

TZOUMANIKAS PANAGIOTIS
Computer Science and Informatics Engineer

Date of Birth : 26/03/1984 Marital Status : **Married (3 children)**

Military Obligations : **Completed**

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WORK EXPERIENCE

Oct. '08 – Today Senior Embedded Software Engineer at **Intracom S.A.** Sector **Telecom Systems, Division Systems Software Development.**

EDUCATION

Apr. '18 – today University of Patras, Greece
Department of Physics
Postdoctoral researcher

Mar. '11 – Mar. '18 University of Patras, Greece
Department of Physics
Phd, Supervisor : A. Kazantzidis

Phd Thesis (Title): Digital image processing techniques for atmospheric constituents detection and evaluation (**Grade : 10**).

Publications

1. Determination of the optimal camera distance for cloud height measurements with two all-sky imagers, P Kuhn, B Nouri, S Wilbert, N Hanrieder, C Prah, L Ramirez, L Zarzalejo, T Schmidt, Z Yasser, D Heinemann, P Tzoumanikas, A Kazantzidis, J Kleissl, P Blanc, R Pitz-Paal, **Solar Energy**, 179, 74-88, 2019.
2. New challenges in solar energy resource and forecasting in Greece, A. Kazantzidis, E. Nikitidou, V. Salamalikis, P. Tzoumanikas & A. Zagouras, **International Journal of Sustainable Energy**, DOI: 10.1080/14786451.2017.1280495, 2017.
3. The effect of clouds on surface solar irradiance, based on data from an all-sky imaging system, P. Tzoumanikas, E. Nikitidou,

- A.F. Bais, A. Kazantzidis, **Renewable Energy**, 95, 314–322, 2016.
4. Cloud observations in Switzerland using hemispherical sky cameras, S. Wacker, J. Groebner, C. Zysset, L. Diener, P. Tzoumanikas, A. Kazantzidis, L. Vuilleumier, R. Stockli, S. Nyeki, N. Kampfer, **Journal of Geophysical Research**, 120(2), 695-707, 2015.
 5. Retrieval of surface solar irradiance, based on satellite-derived cloud information, in Greece, E. Nikitidou, A. Kazantzidis, P.Tzoumanikas, V. Salamalakis, A.F. Bais, **Energy**, 90, 776-783, 2015.
 6. Cloud detection and classification with the use of whole-sky ground-based images, A. Kazantzidis, P. Tzoumanikas, A.F. Bais. S. Fotopoulos, G. Economou, **Atmospheric Research**, 113, 80-88, 2012.
 7. **Contributor** in Chapter 12. Short-term forecasting based on all-sky cameras”, A. Kazantzidis, P. Tzoumanikas, P. Blanc, P. Massip, S. Wilbert, L. Ramirez-Santigosa of book : “Renewable Energy Forecasting: From Models to Applications” (Edited by: Professor George Kariniotakis, MINES ParisTech, France) in “Elsevier under the Woodhead Publishing imprint”.

Conferences

1. Application of simple all-sky imagers for the estimation of aerosol optical depth, Andreas Kazantzidis, Panagiotis Tzoumanikas, Efterpi Nikitidou, Vasileios Salamalakis, Stefan Wilbert, Christoph Prah, AIP Conference Proceedings, 2017
2. Short-term forecasting of high resolution local DNI maps with multiple fish-eye cameras in stereoscopic mode, Philippe Blanc, Pierre Massip, Andreas Kazantzidis, Panagiotis Tzoumanikas, Pascal Kuhn, Stefan Wilbert, David Schuler, Christoph Prah, AIP conference Proceedings, 2017.
3. Climatological Maps of Solar Energy in Greece from the Hellenic Network of Solar Energy, P Tzoumanikas, E Nikitidou, V Salamalakis, Alkiviadis F Bais, A Kazantzidis, Perspectives on Atmospheric Sciences, 2017
4. All-sky imager: a new instrument for the estimation of solar irradiance, cloudiness and aerosol optical properties, A. Kazantzidis, P. Tzoumanikas, E. Nikitidou, V.Salamalakis, 13th

International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP 2016, Thessaloniki, Greece.

5. Estimation of aerosol optical properties from all-sky imagers, A. Kazantzidis, P. Tzoumanikas, V. Salamalakis, S. Wilbert, C. Prah, EGU General Assembly, 12-17 April 2015, Vienna, Austria.
6. Analysis of results from the COST ES1002 Direct Normal Intercomparison based on cloud detection from all-sky camera, M.C. Kotti, P. Tzoumanikas, A. Kazantzidis, M. Hauser, L. Viulleumier, Workshop on Processing Techniques for the Detection of Atmospheric Constituents and the Estimation and Forecasting of Solar Irradiance from All-Sky Imagers, 24-25/6/2014, Patras, Greece.
7. Cloud detection and classification with the use of whole-sky ground-based images, P. Tzoumanikas, A. Kazantzidis, Workshop on Processing Techniques for the Detection of Atmospheric Constituents and the Estimation and Forecasting of Solar Irradiance from All-Sky Imagers, 24-25/6/2014, Patras, Greece.
8. The Hellenic Solar Energy Network: validation and products, A.F. Bais, A. Kazantzidis, Th. Giannaros, M.M. Zempila, S. Kazadzis, E. Nikitidou, P. Tzoumanikas, V. Salamalakis, E. Kosmidis, D. Melas, C.S. Zerefos, K. Fragkos, I. Fountoulakis, Th. Drosoglou, M.C. Kotti, 12th International Conference on Meteorology, Climatology and Physics of the Atmosphere, Vol. 1, 102-106, 2014.
9. The Hellenic Network of Solar Energy (HNSE), A. Kazantzidis, A. Bais, E. Nikitidou, P. Tzoumanikas, V. Salamalakis, D. Melas, International Conference Energy & Meteorology 2013, 25-28 June 2013, Toulouse, France.
10. Estimation of solar irradiance from satellite data and numerical weather predictions over Greece, A.F. Bais, A. Kazantzidis, P. Tzoumanikas, E. Nikitidou, T. Giannaros, D. Melas, C. Meleti, H. Kambezidis, V. Salamalakis, International Radiation Symposium 2012, Berlin, Germany, 6-10 August 2012.
11. Cloud detection and classification with the use of whole-sky ground-based images, P. Tzoumanikas, A. Kazantzidis, A.F. Bais, S. Fotopoulos, G. Economou, 11th International

Conference on Meteorology, Climatology and Atmospheric Physics, Athens, 29 May–1 June 2012.

12. Cloud detection and properties with whole sky images, P. Tzoumanikas, A. Kazantzidis, S. Fotopoulos, G. Economou, A.F. Bais, European Conference on Applications of Meteorology, EMS Annual Meeting, 12-16 September 2011, Berlin, Germany.

***Participation in Greek/International
Research Projects***

1. Direct Normal Irradiance Nowcasting methods for optimized operation of concentrating solar technologies, FP7-Energy project DNICast, Grant Agreement 608623, 10/2013–9/2017.
2. Hellenic Solar Energy Network, 2011-2013.

Sept. '07 – Jan. '11

University of Patras, Greece
School of Engineering
Department of Computer Engineering and Informatics
Master in Science in «*Digital Signal Processing Systems & Telecommunications*».

- Grade : **Very Good**
- Master Thesis (Title): Digital Image Processing and Analyzing of whole – sky photos (**Grade : 10**).

Sept. '01 – Sept. '06

University of Patras, Greece
School of Engineering
Department of Computer Engineering and Informatics

- Grade : **7,32**
- Diploma Thesis (Title): Web Services Search with optimisation of multiple QoS parameters (**Grade : 10**).

Sept. '98 – June '01

13^o High School of Patras, Greece

- **Grade : 19,1**

LANGUAGES

English

- Certificate of Proficiency in English (Cambridge) (**C**)
- Certificate of Proficiency in English (Michigan) (**Pass**)

French

- Delf 1 (A1, A2, A3, A4)

KNOWLEDGE – INTERESTS

Programming

- Excellent knowledge of ANSI C.
- Excellent knowledge of Linux Programming.
- Excellent knowledge of Networking Programming.
- Excellent knowledge of Matlab.
- Very Good knowledge of makefile making.
- Fair knowledge of C++, Java, PHP, HTML, VB, Python and Expect scripting.

Version Control, Tracking, Tools

- CVS, Git, Bug Zilla.
- Wireshark, iPerf, PackETH, ColaSoft.
- Cpanel

Operating Systems

- Windows
- Linux

Networking

- Excellent knowledge of protocols TCP/IP.
- Good knowledge of protocols STP, 802.1x, Ethernet OAM, Routing protocols.
- Excellent knowledge of network testers (Spirent SmartBits - AX 4000).
- Experience in configuration of several Servers at Linux operating systems.
- Good knowledge of Cisco Routers and Switches, Tellabs Routers, Huawei Routers, WiMAX ASN Gateways.

Other

- Expert in PC use (Windows, Office etc).
- Good knowledge of Photoshop.
- Driving licence.

SEVERAL PROJECTS

- Development of “**Sky Analyzer**” (Matlab application which analyzes camera sky images from fish-eye DSLR lens) which is

used by PMOD World Radiation Center located in Davos, Switzerland.

- Development of “**Sky Analyzer**” (**Android Java** application which analyzes camera sky images taken by mobile’s phone camera).

URL :

<https://play.google.com/store/apps/details?id=me.intent>

- Development of application (**Matlab**) which processes GPS data and extracts information about UV radiation in Greece and is used by Laboratory of Atmospheric Physics in Patras.
- Development of several applications (**Matlab**) which are used by Laboratory of Atmospheric Physics in Patras.
- Development (Joomla CMS) and Hosting of several webpages (www.hurtzum.info, **portfolio : 21 active websites**)