# Fotis E. Psomopoulos, Ph.D.

April 2018

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#### **Current Position**

Postdoctoral Research Associate (March 2017 – today), Institute of Applied Biosciences, Center for Research and Technology Hellas (CERTH), Thermi 57001, Thessaloniki, Greece.

### Research Expertise

- Bioinformatics: NGS data analysis (RNA-Seq, ChIP-Seq, WES), comparative genomics, phylogenetics.
- Data mining in large scale bio-data: Clustering and classification algorithms, integrative -omics data analysis.
- Cloud and Grid computing frameworks: emphasis on reproducible workflows and computational pipelines (docker, nextflow, biocontainers etc.)
- Parallel and Distributed analytics systems: optimization for data-intensive processes.

#### Education

#### **Postdoctoral research**

Institute of Applied Biosciences (INAB), CERTH, Greece.

Postdoctoral research topic: "Phylogenetic Data Analysis".

2010-Postdoc supervisor: Prof. Christos A. Ouzounis.

2014

Research focus on inferring ancestral status of metabolic pathways through the use of genome-aware methods. Extension of the phylogenetic profiles into fuzzy profiles, thus enabling the detection of genomic idiosyncrasies.

#### **PhD Student**

Dept. of Electrical and Computer Engineering, Faculty of Engineering, AUTH, Greece.

PhD Thesis Title: "Parallel Data Mining and Analysis Algorithms in a Grid environment and applications in Bioinformatics".

2004-2010

PhD Advisor: Prof. Pericles A. Mitkas.

Research focus on the classification and clustering algorithms, aiming for protein classification. Design of distributed workflows in order to address issues such as scalability and big data management.

### **Diploma in Electrical and Computer Engineering**

Dept. of Electrical and Computer Engineering, AUTH, Greece (Grade: 8.17/10).

Diploma Dissertation Title: "A Finite State Automata based data-mining algorithm for interesting rules extraction, with application in protein classification".

1999-2004

Supervisor: Prof. Pericles A. Mitkas.

Design and implementation of a novel data mining algorithm through the extension of Finite State Automata in order to address stochastic processes. The algorithm was applied in curated protein data in order to infer classification rules using the PROSITE data scheme.

### Scholarly and Technical Courses

Train-the-trainers certification, Software and Data Carpentry. Instructor in 2 international Sep. 2017 workshops (Sep. 2017 – today).

- Feb. 2016 Instructor Certification, Software Carpentry and Data Carpentry. Instructor in 3 international workshops (Feb. 2016 today).
- Oct. 2007 "Bioinformatics Course; Introduction to Sequence Analysis", organized by the EMBnet nodes of Greece and Switzerland, Biomedical Research Foundation, Academy of Athens, Greece.
- Sep. 2006

  1st European Summer School on Knowledge Discovery for Ubiquitous Computing, Dept. Computer Science VIII, University of Dortmund, Germany.
- Feb. 2006 & "Introduction to Grid Computing", Co-organized by GRNET and the Information Technologies Jul. 2005 Institute CERTH, University of Macedonia, Thessaloniki, Greece.
- Spring sem. "Computer Programming", 32-hour undergraduate seminar course, Dept. of Electrical and 2002 2003 Computer Engineering, Aristotle University of Thessaloniki, Greece

### Other training

- Dec. 2010 School of Research and Informatics Officers of the Hellenic Army (mandatory military service special scientist / analyst)
- Feb. 2002 Degree in Violin, New Conservatoire of Thessaloniki, Grade: Excellent.
- Sep. 1998 Zeugnis Zentrale Mittelstufen prüfung, Goethe Institut.
- Jul. 1996 Certificate of Proficiency in English, University of Cambridge, Grade: B

## Teaching Experience

#### **Undergraduate courses:**

- <u>Data Structures</u>: 3 semesters (Oct. 2014 Feb. 2017) as Academic Fellow and 5 semesters (Oct. 2005 Feb. 2010) as PhD student, Dept. of Electrical and Computer Engineering, Faculty of Engineering, AUTH, Thessaloniki, Greece.
- <u>Computer programming</u>: 2 blocks (a block is semester equivalent, *Feb. Mar. 2016* and *Oct. 2017*), *Visiting Professor* at Quest University Canada, Squamish, Vancouver, Canada.
- Advanced topics in Software Engineering: 1 semester (*Oct. 2011 Feb. 2012*), *Adjunct Lecturer*, Dept. of Informatics Engineering and Communication, University of Western Macedonia, Kozani, Greece.
- <u>Lectures on Bioinformatics</u>, in conjunction with the Biochemistry II and Biochemistry III courses: 4 hrs per semester for 4 semesters (*Mar 2014 Feb. 2016*), *Research Associate*, Biochemistry Laboratory, School of Medicine, AUTH, Thessaloniki, Greece.

### **Post-graduate courses** (*Research Associate*):

- Lectures on "Functional Genomics using Bioinformatics tools" and "Graph theory and applications in Medical Research": 4 hrs per semester for 4 semesters (Mar. 2014 Jun. 2017), Medical Postgraduate Programme, School of Medicine, AUTH, Thessaloniki, Greece.
- Lectures on "Applied Data Mining to Medical Research": 1 semester (Spring 2016), "Medical Research Methodology" course, International Medical Postgraduate Programme, School of Medicine, AUTH, Thessaloniki, Greece.
- Lectures on "Introduction to Grid Computing" and "Grid computing and applications in biomedicine", 4 hrs per semester for 3 semesters (*Oct. 2013 Feb. 2016*), Postgraduate Programme in Medical Informatics, School of Medicine, AUTH, Thessaloniki, Greece.

#### **Training activities:**

- Workshop: Bioinformatics: A Data Mining Approach, Instructor at the International Course "BIOMEDieval: it's a new era in engineering!" organized by BEST (Board of European Students of Technology) at Aristotle University of Thessaloniki, 7-16 March 2018 (ECTS Credits 1.0).
- Workshop: Reproducible data analysis (R and Jupyter), Instructor and Organizer, Open Science Tools,
  Data and Technologies for Ecological and Evolutionary Research conference, NIOO/DANS, The
  Netherlands, 7-9 Dec. 2017.
- <u>Data Carpentry: Wrangling Genomics Lesson</u>, *Maintainer* since August 2017.

- Analyzing Next-Generation Sequencing Data (ANGUS), Data Intensive Biology Summer Institute, Helper and Instructor, two-week workshop covering foundational bioinformatics tools and topics, organized by Professor C. Titus Brown at UC Davis, CA, USA, 26 June - 7 July 2017.
- Workshop: building a simple application in Java, Instructor at the International Course "APP, iWanna bring you App" organized by BEST (Board of European Students of Technology) at Aristotle University of Thessaloniki, 15-25 March 2017 (ECTS Credits 1.0).
- <u>Software Carpentry workshop</u>, *Organizer and Lead Instructor*, Aristotle University of Thessaloniki, Thessaloniki, Greece, 4 5 Oct. 2016.
- NGS Data Analysis workshop, Organizer and Instructor, EGI Community Forum 2015, INFN, Bari, Italy, 10 13 Nov. 2015.
- <u>Bioinformatics Training Workshop on NGS Analysis: cross-domain data exploration</u>, *Organizer and Instructor*, Institute of Applied Biosciences, CERTH, Thessaloniki, Greece, 21 Oct. 2015.
- Comparative genomics of metabolic pathways and the computational inference of their ancestral states, Trainer, EBI Training School: Microme Workshop on Microbial Metabolism, Oct. 2013, EMBL-EBI, Genome Campus, Hinxton, Cambridgeshire, UK.
- <u>Introduction to Bioinformatics</u>, 3 semesters, (10/15/16 hours, Apr. 2012 June 2013), *Organizer and Instructor*, Information Processing Laboratory, Dept. Electrical and Computer Engineering, AUTH, Thessaloniki, Greece.

Intern Supervisor, for 3-month student internships at INAB | CERTH (2015 – today):

2 completed and 2 ongoing (conclusion date: May 31<sup>st</sup>, 2018)

**Diploma Thesis co-advisor** (2011 – today as *Academic Fellow*, 2005 – 2010 as *PhD student*):

- 11 undergraduate Diploma theses completed (2005 today), 1 ongoing (exp. date June 2018).
- 2 Master theses completed (2016 today).
- $\circ$  Two diploma theses distinctions, both with the 2<sup>nd</sup> award of the IEEE EMBS Greece Chapter (academic years 2011 2012 and 2013 2014 respectively).

## **Invited Talks**:

- "End-to-end computational workflows for NGS data analysis", ICGEB Workshop "Next Generation Diagnostics", Skopje, March 22-24, 2018.
- "The role of Bioinformatics in the today's laboratory", 27<sup>th</sup> Panhellenic Haematology Conference, Ioannis Vellidis Congress Centre, HELEXPO Thessaloniki, Nov. 3 5, 2016.
- "Bioinformatics activities in European e-infrastructures", Workshop "Bioinformatics in AUTH: joining the ELIXIR infrastructure", Aristotle University Research Dissemination Center, Oct. 13, 2016.
- ELIXIR EXCELERATE workshop "Using clouds and VMs in bioinformatics training", CSC, Helsinki, Finland, May 23 – 25, 2016
  - o "Clouds, VMs and other resources from EGI for bioinformatics training",
  - o "How to use bioinformatics applications running on the EGI FedCloud".

#### **Employment**

### **Postdoctoral Research Associate**

Institute of Applied Biosciences, Center for Research and Technology Hellas (CERTH), Thermi, Thessaloniki, Greece.

#### 03/2017 Brief Description of Duties:

today

- Supporting research for NGS data analysis and metagenomics studies.
- In charge of data management processes and protocols and the development of new and automated bioinformatics pipelines.

### **Visiting Professor**

10/2017 *Quest University, Vancouver, Canada.*Brief Description of Duties:

Teaching of the undergraduate course "Computer Programming" for one block (semester equivalent).

- Assignments (daily homework, three weekly assignments, and a final project)
- · Daily office hours

The course comprised of 20 students with minimal or no background in computer science and programming.

#### **Academic Fellow**

Dept. of Electrical and Computer Engineering (ECE), Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece.

#### Brief Description of Duties:

Primary duties on teaching activities;

10/2014

- Undergraduate courses: "Data Structures and Programming in Java" (ECE), "Lectures on Bioinformatics" (School of Medicine)
- 03/2017
- Graduate courses: "Applied Data Mining to Medical Research", "Functional Genomics using Bioinformatics tools" and "Grid computing and applications in biomedicine".
- Co-advisor in Thesis projects at the Diploma and Master level.

Administrative activities:

- Deputy Scientific Representative of AUTH for the ELIXIR-GR node.
- Contact person of IPL for the European Biotechnology Network.

#### **Postdoctoral Research Fellow**

Information Technologies Institute (ITI), Center for Research and Technology Hellas (CERTH), Thessaloniki, Greece.

#### Brief Description of Duties:

Research activities:

09/2014

- Bioinformatics support on NGS data analysis (RNA-seq, miRNA and ChIP-seq data).
- Development of custom tools using R/Bioconductor and Cloud Computing resources.

01/2017 Administrative activities:

• Technical Coordinator of the EU-funded project RAPP

Training activities:

• Organizer of several national and international training events, such as the "Bioinformatics Training Workshop on NGS Analysis: cross-domain data exploration".

### **Visiting Professor**

Quest University, Vancouver, Canada.

Brief Description of Duties:

Teaching of the undergraduate course "Computer Programming" for one block (semester 02/2016 equivalent).

Assignments (daily homework, three weekly assignments, and a final project)

03/2016

Daily office hours

The course comprised of 20 students with minimal or no background in computer science and programming. Final evaluation of the course content and the Instructor by the students was excellent.

### **Postdoctoral Researcher**

Institute of Applied Biosciences (INAB), Center for Research and Technology Hellas (CERTH), 09/2011 Thessaloniki, Greece.

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Brief Description of Duties:

05/2014 Postdoctoral research within the context of the EU-Funded project MICROME. Focus on:

 Inference of ancestral status of metabolic pathways through the use of genome-aware methods.  Extension of the phylogenetic profiles into fuzzy profiles, thus enabling the detection of genomic idiosyncrasies.

#### **Adjunct Lecturer**

Dept. of Informatics Engineering and Communication, University of West Macedonia (UOWM), Kozani, Greece.

#### 10/2011 Brief Description of Duties:

Teaching the 9<sup>th</sup> semester undergraduate course "Advanced Topics in Software Engineering",
 02/2012 which included both theoretical lectures as well as practical sessions.

- Group project, split into three consecutive assignments throughout the semester.
- Final written examination.

### Mandatory Military Service (Special Scientist, Analyst / Developer)

Hellenic Army, Research and Informatics Corps.

### **Brief Description of Duties:**

 Training at the School of the Research and Informatics Officers of the Hellenic Army in Athens

11/2010

08/2011

• Service as a special scientist / analyst at the Informatics Section of the Hellenic Supreme Joint War College (SJWC) in Thessaloniki.

- Responsible for application development, installation and maintenance of the computer network as well as user administration.
- Involved in the design, implementation and maintenance of an intranet platform, as part of a special Army Research Project.

### **PhD Student / Software Development**

Information Technologies Institute (ITI), Center for Research and Technology Hellas (CERTH), Thessaloniki, Greece.

09/2005

**Brief Description of Duties:** 

04/2009

Design and implementation of the software platform in the EU-funded project ASSIST; ASsociation Studies assisted by Inference and Semantic Technologies European Commission IST Program.

#### **PhD Student / Software Development**

Dept. of Electrical and Computer Engineering (ECE), Aristotle University of Thessaloniki (AUTH), Thessaloniki, Greece.

07/2004

**Brief Description of Duties:** 

09/2010

Design, implementation, maintenance and user support for the e-learning platform "e-THMMY", funded through the National Operational Program for Education and Initial Vocational Training "EPEAKE II".

#### **Undergraduate Trainee**

Intracom S.A., Thessaloniki, Greece.

07/2003

**Brief Description of Duties:** 

09/2003

Software Design and Development of a web-service platform, within the context of the IST-2001 Project "e-Sharing", using the J2EE programming language, the JBoss application server and Oracle as the database server.

### Research Experience

Participation in 4 EU-Funded Research projects (ASSIST, EGI-InSPIRE, MICROME, RAPP).

- Reviewer in 9 international journals (PLoS ONE, BMC Bioinformatics, PeerJ, Journal of Biomedical Informatics, Computer Methods and Programs in Biomedicine, SoftwareX, International Journal on Artificial Intelligence Tools, Journal of Systems and Software, Journal of Parallel and Distributed Computing) and 4 international conferences.
- Member of the International Society for Computational Biology (ISCB), the IEEE and the IEEE
  Computer Society, the Hellenic Society of Computational Biology and Bioinformatics (HSCBB) and the
  Technical Chamber of Greece (TEE).

### Administrative Experience

- **Deputy Training Coordinator of ELIXIR-GR** (January 2018 today).
- Chair of the CarpentryCon 2018 Organizing Task Force (Sep. 2017 today).
- Co-chair of the RDA Interest Group "Early Career and Engagement" (Aug. 2017 today).
- Co-chair of the RDA Interest Group "Data Discovery Paradigms" (Feb. 2017 today).
- **Deputy Scientific Representative** of the Aristotle University of Thessaloniki for the **ELIXIR-GR** Node (Jul. 2016).
- Technical Coordinator of the EU-Funded project RAPP (Nov. 2013 Dec. 2016).
- Contact point of the Information Processing Lab for the European Biotechnology Network (2016-2017).
- **Software Quality Assurance manager** for the Information Processing Lab, according to ISO 9001:2008 (2015 2017).
- Coordinator of the EGI Virtual Team on "Integrating life science reference datasets within EGI" (Dec. 2014 Aug. 2015).
- Main contributor / author in 14 Grant proposals (both public and private calls); five as the <u>Principal Investigator</u> and two as the <u>Coordinating</u> partner (*July 2010 today*).

## **Grants and Awards**

- RDA EU Expert, support programme March 2018 (RDA page).
- RDA Early Career Fellowship, July 2016 (RDA page).
- **Post-doc Distinction Scholarship** by the AUTH Research Committee, 2014.
- EGI Champion on Bioinformatics, support programme, March 2013 today (EGI page).
- PhD Student Grant: 1<sup>st</sup> European Summer School on Knowledge Discovery for Ubiquitous Computing, Dept. Computer Science VIII, Univ. of Dortmund, Germany, 14 – 16 Sept. 2006.
- **Graduation rank**: 9<sup>th</sup> / 234 students (July 2004), Grade 8.17/10. **Excellence Award** for the 5<sup>th</sup> academic year (2003 2004), Technical Chamber of Greece (TEE), Athens, March 2007, Grade 8.83/10.

## **Publication Statistics**

• Overall 76 publications

Book
Book chapter
Journals
Conference proceedings
Conference announcements
Other publications
1
1
31
6

Total impact factor : 33.64Total citations : 109

h-index : 6i10-index : 2

### **Complete Publication List**

#### PhD Thesis

**Fotis E. Psomopoulos**: "Parallel data mining and data analysis algorithms in Grid Computing and applications in Bioinformatics", Dept. of Electrical and Computer Engineering, Faculty of Engineering, Aristotle University of Thessaloniki, July 2010, pages 184 (in Greek).

#### Book

Sonja Bezjak, April Clyburne-Sherin, Philipp Conzett, Pedro L. Fernandes, Edit Görögh, Kerstin Helbig, Bianca Kramer, Ignasi Labastida, Kyle Niemeyer, **Fotis E. Psomopoulos**, Tony Ross-Hellauer, René Schneider, Jon Tennant, Ellen Verbakel, *The Open Science Training Handbook*, (https://book.fosteropenscience.eu), 2018, doi: 10.5281/zenodo.1212495.

#### **Book Chapter**

**F. E. Psomopoulos** and P. A. Mitkas: *Data Mining in Proteomics using Grid Computing, Handbook of Research on Computational Grid Technologies for LifeSciences, Biomedicine and Healthcare, Editor: Mario Cannataro, Laboratory of Bioinformatics, University Magna Græcia of Catanzaro, 88100 Catanzaro, Italy, 2009, (chapter 13, pp. 245-267), UK: IGI Global.* 

#### Peer-reviewed Journals

- 2018
  1. Kathleen Gregory, Siri Jodha Khalsa, William K. Michener, Fotis E. Psomopoulos, Anita de Waard, Mingfang Wu, "Eleven Quick Tips for Finding Research Data", PLOS Computational Biology, 14(4), 2018, doi: 10.1371/journal.pcbi.1006038 (Impact Factor: 4.587 / 2015).
- 20. A. M. Kintsakis, **F. E. Psomopoulos**, A. L. Symeonidis, and P. A. Mitkas, "Hermes: seamless delivery of containerized bioinformatics workflows in hybrid cloud (HTC) environments," SoftwareX, vol. 6, p. 0-7, 2017. doi:10.1016/j.softx.2017.07.007
  - 3. A. Kalivas, I. Ganopoulos, **F. Psomopoulos**, I. Grigoriadis, A. Xanthopoulou, E. Hatzigiannakis, M. Osathanunkul, A. Tsaftaris, and P. Madesis, "Comparative metagenomics reveals alterations in the soil bacterial community driven by n-fertilizer and amino 16® application in lettuce," Genomics Data, vol. 14, pp. 14-17, 2017. doi: 10.1016/j.gdata.2017.07.013 (Impact Factor: 0.228 / 2013).
  - Cezary Zieliński, Maciej Stefańczyk, Tomasz Kornuta, Maksym Figat, Wojciech Dudek, Wojciech Szynkiewicz, Włodzimierz Kasprzak, Jan Figat, Marcin Szlenk, Tomasz Winiarski, Konrad Banachowicz, Teresa Zielińska, Emmanouil G. Tsardoulias, Andreas L. Symeonidis, Fotis E. Psomopoulos, Athanassios M. Kintsakis, Pericles A. Mitkas, Aristeidis Thallas, Sofia E. Reppou, George T. Karagiannis, Konstantinos Panayiotou, Vincent Prunet, Manuel Serrano, Jean-Pierre Merlet, Stratos Arampatzis, Alexandros Giokas, Lazaros Penteridis, Ilias Trochidis, David Daney, Miren Iturburu: "Variable structure robot control systems: The RAPP approach", Robotics and Autonomous Systems, Vol. 94, pp. 226–244, 2017, doi: 10.1016/j.robot.2017.05.002 (Impact Factor: 1.618 / 2015)
  - 5. A. Xanthopoulou, I. Ganopoulos, **F. Psomopoulos**, M. Manioudaki, T. Moysiadis, A. Kapazoglou, M. Osathanunkul, S. Michailidou, A. Kalivas, A. Tsaftaris, I. Nianiou-Obeidat, and P. Madesis: "De novo comparative transcriptome analysis of genes involved in fruit morphology of pumpkin cultivars with extreme size difference and development of est-ssr markers", Gene, 2017. doi: 10.1016/j.gene.2017.04.035 (Impact Factor: 2.319 / 2015).

- 6. **Fotis E. Psomopoulos**, Dimitrios M. Vitsios, Shakuntala Baichoo and Christos A. Ouzounis: "*BioPAXViz: a cytoscape application for the visual exploration of metabolic pathway evolution*", Bioinformatics, 2017, doi: 10.1093/bioinformatics/btw813 (*Impact Factor: 5.766 / 2015*).
- <u>2016</u> \* 7. A. M. Kintsakis, **F. E. Psomopoulos**, and P. A. Mitkas: "Data-aware optimization of bioinformatics workflows in hybrid clouds", Journal of Big Data, 3:20, 2016, pages 26, doi: 10.1186/s40537-016-0055-2.
  - 8. A. Zambounis, **F. E. Psomopoulos**, I. Ganopoulos, E. Avramidou, F. A. Aravanopoulos, A. Tsaftaris and P. Madesis: "*In silico analysis of the LRR receptor-like serine threonine kinases subfamily in Morus notabilis*", Plant Omics Journal, 9(5), 2016, pp. 319-326, doi: 10.21475/poj.09.05.16.pne126 (*Impact Factor: 0.777 / 2013*).
  - E. G. Tsardoulias, A. M. Kintsakis, K. Panayiotou, A. G. Thallas, S. E. Reppou, G. G. Karagiannis, M. Iturburu, S. Arampatzis, C. Zielinski, V. Prunet, F. E. Psomopoulos, A. L. Symeonidis and P. A. Mitkas: "Towards an integrated robotics architecture for social inclusion The RAPP paradigm", Journal of Cognitive Systems Research, 2016, pages 12, doi: 10.1016/j.cogsys.2016.08.004 (Impact Factor: 1.890 / 2015).
  - S. E. Reppou, E. G. Tsardoulias, A. M. Kintsakis, K. Panayiotou, A. L. Symeonidis, P. A. Mitkas, F. E. Psomopoulos, C. Zielinski, V. Prunet, M. Gautier, J. P. Merlet, M. Iturburu, S. Arampatzis: "RAPP: A robotic-oriented ecosystem for delivering smart user empowering applications for older people", International Journal of Social Robotics, 2016, pages 15, doi: 10.1007/s12369-016-0361-z (Impact Factor: 1.407 / 2013).
  - 11. M. Chatzidimopoulos, **F. Psomopoulos**, E. E. Malandrakis, I. Ganopoulos, P. Madesis, E. K. Vellios and P. Drogoudi: "*Comparative genomics of Botrytis cinerea strains with differential multi-drug resistance*", Data Report, Front. Plant Sci. 7:554, 2016, pages 3, doi: 10.3389/fpls.2016.00554 (*Impact Factor: 4.495 / 2013*).
  - 12. A. Xanthopoulou, **F. E. Psomopoulos**, I. Ganopoulos, M. Manioudaki, A. Tsaftaris, I. Nianiou-Obeidat, P. Madesis: "*De novo transcriptome assembly of two contrasting pumpkin cultivars*", Genomics Data 7 (2016) 200–201, pages 2, doi: 10.1016/j.gdata.2016.01.006 (*Impact Factor: 0.228 / 2013*).
- \* 13. Duarte A. M. S., **Psomopoulos F. E.**, Blanchet C., Bonvin A. M. J. J., Corpas M., Franc A., Jimenez R. C., de Lucas J. M., Nyrönen T., Sipos G. and Suhr S. B.: "Future opportunities and trends for e-infrastructures and life sciences: going beyond the grid to enable life science data analysis", Frontiers in Genetics, Vol. 6, No. 197 (2015), pages 7, doi: 10.3389/fgene.2015.00197.
  - 14. Dimitrios M. Vitsios, **Fotis E. Psomopoulos**, Pericles A. Mitkas and Christos A. Ouzounis: "Inference of pathway decomposition across multiple species through gene clustering", International Journal on Artificial Intelligence Tools, Volume No. 24, Issue No. 1 (2015), pages 25, doi: 10.1142/S0218213015400035 (Impact Factor: 0.393 / 2015).
- 2013 \* 15. **F. E. Psomopoulos**, Pericles A. Mitkas, Christos A. Ouzounis: "Detection of genomic idiosyncrasies using fuzzy phylogenetic profiles", PLoS ONE, Vol 8, issue 1 (2013) pp. 1-16, e52854. doi: 10.1371/journal.pone.0052854 (Impact Factor: 3.234 / 2015).
- \*16. **F. E. Psomopoulos**, V. I. Siarkou, N. Papanikolaou, I. Iliopoulos, A. S. Tsaftaris, V. J. Promponas and C. A. Ouzounis: "The Chlamydiales Pangenome Revisited: Structural Stability and Functional Coherence", Genes, Vol 3, No 2 (2012), pp. 291-319, doi: 10.3390/genes3020291 (Impact Factor: 3.242 / 2015).

- 2010 17. **F. E. Psomopoulos**, Pericles A. Mitkas: "Multi Level Clustering of Phylogenetic Profiles", Bioinformatics and Bioengineering (BIBE 2010), special issue of International Journal on Artificial Intelligence Tools, Vol. 21, No. 5, (2012), p. 16, doi: 10.1142/S0218213012400234 (Impact Factor: 0.393 / 2015).
  - 18. **F. E. Psomopoulos**, P. A. Mitkas: "Bioinformatics Algorithm Development for Grid Environments", Journal of Systems & Software, vol. 83, No 7, (2010), pp. 1249-1257, doi: 10.1016/j.jss.2010.01.051 (Impact Factor: 1.424 / 2015).
- 2009 19. **F. E. Psomopoulos**, P. A. Mitkas, C. S. Krinas, I. N.Demetropoulos: "A grid-enabled algorithm yields Figure-Eight molecular knot", Molecular Simulation, vol.35, No 9 (2009), pp.725-736, doi: 10.1080/08927020902833103 (Impact Factor: 1.678 / 2015).

### Peer-reviewed Conference proceedings

- 2018 1. Sotiris Tsarouchis, Maria Kotouza, **Fotis E. Psomopoulos** and Pericles Mitkas, "*A multi-metric algorithm for hierarchical clustering of same-length protein sequences*", 7th Mining Humanistic Data Workshop, Rhodes, Greece, May 25-27, 2018.
- 2017 2. A. Mpatziakas, F. E. Psomopoulos, T. Moysiadis, and S. Sgardelis, "Computing pangenome statistics in R", [version 1; not peer reviewed], 25<sup>th</sup> Annual International Conference on Intelligent Systems for Molecular Biology (ISMB,) / 16<sup>th</sup> European Conference on Computational Biology (ECCB), 21-25 July 2017, Prague, Czech Republic, F1000research 2017, vol. 6(ISCB Comm J), iss. 1529, p. 1, 2017. doi:10.7490/f1000research.1114765.1
- 2016 3. Panagiotis Mokos, Fotis E. Psomopoulos, Chrysanthi Ainali, Anagnostis Argiriou, Alexandra Charalampidou, Margarita Hadzopoulou-Cladaras, Dimitra Dafou: "Network analysis and regularized regression modeling identifies key regulatory molecular events underlying hepatocellular carcinoma dedifferentiation", 67th Annual Conference of the Hellenic Society for Biochemistry and Molecular Biology (HSBMB), "Karolos Papoulias" Conference Center, University of Ioannina, Ioannina, Greece, 25-27 November 2016.
  - 4. Panagiotis Mokos, **Fotis Psomopoulos**, Chrysanthi Ainali, Anagnostis Argiriou, Alexandra Charalampidou, Margarita Hadzopoulou-Cladaras and Dimitra Dafou, "*Integrated network analysis and regularized regression modeling reveal regulatory miRNA-mRNA networks associated with hepatocellular carcinoma dedifferentiation", 8th Conference of the Hellenic Crystallographic Association (HeCrA) / 11th Conference of the Hellenic Society for Computational Biology and Bioinformatics (HeCrA-HSCBB16), Agricultural University of Athens, October 7-9, 2016, pages 2.*
  - 5. A. Xanthopoulou, **F. E. Psomopoulos**, I. Ganopoulos, A. Kalyvas, A. Tsaftaris, P. Madesis, I. Nianiou-Obeidat: "*De novo sequencing and comparative analysis of the transcriptome of two different fruit size Cucurbita pepo cultivars*", 16th Conference of the Hellenic Plant Breeding Society, Florina, Greece, 28-30 September, 2016 (*in Greek*).
  - 6. Emmanouil Stergiadis, Athanassios M. Kintsakis, **Fotis E. Psomopoulos** and Pericles A. Mitkas: "A scalable Grid Computing framework for extensible phylogenetic profile construction", 5th Mining Humanistic Data Workshop (MHDW2016) in conjunction with the 12th International Conference on Artificial Intelligence Applications and Innovations (AIAI 2016), Thessaloniki, Greece, September 16-18, 2016, pages 455-462, doi: 10.1007/978-3-319-44944-9\_39.
  - 7. **Fotis E. Psomopoulos**, Athanassios M. Kintsakis, Pericles A. Mitkas: "A pan-genome approach and application to species with photosynthetic capabilities", [v1; not peer reviewed], 15th

- European Conference on Computational Biology (ECCB 2016), 3-7 September 2016, The Hague, Netherlands, F1000Research 2016, 5:2132 (poster) (doi: 10.7490/f1000research.1112964.1).
- 8. **Fotis E. Psomopoulos**, Eija Korpelainen, Kimmo Mattila, Diego Scardaci: "*Bioinformatics resources on EGI Federated Cloud*", [v1; not peer reviewed], 15th European Conference on Computational Biology (ECCB 2016), 3-7 September 2016, The Hague, Netherlands, F1000Research 2016, 5:2131 (poster) (doi: 10.7490/f1000research.1112963.1).
- 9. Olga T. Vrousgou, Fotis E. Psomopoulos, and Pericles A. Mitkas: "A grid-enabled modular framework for efficient sequence analysis workflows", 16th International Conference on Engineering Applications of Neural Networks, Island of Rhodes, 25 28 September 2015, pages 8, (2<sup>nd</sup> award from the IEEE EMB Greece Chapter 2013-2014).
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