech Republic, May 2012
35. N. Fotiou, G.F. Marias, G.C. Polyzos, P. Szalachowsk, Z. Kotulski, M. Niedermeier, X. He, H. de Meer, "Towards Adaptable Security for Energy Efficiency in Wireless Sensor Networks", Proc. Wireless World Research Forum (WWRF) Meeting 28, Athens, Greece, April 2012
36. C. Doukas, N. Fotiou, G.C. Polyzos, I. Maglogiannis, "Context-Aware Delivery of Information in Assistive Environments utilizing Future Internet Technologies," Proc. 4th International Conference on Pervasive Technologies Related to Assistive Environments, Crete, Crece, May 2011
37. N. Fotiou, P. Nikander, D. Trossen, G.C. Polyzos, "Developing Information Networking Further: From PSIRP to PURSUIT," Proc. 7th International ICST Conference on Broadband Communications, Networks, and Systems, Athens, Greece, October 2010
38. N. Fotiou, G.F. Marias, G.C. Polyzos, "Security Aspects of a Clean Slate Information Oriented Internet Architecture," Proc. 21st International Tyrrhenian Workshop on Digital Communications, Ponza, Italy, September 2010
39. N. Fotiou, G.F. Marias, G.C. Polyzos, "Towards a Secure Rendezvous Network for Future Publish/Subscribe Architectures," Proc. 3rd Future Internet Symposium 2010, Berlin, Germany, September 2010
40. N. Fotiou, G.F. Marias, G.C. Polyzos, "Fighting Spam in Publish/Subscribe Networks Using Information Ranking," Proc. 6th Euro-NF Conference on Next Generation Internet (NGI), Paris, France, June 2010 (Best student paper award)
41. N. Fotiou, G.F. Marias, G.C. Polyzos, "Information Ranking in Content-Centric Networks," Proc. Future Network and MobileSummit 2010, Florence, Italy, June 2010
42. K.Katsaros, N.Fotiou, G.C. Polyzos, G. Xylomenos, "Overlay Multicast Assisted Mobility for Future Publish/Subscribe Networks," Proc. ICT Mobile Summit, Santander, Spain, June 2009
43. K.Katsaros, N.Fotiou, G.C. Polyzos, G. Xylomenos, "Supporting Mobile Streaming Services in Future Publish/Subscribe Networks," Proc. Wireless Telecommunications Symposium (WTS 2009), Prague, Czech Republic, April 2009
44. N. Fotiou, G.C. Polyzos, D. Trossen, "Illustrating a Publish-Subscribe Internet Architecture," Future Internet Architectures: New Trends in Service Architectures (2nd Euro-NF Workshop), June 2009

Tutorials

1. N. Fotiou, G. C. Polyzos, "ICN Privacy and Name based Security," 1st ACM conference on Information-centric Networking (ICN-2014), Paris, France, 2014

Posters

1. N. Fotiou, I. Pittaras, V. A. Siris, S. Voulgaris, G.C. Polyzos, "Securing IoT services using DLTs and Verifiable Credentials", in NDSS 2020, CA, USA, 2020
2. N. Fotiou, V. A. Siris, S. Voulgaris, G.C. Polyzos, "Enabling Opportunistic Users in Multi-Tenant IoT Systems using Decentralized Identifiers and Permissioned Blockchains," Proceedings of the 2nd International ACM Workshop on Security and Privacy for the Internet-of-Things (in conjunction with ACM CCS), 2019

3. N. Fotiou and C. G. Polyzos, "Towards name-based trust," IFIP Trust Management, Singapore, 2014

Demos

1. N. Fotiou, G. Xylomenos, G.C. Polyzos, H. Islam, D. Lagutin, T. Hakala, E. Hakala, "ICN enabling CoAP Extensions for IP based IoT devices" 4th ACM Conference on Information-Centric Networking, Berlin, Germany, 2014 (Best Demo award)

Teaching Experience

- 2019** Lecturer, M.Sc. course on blockchains and smart contracts, Athens University of Economics and Business, Greece
- 2008 - 2012** Teaching Assistant, Compilers, Undergraduate course, Athens University of Economics and Business
- 2009** Teaching Assistant, Distributed Systems, Postgraduate course, Athens University of Economics and Business

Research Interests

- Information Centric Networking
- Internet of Things
- Distributed Ledger Technologies
- User privacy
- Access control mechanisms
- Content integrity and provenance verification