

# Emmanouil G. Spanakis

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## CURRICULUM VITAE

### Current Appointment

Collaborating Researcher at the Computational BioMedicine Laboratory (CBML) at the Institute of Computer Science of the Foundation for Research & Technology – Hellas (ICS-FORTH) and at the Digital Image and Signal Processing Laboratory (DISPLAY) of the Technical University of Crete (TUC).

### Research Interests

In particular, my interdisciplinary research interests include: personal health systems and internet of things, pervasive mobile health monitoring, biometrics / security and privacy, medical signal analysis, image analysis, electronic health records and interoperability, ubiquitous eHealth/mHealth related services in smart environments, wireless medical sensors and sensor networks for eHealth services, image analysis, biomedical signal analysis and delay tolerant networking for e-health services, crowdsourcing and security for eHealth services and network interoperability for e-health. Also, cross-layer design in wireless ad-hoc networks, wireless interference channel under SINR constraints, vehicular ad-hoc networks, networking technology and programming; performance and analysis of mobile ad-hoc routing protocols, and wireless network measurements analysis.

### Education

#### Ph.D. in Computer Science

Computer Science Department, University of Crete, Greece

November 2009

Thesis: “Cross Layer Rate Adaptation in Wireless Ad-Hoc Networks”

#### M.Sc. in Computer Science

Computer Science Department, University of Crete, Greece

April 2004

Thesis: “Routing Issues in Mobile Ad-Hoc Wireless Networks”

#### B.Sc. in Computer Science

Computer Science Department, University of Crete, Greece

July 2001

### Scholarships/Achievements

Post Doc research grand (Daphne) funded under the Hellenic Foundation for Research & Innovation (ELIDEK) - 1<sup>st</sup> Call for H.F.R.I. Research Projects for the support of Post-doctoral researchers (*ranked 3<sup>rd</sup> in its respected research category*) (Principal investigator, Coordinator), (2018 –2022)

Graduate scholar funded by the Greek Secretariat of Research and Technology (GSRT) under the “PENED 2003 Ad-hoc Networks” program. (*ranked 1<sup>st</sup> in its research category*) (2005 –2009)

Graduate scholar funded by the “Biomedical Informatics Laboratory”, FORTH, Greece. (2004 –2005)

Graduate scholar funded by the “Telecommunications and Networks Laboratory”, FORTH, Greece. (2003 –2004)

Graduate scholar funded by the “Centre for Medical Informatics and Health Telematics Applications”, FORTH, Greece. (2001 –2003)

Undergraduate scholar funded by the “Centre for Medical Informatics and Health Telematics Applications”, FORTH, Greece. (1998 –2001)

## Conference/Session Organizer/Chair

**International Workshop on “Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies” (APHS 2017)** in conjunction with the 7<sup>th</sup> EAI International Conference on Wireless Mobile Communication and Healthcare, **MobiHealth 2017**, Transforming healthcare through innovations in mobile and wireless technologies, 14-15 November 2017, Vienna, Austria.

**International Workshop on “Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies” (APHS 2016)** in conjunction with the 6<sup>th</sup> EAI International Conference on Wireless Mobile Communication and Healthcare, **MobiHealth 2016**, Transforming healthcare through innovations in mobile and wireless technologies, 14-16 November 2016, Milan, Italy.

**International Conference on Personal, Pervasive and mobile Health (PPmH)** in conjunction with the International 360° summit eHealth: Empowering Healthcare with Technology by EAI, 14-16 June 2016, Budapest Hungary.

**International Workshop on “Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies – The Digital Patient concept: Vision and Demonstrations” (APHS 2015)** in conjunction with the 5<sup>th</sup> International ICST Conference on Wireless Mobile Communication and Healthcare, **MobiHealth 2015**, Transforming healthcare through innovations in mobile and wireless technologies, 14-16 October 2015, London, UK.

**International Workshop on “Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies” (APHS 2014)** at 4<sup>th</sup> International ICST Conference on Wireless Mobile Communication and Healthcare, **MobiHealth 2014**, Athens, Greece, November 2014.

**International Workshop on “Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies” (APHS 2012)** at 3<sup>rd</sup> International ICST Conference on Wireless Mobile Communication and Healthcare, **MobiHealth 2012**, Paris, France, November 2012.

**ICT Technologies and Tools for Chronic Disease Management**, Special Session at 2<sup>nd</sup> International ICST Conference on Wireless Mobile Communication and Healthcare, **MobiHealth 2011**, Kos, Greece, October 2011.

**ICT Platforms and Technologies for the Daily Management of Chronic Diseases and the Support of the Ageing Population**, Special Session at 2<sup>nd</sup> International ICST Conference on Wireless Mobile Communication and Healthcare, **MobiHealth 2011**, Kos, Greece, October 2011.

## Publications

1. **Emmanouil G. Spanakis**, Stelios Sfakianakis, Silvia Bonomi, Claudio Ciccotelli, Sabina Magalini and, Vangelis Sakkalis, **Emerging and established trends to support secure Health Information Exchange**, Accepted on 22/2/2021 Front. Digit. Health – Connected Health
2. Kalliopi Anastasopoulou, Pasquale Mari, Aimilia Magkanaraki, **Emmanouil G. Spanakis**, Matteo Merialdo, Vangelis Sakkalis, and Sabina Magalini (2020). **Public and private healthcare organisations: a socio-technical model for identifying cybersecurity aspects**. In Proceedings of the 13th International Conference on Theory and Practice of Electronic Governance (ICEGOV 2020). Association for Computing Machinery, New York, NY, USA, 168–175. DOI: <https://doi.org/10.1145/3428502.3428525>.
3. Mtibaa, A, Hmani, M, Petrovska-Delacrétaz, D, Boudy, J, Hamida, A. B., Bauzou, C, Crucianu, I, Markopoulos, Y., **Spanakis, E.G.**, & Nicolin, A. I., Narr, C, Kockmann, M, Perez, M. (2020). **Methodologies of Audio-Visual Biometric Performance Evaluation for the H2020 SpeechXRays Project**. 5th international Conference on Advanced Technologies for Signal & Image Processing ATSSIP'2020.
4. **E. G. Spanakis**, Silvia Bonomi, Stelios Sfakianakis, Giuseppe Santucci; Simone Lenti; Mara Sorella; Florin D. Tanasache, Alessia Palleschi, Claudio Ciccotelli, Vangelis Sakkalis, Sabina Magalini , (2020), **Cyber-attacks and threats for healthcare – a multi-layer thread analysis**, 2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), Montreal, QC, Canada, 2020, pp. 5705-5708, doi: 10.1109/EMBC44109.2020.9176698.

5. **Spanakis, E.G.**, & Petrovska-Delacrétaz, D, Bauzou, C, Crucianu, I, Mtibaa, A, Hmani, M, Kockmann, M, Narr, C, Hajjiev, E, Takacs, D, Karantanas, A. (2019). **Multi-channel biometrics for eHealth combining acoustic and machine vision analysis of speech, lip movement and face: a case study**. IEEE International Conference on IMAGING SYSTEMS & TECHNIQUES, IST 2019, Abu Dhabi, UAE, Dec 8-10 2019.
6. C. Farmaki, M. Krana, M. Padiaditis, **E.G. Spanakis**, V. Sakkalis, **Single-channel SSVEP-based BCI for robotic car navigation in real world conditions**, 19th International Conference on BioInformatics and BioEngineering (BIBE 2019), Athens, Greece, October 28-30, 2019
7. **Spanakis, E.G.**, & Sakkalis, V. (2019). **Resilient Network services for critical mHealth applications over 5G Mobile Network Technologies**. ERCIM News 118 July 2019, Special theme: Digital Health, Sara Colantonio (ISTI-CNR) and Nicholas Ayache (Inria), 17/7/2019.
8. Spanakis, M., Sfakianakis, S.G., Sakkalis, V., & **Spanakis, E.G.** (2019). **PharmActa: Empowering Patients to Avoid Clinical Significant Drug–Herb Interactions**. Medicines - Journal of evidence-based classical, complementary and integrative medicine, Special Issue "Safety of Complementary Medicines", 6(1), MDPI.
9. Cocioceanu, A. N., Micluța-Câmpeanu, S, Raportaru, M.C., **Spanakis, E.G.**, & Nicolin, A. I. (2019). **Statistical description of phonetic balance for Greek utterances**. AIP Conference Proceedings 2071, 040016 (2019).
10. Spanakis, M., Sfakianakis, S.G., kallergis, G., **Spanakis, E.G.**, & Sakkalis, V. (2019). PharmActa: Personalized pharmaceutical care eHealth platform for patients and pharmacists. Journal of Biomedical Informatics, 100.
11. Georgios C Manikis, Marios Spanakis, **Emmanouil G Spanakis**, (2018) **Personalized Mobile eHealth Services for Secure User Access Through a Multi Feature Biometric Framework**, International Journal of Reliable and Quality E-Healthcare (IJRQEH), 8(1), pp-40-51, IGI Global
12. **Spanakis, E.G.** (2018). **SpeechXRays: A User Recognition Platform Based on Voice Acoustics Analysis and Audio-Visual Identity Verification**. ERCIM News 115 October 2018 Special theme: Digital Twins Guest editors: Benjamin Sanderse (CWI) and Edgar Weippl (SBA), 115, 24 Oct 2018, ERCIM News .
13. A.N. Cocioceanu, M.C. Raportaru, **Emmanouil G. Spanakis**, I. Markopoulos, A. I. Nicolin, **An Assessment Framework for Voice-Based Biometrics**, 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 201818), July 17-21, 2018, Honolulu, HI, USA
14. **Emmanouil G. Spanakis**, **Internet of Medical Things for Healthcare in Smart Monitoring and Diverse Networking** Environments, 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 201818), July 17-21, 2018, Honolulu, HI, USA
15. Marios Spanakis, Stelios Sfakianakis, **Emmanouil G. Spanakis**, George Kallergis, Vangelis Sakkalis, (2018) **PDCA: An Ehealth Service for the Management of Drug Interactions with Complementary and Alternative Medicines**, IEEE Conference on Biomedical and Health Informatics (BHI) 2018, Las Vegas, Nevada, USA, 4-7 March 2018.
16. Iliá Adami, Margherita Antona, and **Emmanouil G. Spanakis**, (2017), **"Multi-modal user interface design for a face and voice recognition biometric authentication system"**, MobiHealth 2017 - 7th EAI International Conference on Wireless Mobile Communication and Healthcare, November 14-15, 2017, Vienna, Austria
17. Marios Spanakis Georgios C. Manikis, Sakshi Porwal, and **Emmanouil G. Spanakis** (2017), **Developing a context-dependent tuning framework of multi-channel biometrics that combine audio-visual characteristics for secure access in eHealth platform for osteoarthritis management**, ", MobiHealth 2017 - 7th EAI International Conference on Wireless Mobile Communication and Healthcare, November 14-15, 2017, Vienna, Austria
18. **Spanakis EG**, Santana S, Tsiknakis M, Marias K, Sakkalis V, Teixeira A, Janssen JH, de Jong H, Tziraki C **Technology-Based Innovations to Foster Personalized Healthy Lifestyles and Well-Being: A Targeted Review**, Journal of Medical Internet Research, JMIR 2016;18(6):e128, DOI: 10.2196/jmir.4863, PMID: 27342137 (*Impact Factor: 4.532*)

19. Spanakis, M., **Spanakis, E.G.**, Kondylakis, H., Sfakianakis, S.G., Genitsaridi, I., Sakkalis, V., Tsiknakis, M.N., & Marias, K. (2016). **Addressing drug-drug and drug-food interactions through personalized empowerment services for healthcare**. 38<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Orlando FL, USA.
20. **Spanakis, E.G.**, Spanakis, M., A. Karantanas & Marias, K. (2016). **Secure Access to Patient's Health Records Using SpeechXRays a Mutli-Channel Biometrics Platform for User Authentication**. 38<sup>th</sup> Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC), Orlando FL, USA.
21. Spanakis, M., **Spanakis, E.G.**, Kafetzopoulos, D., Sakkalis, V., Tsiknakis, M.N., Marias, K., & Dong, F. (2015). **MyHealthAvatar platform: matching real life patients with the generated virtual profiles from in silico clinical trials**. 24<sup>th</sup> Annual Meeting of the Population Approach Group in Europe (PAGE), At Hersonissos, Crete, Greece, Volume: ISSN 1871-6032.
22. Kondylakis, H., **Spanakis, E.G.**, Sfakianakis, S.G., Sakkalis, V., Tsiknakis, M.N., Marias, K., Xia, Z, Yu, H.Q., & Dong, F. (2015). **Digital Patient: Personalized and Translational Data Management through the MyHealthAvatar EU Project**. International Conference of the IEEE Engineering in Medicine and Biology Society of the IEEE Engineering in Medicine and Biology Society (EMBC), 2015, Milan, Italy.
23. **Spanakis, E.G.**, Yang, P., Deng, Z., Sakkalis, V., Kafetzopoulos, D., Marias, K., Tsiknakis, M.N., & Dong, F. (2014). **MyHealthAvatar: personalized and empowerment health services through Internet of Things technologies**, 4th International Conference on Wireless Mobile Communication and Healthcare, Athens, Greece, November 3-5, 2014.
24. **Spanakis, E.G.**, Santana, S., Ben-David, B., Marias, K., & Tziraki, C. (2014). **Persuasive technology for healthy aging and wellbeing**. 4th International Conference on Wireless Mobile Communication and Healthcare, Athens, Greece, November 3-5, 2014.
25. **Spanakis, E.G.**, Sakkalis, V., Marias, K., & Tsiknakis, M.N. (2014). **Connection between Biomedical Telemetry and Telemedicine**. Handbook of Biomedical Telemetry. 2014/7/17 (pp. 419 - 444).
26. **Spanakis, E.G.**, Sakkalis, V., Marias, K., Dong, F., & Tsiknakis, M.N. (2014). **MyHealthAvatar: The digital patient perspective**. 1st International Summer School on eCare - Integrated, sustainable home care, organized August 25 - 29, 2014 in Ghent, Belgium, ("**Best Poster Award**").
27. **Spanakis, E.G.**; Sakkalis, V.; Marias, K.; Tragantitis, A. **Cross Layer Interference Management in Wireless Biomedical Networks**. *Entropy — Open Access Journal*, 16, 2085-2104. (*Impact Factor 1.502*)
28. Vavoulas, G., Pediaditis, P., Chatzaki, C, **Spanakis, E.G.**, & Tsiknakis, M.N. (2014). **The MobiFall Dataset: Fall Detection and Classification with a Smartphone**. *International Journal of Monitoring and Surveillance Technologies Research (IJMSTR)*, 2(1), 44-56, IGI Global.
29. **Spanakis, E.G.**, Kozyrakis, G. V., Spanoudaki, K., Alexandrakis, G., Marias, K., & Kampanis, N.A. (2014). **Ανάπτυξη πρότυπου συστήματος αξιοποίησης πληροφοριών από τους πολίτες με μεθόδους crowd sourcing για την αντιμετώπιση και διαχείριση φυσικών καταστροφών**. Πανελλήνιο Συνέδριο «Η χρήση των νέων τεχνολογιών στην πρόληψη και τη διαχείριση φυσικών καταστροφών - Ο ρόλος της Πολιτικής Προστασίας»
30. Maniadi, E., Kondylakis, H., **Spanakis, E.G.**, Spanakis, M., Tsiknakis, M.N., Marias, K., & Dong, F. (2013). **Designing a digital patient avatar in the context of the MyHealthAvatar project initiative**. 13th IEEE International Conference on BioInformatics and BioEngineering (BIBE) 2013.
31. Manousos, D., Chiarugi, F., Kontogiannis, V., Karatzanis, I., Kouroubali, A., **Spanakis, E.G.**, Marias, K., Fursse, J., Thomson, S., Jones, R.W., Verma, V., & Clarke, M. (2013). **First results about the use of a patient portal by people with diabetes in a rural area**. E-Health and Bioengineering Conference (EHB), 2013.
32. Vavoulas, G., Pediaditis, M., **Spanakis, E.G.**, & Tsiknakis, M.N. (2013). **The MobiFall Dataset: An Initial Evaluation of Fall Detection Algorithms Using Smartphones**. 6th IEEE International Symposium on Monitoring & Surveillance Research (ISMSR): Healthcare-Bioinformatics.

33. **Spanakis, E.G.,** and Voyiatzis, A.G. (2012). **DAPHNE: A Disruption-Tolerant Application Proxy for e-Health Network Environments.** 3rd International Conference on Wireless Mobile Communication and Healthcare, Paris, France, November 21-23, 2012.
34. **Spanakis, E.G.,** Chiarugi, F., Kouroubali, A., Spat, S., Beck, B., Asanin, S., Rosengren, P., Gergely, G.T., & Thestrup, J. (2012). **Diabetes Management Using Modern Information and Communication Technologies and New Care Models.** *i-JMR Interactive Journal of Medical Research*, 1(5). (*Impact Factor 5.7*)
35. **E. Spanakis,** and Manolis Tsiknakis, **“Delivery of secure eHealth services and communications”** 2012 International Conference on Telecommunication Systems, Modeling and Analysis (ICTSM2012), May 24-26, 2012, Prague, Czech Republic.
36. Karatzanis, I., Kontogiannis, V., **Spanakis, E.G.,** Chiarugi, F., Fursse, J., & Jones, R.W. (2012). **Empowering Patients through a Patient Portal for an Improved Diabetes Management.** 3rd International Conference on Wireless Mobile Communication and Healthcare November, Workshop on Advances in Personalized Healthcare Services, Wearable Mobile Monitoring, and Social Media Pervasive Technologies (APHS 2012).
37. **Spanakis, E.G.,** & Sakkalis, V. (2012). **Digital Information of the Citizens** (Για ψηφιακά δεδομένα των πολιτών). *The Economist* (Kathimerini), (106), 39.
38. **E. Spanakis,** George Pallis and Marios D. Dikaiakos, **“Graph Visualization Tool for Vehicular Ad-Hoc Networks”** 2011 IEEE Vehicular Networking Conference (VNC 2011), November 2011, Amsterdam, The Netherlands.
39. **E. Spanakis** and F. Chiarugi, **“Diabetes Management: Devices, ICT Technologies and Future Perspectives”**, 2nd International ICST Conference on Wireless Mobile Communication and Healthcare, MobiHealth 2011, Kos Island, Greece, October 2011.
40. S. Spat, B. Holl, P. Beck, F. Chiarugi, V. Kontogiannis, **M. Spanakis,** D. Manousos and T. Pieber, **“A Mobile Android-based Application for in-hospital Glucose Management in compliance with the Medical Device Directive for Software”**, 2nd International ICST Conference on Wireless Mobile Communication and Healthcare - MobiHealth 2011 - Kos Island, Greece, October 2011.
41. **E. Spanakis,** Christodoulos Efstathiades, George Pallis and Marios D. Dikaiakos, **“Real-Time Graph Visualization Tool for Vehicular Ad-Hoc Networks”**, 16th IEEE Symposium on Computers and Communications (ISCC 2011), June 2011, Corfu, Greece.
42. **E. Spanakis,** A. Traganitis, and A. Ephremides, **“Cross Layer Multicast Rate Adaptation in Wireless Networks”**, Euro-NF International Workshop on Traffic and Congestion Control for the Future Internet, Volos, Greece, 31 March – 1 April 2011.
43. M. Tsiknakis and **M. Spanakis,** **“Adoption of of innovative eHealth services in prehospital emergency management: a case study”**, 10th IEEE International Conference on Information Technology and Applications in Biomedicine (ITAB), November 2010, Corfu, Greece.
44. **E. Spanakis,** A. Traganitis, and A. Ephremides, **“Rate Region and Power Considerations in a simple 2x2 Interference Channel”**, Information Theory Workshop on Networking and Information Theory, June 2009, Volos, Greece.
45. **E. Spanakis** and A. Traganitis, **“Applying the Time-To-Live Parameter in On Demand Route Caching in MANETs”**, 11th International Conference on Advanced Communication Technology (ICACT), February 2009, Phoenix Park, KOREA.
46. M. Tsiknakis, A. Traganitis, **M. Spanakis,** and S.C. Orphanoudakis, **“Wireless Communication Technologies for mobile Healthcare Applications: Experiences and Evaluation of security related issues”**, In *M-Health, Emerging Mobile Health Systems Series: International Topics in Biomedical Engineering*, R. Istepanian, S. Laxminarayan, C. Pattichis, (Eds.), Springer, 2006, ISBN: 0-387-26558-9, pp. 65-80.

47. **M. Spanakis**, P. Lelis, F. Chiarugi, C. Chronaki and M. Tsiknakis, **“R&D challenges in developing an ambient intelligence eHealth platform”**, 3rd European Medical and Biological Engineering Conference, IFMBE European Conference on Biomedical Engineering, Prague, Czech Republic, November 20-25, 2005.
48. Maria Papadopoulou, Haipeng Shen and **Manolis Spanakis**, **“Characterizing the duration and association patterns of wireless access in a campus”**, 11th European Wireless Conference, Nicosia, Cyprus, April 10-13, 2005.
49. Maria Papadopoulou, Haipeng Shen and **Manolis Spanakis**, **“Modeling client arrivals at access points in wireless campus-wide networks”**, 14th IEEE Workshop on Local and Metropolitan Area Networks, Chania, Crete, Greece, September 18-21, 2005. (*ranked fourth best paper in the reviewing process*)
50. F. Chiarugi, D. Trypakis and **M. Spanakis**, **“Problems and Solutions for Storing and Sharing Data from Medical Devices in eHealth Applications”**, presented at the 2nd OpenECG Workshop, 1-3 April 2004 Berlin.
51. F. Chiarugi, **M. Spanakis**, P.J. Lees, C.E. Chronaki, M. Tsiknakis and S.C. Orphanoudakis, **“ECG in Your Hands: A Multi-Vendor ECG Viewer for Personal Digital Assistants”**, presented at Computers in Cardiology 2003, 21-24 September, Chalkidiki, Greece.
52. CE Chronaki, F Chiarugi, E Mavrogiannaki, C Demou, P. Lelis, D Trypakis, **M Spanakis**, M Tsiknakis and SC Orphanoudakis, **“An eHealth Platform for Instant Interaction among Health Professionals”**, Computer in Cardiology 2003, Thessalonica, Greece, September 2003.
53. Chiarugi F, **Spanakis M**, Lees PJ, Tsiknakis M, Traganitis A and Orphanoudakis SC, **“Remote Multiparametric Monitoring in a Regional HealthNetwork”**, Proceedings of the 2nd European Medical & Biological Engineering Conference, Vienna, December 2002.
54. Chiarugi F, **Spanakis M**, Lees PJ, Chronaki CE, Tsiknakis M, Traganitis A and Orphanoudakis SC, **“Real-Time Cardiac Monitoring Over A Regional Health Network: Preliminary Results From Initial Field Testing”**, Proceedings of Computer in Cardiology 2002, Memphis, USA, September 2002.
55. Traganitis A, Trypakis D, **Spanakis M**, Condos S, Stamkopoulos T, Tsiknakis M and Orphanoudakis SC, **“Home monitoring and Personal Health ManagementServices in a Regional Health Telematics Network”**, Proceedings of the 23rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Istanbul, October 2001

## Invited Talks

- “Cybersecurity for Internet of Medical Things supporting future healthcare services”**, Summer School on Hot Topics in Cyber Security» Department of Computer, Control, and Management Engineering Antonio Ruberti (DIAG), Sapienza University of Rome, July 1st - 5th 2019, Rome, Italy
- “Biometrics for eHealth”**, Biometric Workshop, University of London, London, UK, 2017.
- “Personalized and Empowerment Services through the MyHealthAvatar Platform: A personal digital health related collection bag”**, HL7 Hellas Workshop at ICIMTH 2016, 1-3 July 2016, Athens, Greece.
- “The future of Health is Digital”**, 2nd Athens Science Festival: Science and Technology from theory to practice, Technopolis, City of Athens, 17th-22nd March 2015.
- “Cross Layer Rate Adaptation in Wireless Ad-hoc Networks”**, Colloquium: University of Cyprus, Cyprus, October 4, 2010.
- “Wearable Ambient Intelligence eHealth platforms”**, KM in AMI Workshop - Bringing Knowledge Management tools to the emerging world of Ambient Intelligence infrastructures, Bruxelles, October 14 – 15, 2004.

## Research Experience

**Computational BioMedicine Laboratory (CBML), Institute of Computer Science (ICS),  
Foundation for Research and Technology - Hellas (FORTH), Greece**

Position : Collaborating Researcher (post-doctoral) (November 2011 – today)  
(current) Post-doctoral Research Fellow (January 2011-October 2011)

work certificate provided/attached by FORTH  
(access to the actual work appointments and contracts can also be provided on request)

Description of  
work/research  
project  
appointments:

- **BorderUAS - Semi-autonomous border surveillance platform combining next generation unmanned aerial vehicles with ultra-high-resolution multi-sensor surveillance payload**  
***(Primary Technical Investigator)***

The project will combine for the first time a lighter-than-air UAV with sophisticated surveillance technology. BorderUAS aims to facilitate effective border surveillance and prevent cross-border criminal activities by supporting search & rescue applications, specifically rough terrain detection, improving the protection of European societies. Our work is focused on the development of sensors and data processing / fusion / interpretation methods to support detection & tracking in difficult terrain, extreme weather conditions and unstructured environments  
<https://www.borderuas.eu>

- **DAPHNE - Resilient network services for critical mHealth applications**  
***(Principal Investigator - Coordinator)***

*Hellenic Foundation for Research & Innovation (ELIDEK) - 1st Call for H.F.R.I. Research Projects for the support of Post-doctoral researchers, € 122.850, 22/08/2018-21/08/2021. (ranked 3<sup>rd</sup>)* {

Resilient network services for critical mHealth applications, This project aims to study and implement resilient services for critical to support mHealth services enabling personalization, patient inclusion and empowerment with the expectation that such systems will enhance traditional care in a crisis, and provide provision in a variety of situations where remote consultation and monitoring can be implemented despite the lack of end-to-end connectivity.  
<https://daphne.ics.forth.gr/>

- **PANACEA (Co-investigator)**

Protection and privacy of hospital and health infrastructures with smart Cyber security and cyber threat toolkit for data and people (H2020-SC1-FA-DTS-2018-1), € 4.961.143, 1/1/2019-31/12/2021

- **i-AMA**

***(Co-investigator researcher)***

*Brain-controlled navigation in real environments, (Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK) approved by the European Commission), 2018-2020, 573.440€, (Co-investigator researcher)*

- **x (επ) ΒΛΕΨΙΣ**

***(Co-investigator researcher)***

*Advanced Monitoring System for Infants, (Operational Programme Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK) approved by the European Commission), 2018-2020, 568.565€,*

- **SpeechXRays (Principal Investigator)**

*Multi-channel biometrics combining acoustic and machine vision analysis of speech, lip movement and face.*  
The SpeechXRays project will develop and test in real-life environments a user recognition platform based on voice acoustics analysis and audio-visual identity verification. SpeechXRays will outperform state-of-the-art solutions in the following areas: Security: high accuracy solution (cross over accuracy of 1/100 i.e. twice the commercial voice/face solutions); Privacy: biometric data stored in the device (or in a private cloud under the responsibility of the data subject); Usability: text-independent speaker identification (no pass phrase), low sensitivity to surrounding noise; Cost-efficiency: use of standard embedded microphone and cameras (smartphones, laptops) The project will combine and pilot two proven techniques: acoustic driven voice recognition (using acoustic rather than statistical only models) and multi-channel biometrics incorporating dynamic face recognition (machine vision analysis of speech, lip movement and face). The vision of the SpeechXRays project is to provide a solution combining the convenience and cost-effectiveness of voice biometrics, achieving better accuracies by combining it with video, and bringing superior anti-spoofing capabilities. The technology will be deployed on 2000 users in 3 pilots: a workforce use case, an eHealth use case and a consumer use case. The project lasts 36 months and is coordinated by world leader in digital security solutions for the mobility space

- **MyHealthAvatar:** (www.myhealthavatar.eu) *Technical Manager, Scientific responsible*  
A Demonstration of 4D Digital Avatar Infrastructure for Access of Complete Patient Information, MyHealthAvatar will be built on the latest ICT technology with an aim of engaging public interest to achieve its targeted outcomes. In addition to data access, it is also an interface to access integrative models and analysis tools, utilizing resources already created by the VPH community. Overall, it will contribute to individualized disease prediction and prevention and support healthy lifestyles and independent living.  
(March 2013 – February 2016)
- **REACTION:** *Remote Accessibility to Diabetes Management and Therapy in Operational healthcare Networks* (<http://www.reactionproject.eu/>).  
The REACTION platform will present an interoperable peer-to-peer communication platform, for the long term management of diabetes using on wearable, continuous blood glucose monitoring sensors and automated closed-loop delivery of insulin, based on Service Oriented Architecture (SoA) and cloud-enabling middleware.  
(March 2010 – February 2014)
- **eu-Domain:** Enabling users for-Distance-working & Organizational Mobility using Ambient Intelligence service Network.  
(April 2004 – September 2007)
- **Twister:** Terrestrial Wireless Infrastructure integrated with Satellite Telecommunications for E-Rural applications.  
(March 2004 – September 2007)
- **ATTRACT:** Applications in Telemedicine taking rapid advantage of cable television network evolution  
(January 2000 - December 2002)
- **HYGEIAnet:** Crete-A telematic center  
(January 2001 - December 2003)
- **Biomedical Informatics e-health system** (design and implementation):
  - o *Remote Care:* A remote patient monitoring platform for various clinical scenarios, supporting telemonitoring and telemanagement of patients by a distant expert. The platform is able to operate various medical components. *Medical Devices:* Software components (Stethoscope Vital Sign Monitor (emergency care), Spirometer, SpO<sub>2</sub> meter, EEG, Electronic Scale), for *real time acquisition and transmission* of medical data from various medical devices over wireless and wired IP networks. Modular design allows medical devices to be operable over an ambient intelligence environment.
  - o *Pocket Network Auscultation:* Software and hardware component able to acquire in real-time the acoustic signal, from a handheld device, and transmit it through a wireless network to a remote end where it is sent to the line-out port of a soundcard, and play backed to using a stethoscope earphone attached. A common stethoscope was used, fitted with a microphone, connected to the microphone-input of the PDA. Different kinds of FIR band pass filters were designed, developed and tested extensively in order to come up with the best corner frequencies. This device was tested and validated under real scenarios and medical examinations with in region of the health telematic network of Crete HYGEIAnet.

### Digital Image and Signal Processing Laboratory (DISPLAY), Technical University of Crete (TUC)

Position: Post-doctoral fellow (March 2020 – today)

work certificate provided by TUC

Description of work/research project appointments: - **MARS (Smart Pharming with Drones)**  
Smart farming and precision farming constitute ICT applications in the agriculture research field by using efficient monitoring and data processing methods in large farm fields. They are focused on making the agriculture process more productive and more viable.

### High Performance Computing Systems Laboratory (HPCL), Department of Computer Science, University of Cyprus



Position: **Marie Curie Post-doctoral fellow (SEARCHiN project)**

work certificate provided by UCY  
(access to the actual work appointments and contracts can also be provided on request)

Description of work: - Study interference phenomenon in VANETs and provide insights on higher layer parameters can affect connectivity (i.e. minimize delay, overhead, and maximize aggregate rate by maximizing the number of simultaneous transmissions and individual transmission link rates.  
- Design and implementation of a visualization tool presenting, in real time, VANET connectivity graphs, using realistic mobility traces.  
(August 2010 – December 2010)

### **Telecommunications and Networks Laboratory (TNL), FORTH, Greece**

Position: Research Assistant

Description of work: - **Graduate scholar funded by the Greek Secretariat of Research and Technology (GSRT) under the “PENED 2003 Ad-hoc Networks” program.** (ranked 1st in its research category)  
Research on cross layer rate adaptation in wireless ad-hoc networks when multiple uncoordinated links share a common medium and the effect of interference is present, limiting network performance, Advisor: Prof. Apostolos Traganitis.  
(January 2005 – November 2009)  
-  
- **Research Performance analysis and modeling of mobile, wireless, ad hoc networks,** Advisor: Prof. Apostolos Traganitis.  
(January 2002 – December 2004)  
- **OPNET simulation studies on Routing Protocol (DSR, AODV) in wireless mobile ad-hoc networks,** Advisor: Prof. Apostolos Traganitis.  
(January 2002 – January 2009)

### **The Institute for Systems Research (ISR), University of Maryland (UMD) , USA**

Position: Research Assistant

Description of work: Study on cross-layer techniques in the design and study of wireless ad hoc networks. Focus on finding how adapting various parameters of the telecommunication system can allow concurrent transmissions, minimize interference, enhance network throughput, maximize individual link data rates, and optimally utilize the network resources for all competing transmissions.  
Advisor: Prof. Antony Ephremides.  
(March 2006 – December 2006)

### **Wireless Measurement Group, Computer Science Department, University of North Carolina, USA**

Position: Research Intern

Description of work: Measurements of wireless networks performance, characterizing mobility and access patterns in an IEEE802.11 wireless network infrastructure. Supervisor: Prof. Maria Papadopouli  
(March 2004 – December 2005)

### **Mobile Computing Group, TNL, FORTH, Greece**

Position: Group member (September 2004 – March 2005)  
(<http://www.ics.forth.gr/mobile/>)

## **Conferences/Invited Talks Attended**

2020 IEEE International Conference on Imaging Systems & Techniques (IST 2019), December 8-10,2019, Abu Dhabi, UAE

HealthIT Conference 2019, Athens, Greece

eHealth 360° International Summit, June 14 - 16, 2016 in Budapest, Hungary.

MobiHealth 2015, 5<sup>th</sup> International Conference on Wireless Mobile Communication and Healthcare – London, UK

1st International Summer School on eCare - Integrated, sustainable home care, August 25 - 29, 2014 in Ghent, Belgium.

MobiHealth 2014, 4<sup>th</sup> International ICST Conference on Wireless Mobile Communication and Healthcare - Athens Greece

MobiHealth 2012, 3<sup>rd</sup> International ICST Conference on Wireless Mobile Communication and Healthcare - Paris France

MobiHealth 2011, 2<sup>nd</sup> International ICST Conference on Wireless Mobile Communication and Healthcare - Kos Island, Greece

Summer School on Information Theory, Technical University of Crete, July 2010, Chania, Crete, Greece.

NATO ASI advance course on Coding and Analysis of Multiple Access Channels, Budapest, Hungary, September 2006.

40th Annual Conference on Information Sciences and Systems (CISS 2006), Electrical Engineering, Princeton University, March 2006.

Ready To Launch Workshop, Visual Studio 2005, SQL Server 2005, BizTalk Server 2006, Athens, Greece, 6 December, 2005.

3rd European Medical and Biological Engineering Conference, IFMBE European Conference on Biomedical Engineering, Prague, Czech Republic, November 20-25, 2005.

14th IEEE Workshop on Local and Metropolitan Area Networks, Chania, Crete, Greece, September 18-21, 2005.

2nd meeting of the Greek e-Health Forum, Heraklion, Crete, Greece - 28 April 2001.

The 1st OpenECG Workshop, Crete, Greece, 10-12 October 2002.

Mobile Health Care 2002, Medical Records Institute, Las Vegas October 16-18, 2002.

1st Cretan Regional Congress: "Innovation & Health in the 21st Century", Heraklion, Crete, Greece - December 12-13, 2003.

## Teaching Experience

Digital Image Processing (TEL 312), <i>School of Electrical and Computer Engineering (ECE), Technical University of Crete (TUC)</i> (current)	Spring 2020
Network Technology and Programming advanced-undergrad/grad course, <i>Computer Science Department, University of Crete (Visiting Lecturer)</i>	Spring 2019
<i>Network Technology and Programming</i> advanced-undergrad/grad course, <i>Computer Science Department, University of Crete (Visiting Lecturer)</i>	Spring 2018
<i>Wireless Networks and Mobile Computing</i> , advanced-undergrad/grad course, <i>Computer Science Department, University of Crete (Invited lecture)</i>	Spring 2018
<i>Network Technology and Programming</i> advanced-undergrad/grad course, <i>Computer Science Department, University of Crete (Visiting Lecturer)</i>	Spring 2017
<i>Wireless Networks and Mobile Computing</i> , advanced-undergrad/grad course, <i>Computer Science Department, University of Crete (Invited lecture)</i>	Spring 2017
<i>Network Technology and Programming</i> advanced-undergrad/grad course, <i>Computer Science Department, University of Crete (Visiting Lecturer)</i>	Spring 2016
<i>Wireless Networks and Mobile Computing</i> , advanced-undergrad/grad course, <i>Computer Science Department, University of Crete (Invited lecture)</i>	Spring 2016
“Multimedia eHealth Services in Biomedicine” advanced-undergrad/grad course, Informatics Engineering of the Technological Educational Institute of Crete (Visiting Lecturer)	Fall 2015
“Network Technology and Programming” advanced-undergrad/grad course, Computer Science Department, University of Crete (Visiting Lecturer)	Spring 2015
“Multimedia eHealth Services in Biomedicine” advanced-undergrad/grad course, Informatics Engineering of the Technological Educational Institute of Crete (Visiting Lecturer)	Fall 2014
“Network Technology and Programming” advanced-undergrad/grad course, Computer Science Department, University of Crete (Visiting Lecturer)	Spring 2014
“eHealth” advanced-undergrad/grad course, Informatics Engineering of the Technological Educational Institute of Crete (Visiting Lecturer)	Fall 2014

“Multimedia applications in Biomedicine” advanced-undergrad/grad course, Informatics Engineering of the Technological Educational Institute of Crete (Visiting Lecturer)	Spring 2014
“Network Technology and Programming” advanced-undergrad/grad course, Computer Science Department, University of Crete (Visiting Lecturer)	Fall 2013
“eHealth” advanced-undergrad/grad course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Visiting Lecturer)	Fall 2013
“Multimedia applications in Biomedicine” advanced-undergrad/grad course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Visiting Lecturer)	Spring 2013
“eHealth” advanced-undergrad/grad course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Visiting Lecturer)	Fall 2012
“Network Technology and Programming” advanced-undergrad/grad course, Computer Science Department, University of Crete (Visiting Lecturer)	Spring 2012
“Network Technology and Programming” advanced-undergrad/grad course, Computer Science Department, University of Crete (Visiting Lecturer)	Spring 2011
“Digital Design” course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Laboratory Fellow)	Spring 2009
“Programming” course, Computer Science Division, Technological Education Institute of Crete (Teaching Assistant)	Spring 2009
“Telecommunications and Networks” course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Teaching Assistant)	Fall 2008
“Digital Design” course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Laboratory Fellow)	Fall 2008
“Scientific Writing/Computer Science” course, Computer Science Division, Technological Education Institute of Crete (Laboratory Fellow)	Fall 2008
“Introduction to Telecommunication Theory” course, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2008
“Telecommunications and Networks” graduate course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Laboratory Fellow)	Spring 2008
“Digital Design” course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Laboratory Fellow)	Spring 2008
“Introduction to Telecommunication Theory” course, Computer Science Department, University of Crete (Teaching Assistant)	Spring 2008
“Telecommunications and Networks” graduate course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Laboratory Fellow)	Fall 2007
“Digital Design” course, Applied Informatics and Multimedia Department, Technological Education Institute of Crete (Laboratory Fellow)	Fall 2007
“Introduction to Telecommunication Theory” course, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2007
“Telecommunications Lab” course, Computer Science Department, University of Crete (Teaching Assistant)	Spring 2007
“Introduction to Telecommunication Theory”, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2006
“Telecommunications Lab” graduate course, Computer Science Department, University of Crete (Teaching Assistant)	Spring 2006
“Mobile Computing and Wireless Networks” graduate course, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2005

“Mobile Computing and Wireless Networks” graduate course, Computer Science Department, University of Crete (Teaching Assistant)	Spring 2005
“Medical Informatics” graduate course, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2004
“Computer Networks” course, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2003
“Digital Communications and Networks” graduate course, Computer Science Department, University of Crete (Teaching Assistant)	Spring 2003
“Programming” course, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2002
“Digital Design” course, Computer Science Department, University of Crete (Teaching Assistant)	Spring 2001
“Digital Design” course, Computer Science Department, University of Crete (Teaching Assistant)	Fall 2001

*Last update November 2020*