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## Curriculum Vitae

### PERSONAL DETAILS

**Name & Surname** : Hatziefremidis Antonios  
**Birthday** : May 1972  
**Marital status** : Married  
**Number of children** : Two (2)  
**Telephones** : +306944735269(mob), +302228099669(work)  
**Address** : Technological Educational Institute of Sterea Ellada  
Aircraft Engineering Department, Psaxna Evias  
**Email /www** : [ahatzi@teiste.gr](mailto:ahatzi@teiste.gr) , <http://ahatzi.teiste.gr/>

### EDUCATION

**National Technical University of Athens, School of Electrical and Computer Engineering, Mobile communication laboratory**  
**Diploma of Electrical and Computer Engineer** (*September 1990 – July 1995*)  
**Ph.D** (*December 1995 – July 1999*)

### PROFESSIONAL EXPERIENCE

**National Technical University of Athens, School of Electrical and Computer Engineering, Photonics Lab**

**Researcher** (*March 1996 – September 1999*)

Senior Researcher in the design and development of optical devices and components, Participation in projects funded by the European Union. Partnerships with the Hellenic Telecommunications Organization (OTE), INTRACOM SA, Hellenic Aerospace Industry, Alcatel, University of Massachusetts (MIT), University of Imperial College, University ETH Zurich and the German Telecommunication.

**Hellenic Aerospace Industry**

**Telecommunication Engineer** (*September 2001 – October 2004*)

**Director of Satellite Department** (*October 2004 – November 2008*)

Responsibilities: Design and Optimization of Telecommunication signal processing circuits, Design of DVB-RCS satellite channel, Research proposals funded by the European Space Agency, Advisory services for Undammed Vehicle Projects

**Technological Educational Institute of Sterea Ellada, Aircraft Engineering Department**

**Associate Professor** (*November 2008 – December 2014*)

**Professor** (*December 2014 – Today*)

Research Interests: HF, UHF and VHF communication systems, design and analysis of electronic circuit boards, Audio navigation systems, Design Aircraft antennas, Development of mathematical models for optimization of aviation communication systems, Optical communications and networks, Unmanned Aircraft (UAV) communication systems, Design and construction of different types of unmanned aircrafts, Thermal target detection using UAVs

**Administrative experience** (*November 2008 – Today*)

Chairman (September 2009 – August 2010), Deputy Chairman (2013 - 2014), (2017 - 2018), Member of the Internal Evaluation Commission (2009-2011), Member of the Aircraft Engineering Department Curriculum Review Committee (2013 - 2016), Participation in seven (7) elected bodies (2010 - 2014), Tactical Member of Special Research Account Committee (2014-2017), Chairman of the Assistance Committee of the Foundation's procurement department (2016-2017), Study Advisor (2017-2018)

**RESEARCH PROJECTS**

| <b>Duration</b>       | <b>Coordinator</b> | <b>Project</b>                 | <b>Participation</b>  | <b>Role</b>         | <b>Budget</b> |
|-----------------------|--------------------|--------------------------------|---|---------------------|---------------|
| 01/03/96-<br>30/04/96 | NTUA - ICCS        | TEMPUS 1995/96                 | Collaboration with the University of Tirana                   | External Researcher | 300000        |
| 01/05/96-<br>30/06/96 | NTUA - ICCS        | TEMPUS 1995/96                 | Collaboration with the University of Tirana                   | External Researcher | 330000        |
| 01/09/96-<br>31/10/96 | NTUA               | ACTS FRANS                     | Development of optical methods in digital TV networks         | External Researcher | 330000        |
| 01/07/97-<br>30/06/98 | NTUA - ICCS        | Greek research project<br>PAVE | Development of prototype fiber-optic polarization compensator | Main Researcher     | 1652000       |
| 01/01/98-<br>28/02/98 | NTUA               | ACTS STORMS<br>AC016           | Developing software tools for mobile systems                  | External Researcher | 240000        |

|                        |                                   |  |   |                        |         |
|------------------------|-----------------------------------|--|---|------------------------|---------|
| 01/01/97-<br>30/06/98  | NTUA - ICCS                       | EPET II<br>NOVISYS                               | Development of<br>optical rangefinder<br>“eye-safe”   | Main<br>Researcher     | 480000  |
| 01/04/98-<br>30/06/98  | NTUA                              | ACTS<br>MISA<br>AC080                            | Experimental<br>verification of optical<br>network management   | External Researcher    | 600000  |
| 01/09/98-<br>30/11/98  | NTUA                              | ACTS<br>MARINE<br>AC340                          | Design and<br>construction of<br>network with storage<br>capacity and routing<br>of optical packet      | External Researcher    | 1000000 |
| 01/12/98-<br>31/01/99  | NTUA                              | ESPRIT<br>DYNALOG<br>26387                       | Qualitative and<br>quantitative<br>improvement<br>decisions   | External Researcher    | 400000  |
| 01/07/98-<br>30/09/98  | NTUA                              | ACTS<br>DOLMEN<br>AC036                          | Software<br>development for<br>design of fixed and<br>mobile<br>telecommunications<br>networks          | External Researcher    | 500000  |
| 15/02/99-<br>30/09/99  | NTUA - ICCS                       | ESPRIT<br>DO-ALL<br>36078                        | Design, development<br>of optical gates,<br>market analysis and<br>administrative<br>support            | Main<br>Researcher     | 2210000 |
| 01/08/06-<br>31/12/07  | GSRT - HAI                        | 05DSBEPRO-44                                     | Satellite network for<br>rural areas and<br>schools   | Project<br>Coordinator | 323348  |
| 01/09/05-<br>01/03/08  | NCSR<br>“Demokritos”              | STREP<br>BASE2                                   | Network<br>implementation and<br>Platform and network<br>test-beds<br>configuration                     | Team coordinator       | 2058692 |
| 01/09/10 –<br>01/09/13 | TEI OF<br>STEREA<br>ELLADA        | Education and<br>Life Long learning<br>programme | Students on the job<br>training – lifelong<br>learning  | Project<br>Coordinator | 173317  |
| 01/10/11-<br>28/02/13  | HELLENIC<br>AEROSPACE<br>INDUSTRY | VITRO-FP7  | Implications of<br>Service Virtualisation<br>on the routing<br>procedure in Wireless<br>Sensor Networks | External Researcher    |         |
| 01/07/12 -<br>30/06/15 | TEI OF<br>STEREA<br>ELLADA        | ARCHIMEDES<br>III                                | Routing and<br>management of trust<br>in large sensor   | External Researcher    | 85000   |

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|------------------------|----------------------------|---------------------------|---|------------------------|--------|
|                        |                            |                           | networks  |                        |        |
| 01/07/12 -<br>30/06/15 | TEI OF<br>STEREA<br>ELLADA | ARCHIMEDES<br>III         | Dynamic resource<br>management in fiber<br>optic networks   | External Researcher    | 85000  |
| 01/07/12 -<br>30/06/15 | TEI OF<br>STEREA<br>ELLADA | ARCHIMEDES<br>III-Massive | Design, analysis,<br>modeling and<br>simulating of a FSO<br>system for<br>communication<br>between UAV and<br>Ground control<br>station | Project<br>Coordinator | 85000  |
| 01/09/13-<br>31/12/18  | TEI OF<br>STEREA<br>ELLADA |                           | On the Job Training   | Project<br>Coordinator | 200000 |

### **TEACHING EXPERIENCE**

**Technological Educational Institute of Sterea Ellada, Aircraft Engineering department**

**Associate Professor and Professor** (November 2008 – Today)

*Teaching Activities:* Introduction to Telecommunications, Telecommunication Systems, Optical Aircraft Communications & Navigation Systems, Aircraft data buses, E/M propagation & aircraft antennas

### **JOURNAL PUBLICATIONS - PEER REVIEWED**

- J1. N. Papadakis, **A. Hatziefremidis**, A. Tserolas, P. Constantinou, "Wideband Propagation Measurements and Modeling in Indoor Environment", International Journal of Wireless Information Networks, vol. 4, no. 2, pp. 101-111, 1997.
- J2. **A. Hatziefremidis**, D. N. Papadopoulos, D. Fraser, H. Avramopoulos, "Laser Sources for Polarized Electron Beams in CW and Pulsed Accelerators", Nuclear Instruments and Methods in Physics Research A, no. 431, pp. 46-52, 1999.
- J3. T. Papakyriakopoulos, K. Vlachos, **A. Hatziefremidis**, H. Avramopoulos, "Optical clock repetition-rate multiplier for high-speed digital optical logic circuits", Optics Letters, vol. 24, no. 11, pp. 717-719, 1999.
- J4. T. Papakyriakopoulos, K. Vlachos, **A. Hatziefremidis** and H. Avramopoulos, "20 GHz broadly tunable and stable, mode-locked semiconductor amplifier fiber ring laser", Optics Letters, vol. 24, no. 17, pp. 1209-1211, 1999.
- J5. T. Houbavlis, K. Zoiros, **A. Hatziefremidis**, H. Avramopoulos, L. Occhi, G. Guekos, S. Hansmann, H. Burkhard and R. Dall'Ara, "10 Gbit/sec - All Optical Boolean XOR with SOA fiber Sagnac gate", Electronics Letters, vol. 35, no. 19, pp. 1650-1652, 1999.
- J6. K. Vlachos, G. Theophilopoulos, **A. Hatziefremidis** and H. Avramopoulos, "30 Gbps All-Optical Clock Recovery Circuit", Photonics Technology Letters, vol. 12, no. 6, pp. 705-707, June 2000.

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- J7. K. Zoiros, T. Stathopoulos, K. Vlachos, **A. Hatziefremidis**, T. Houbavlis, T. Papakyriakopoulos and H. Avramopoulos, “Experimental and Theoretical Studies of a High Repetition Rate Fiber Laser, Mode-Locked by External Optical Modulation”, *Optics Communications*, vol. 180, issue 4-6, pp. 301-315, June 2000.
- J8. N. Pleros, G. T. Kanellos, C. Bintjas, **A. Hatziefremidis** and H. Avramopoulos, “Optical Power Limiter using a saturated SOA-based Interferometric Switch”, *Photonics Technology Letters, IEEE*, Volume: 16, Issue: 10, Pages:2350 – 2352, Oct. 2004
- J9. **A. Hatziefremidis**, E. Kehayas, D. Tsiokos, G.T. Kanellos, L. Stampoulidis and H. Avramopoulos, “Header Separation/Re-insertion for 10 Gb/s Variable Length Optical Packets”, *Optical Engineering*, Volume 44, Issue 3, March 2005.
- J10. **A. Hatziefremidis**, G. Theophilopoulos and K. Vlachos, “50 GHz ultrastable, polarization-maintaining semiconductor fiber ring laser”, *Optical Engineering*, Volume 44, Issue 6, June 2005.
- J11. Z. V. Rizou, K. E. Zoiros, **A. Hatziefremidis** and M. J. Connelly, “Design Analysis and Performance Optimization of a Lyot Filter for Semiconductor Optical Amplifier Pattern Effect Suppression”, *Quantum Electronics III*, volume 19, Issue 5, 2013
- J12. E. I. Amoiralis, M. A. Tsili, V. Spathopoulos and **A. Hatziefremidis**, “Energy Efficiency Optimization in UAVs: a review” Accepted to be published as a full version paper from *Journal of Materials Science*, 2014
- J13. **A. Hatziefremidis**, V. Spathopoulos, E. I. Amoiralis and M. A. Tsili, “Investigation of shielding materials impact on the effectiveness of UAV FSO communication systems”, Accepted to be published as a full version paper from *Journal of Materials Science*, 2014
- J14. Z. V. Rizou, K. E. Zoiros, **A. Hatziefremidis**, “Semiconductor Optical Amplifier Pattern Effect Suppression with Passive Single Microring Resonator-Based Notch Filter”, *Optics Communications*, 329, 206–213, 2014
- J15. Zoe V. Rizou, Kyriakos E. Zoiros, **A. Hatziefremidis**, Michael J. Connelly, “Performance tolerance analysis of birefringent fiber loop for semiconductor optical amplifier pattern effect suppression”, *Appl. Phys. B*, Volume 119, Issue 2, pp 247-257, May 2015
- J16. Konstantinos Eleftherios Zarganis, **A. Hatziefremidis**, “Performance Analysis of Coherent Optical OFDM Applied to UAV Mobile FSO Systems”, *American Journal of Optics and Photonics*, 3(1), 5-12, 2015
- J17. Zoe V. Rizou, Kyriakos E. Zoiros, **A. Hatziefremidis**, “Comparison of basic notch filters for semiconductor optical amplifier pattern effect mitigation” *Applied Sciences (Switzerland)*, Volume 7, Issue 8, 2 August 2017, Article number 783

### **CONFERENCE PROCEEDINGS - PEER REVIEWED**

- C1. D. Fraser, **A. Hatziefremidis**, M. Ciarrocca, V. Markou, T. Papakyriakopoulos, T. Houbavlis, H. Avramopoulos, “Laser Sources for MIT – Bates and IASA”, Invited paper, 7<sup>th</sup> International Workshop on Polarized Gas Targets and Polarized Beams, University of Illinois at Urbana, pp. 311-315, August 18-22, 1997.
- C2. T. Papakyriakopoulos, **A. Hatziefremidis**, T. Houbavlis, H. Avramopoulos “10 GHz Mode – Locked Ring Laser with external optical modulation of a semiconductor optical amplifier”, *OFC 99*, San Diego, USA, TuB1, pp. 1-3, February 1999.
- C3. T. Papakyriakopoulos, K. Vlachos, **A. Hatziefremidis**, H. Avramopoulos, “Optical Clock Repetition Rate Multiplier”, *CLEO 99*, Baltimore, USA, CtuK18, pp. 121-122, May 1999.
- C4. **A. Hatziefremidis**, G. Theophilopoulos, K. Vlachos, Z. Zoiros, H. Avramopoulos, C. Papanicolas, “A Master Oscillator Power Amplifier Laser System for Polarized Electron Generation for the MIT-Bates Accelerator”, *International Workshop Polarized Sources and Targets (PST99)*, University of Erlangen, German, pp. 254-257, September 29 – October 2, 1999.

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- C5. T. Houbavlis, K. Zoiros, K. Vlachos, **A. Hatziefremidis**, H. Avramopoulos, L. Occhi, G. Guekos, S. Hansmann, H. Burkhard, "10 Gb/sec Boolean XOR with Semiconductor Optical Amplifier Fiber Sagnac Gate", ECOC 99, Nice, France, pp. 252-253, September 1999.
- C6. K. Vlachos, K. Zoiros, T. Houbavlis, **A. Hatziefremidis** and H. Avramopoulos, "Missing Pieces in the Puzzle of Ultra-high Speed All-Optical Logic", Invited Paper, LEOS 99, San Francisco, California, ThN1, pp.768-769, November 1999.
- C7. K. Zoiros, T. Stathopoulos, K. Vlachos, **A. Hatziefremidis**, T. Houbavlis, T. Papakyriakopoulos and H. Avramopoulos, "Numerical Modeling of a High Repetition Rate Fiber Laser, Mode - Locked by External Optical Modulation of a Semiconductor Optical Amplifier", 4<sup>th</sup> Working Conference on Optical Network Design and Modeling (ONDM 2000), Athens, Greece, pp. 84-103, February 2000.
- C8. K. Vlachos, G. Theophilopoulos, **A. Hatziefremidis** and H. Avramopoulos, "30 Gbps, Broadly Tunable, All-Optical, Clock Recovery Circuit", OFC 2000, Baltimore, Maryland, ThP2, pp. 223-225, March 2000.
- C9. M. Abbasi, L.K. Stergioulas, R. Haddadeh, M. Kretschmer, N. Pitsilis, I. Tsiolis, D. Zagkos, **A. Hatziefremidis**, "Interoperability and Testing in Broadband Satellite Networks", 10th International Workshop on Signal Processing for Space Communications, 2008. SPSC 2008
- C10. T. Zahariadis, L. Sarakis, H.C. Leligou, **A. Hatziefremidis**, S. Voliotis, K. Georgouleas, "The implications of Service Virtualisation on the routing procedure in Wireless Sensor Networks", International Symposium on Telecommunications (BIHTEL), 2012
- C11. P. Karkazis, P.Trakadas, T. Zahariadis, **A. Hatziefremidis**, H.C. Leligou, "RPL modeling in J-Sim platform", Ninth International Conference on Networked Sensing Systems (INSS), 2012
- C12. **A. Hatziefremidis**, K. E. Zarganis, H. C. Leligou, N. Pleros, "Bit Error Rate analysis along a slanted path link between UAVs and Ground Stations", 15th International Conference on Transparent Optical Networks, Cartagena, Spain, June 23-27, 2013
- C13. Z. V. Rizou, K. E. Zoiros, **A. Hatziefremidis**, "Signal Amplitude and Phase Equalization Technique for Free Space Optical Communications", 15th International Conference on Transparent Optical Networks, Cartagena, Spain, June 23-27, 2013
- C14. E. I. Amoiralis, M. A. Tsili, V. Spathopoulos and **A. Hatziefremidis**, "Energy Efficiency Optimization in UAVs: a review", JAPMED8, 2013
- C15. V. Spathopoulos, **A. Hatziefremidis**, E. I. Amoiralis, M. A. Tsili, "Investigation of shielding materials impact on the effectiveness of UAV FSO communication systems", JAPMED8, 2013
- C16. Helen C. Leligou, Panagiotis Karkazis, **A. Hatziefremidis**, Theofanis Orphanoudakis, Theodore Zahariadis, "Implementation of road safety and traffic management applications over mobile opportunistic systems, Recent Advances in Telecommunications and Circuit Design, WSEAS, 2013
- C17. **A. Hatziefremidis**, K. E. Zarganis, K. E. Zoiros, "Flexible High Power Free Space Optical System for Aircraft to Ground Communications", 16th International Conference on Transparent Optical Networks (ICTON), July 6-10, 2014
- C18. Z. V. Rizou, K. E. Zoiros and A. Hatziefremidis, "Simulation of SOA-MRR-Based Equalization Technique for FSO Signals", NUSOD 2014 -14th International Conference on Connecting Theory and Application of Optoelectronic Devices, IEEE

## **BOOKS**

**Antonios Hatziefremidis**, "Aircraft Communication Systems" (greek), ISBN 978-960-418-417-0, TZIOLA Publications, 2013