# **Dr. Vasilios Andrikopoulos**

#### **Personal Information**

Assistant Professor at the University of Groningen, Bernoulli Institute, Computer Science Department

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# **Expertise**

Cloud Computing, Service-Oriented Architecture and Computing, service engineering, Web Services technologies, service middleware, software engineering and software evolution

## **Research Interests**

- Cloud-enabled & Cloud-native Application Engineering
- System of Systems Engineering
- Service Engineering
- Middleware Architectures & Infrastructures
- Software and Services Evolution
- Cloud Economics

### **Education**

October Ph.D. cum laude from the Department of Information Systems & Management, Tilburg

2010 University, the Netherlands

Supervisor: Prof. M.P. Papazoglou

Dissertation title: "A Model and Theory for the Evolution of Software Services"

July 2006 Post-graduate degree (equivalent to MSc) in Computer Science and Engineering from the

Computer Engineering & Informatics Department, University of Patras, Greece

Diploma Degree: Excellent

Supervisors: Prof. D. Christodoulakis and Prof. M.P. Papazoglou

Thesis subject: "A Semantic Framework for the Integration of Business Process Models:

Aligning Business Processes"

October Diploma degree in Computer Science from the Computer Engineering & Informatics

2003 Department, University of Patras, Greece

Admittance Order: 19/120

Diploma Degree: Very Good 7,52/10

Thesis subject: "Development of a generalized architectural model for the retrieval of

distributed information over the Internet" (in Greek)

# **Scholarships**

2006-2010 CentER graduate school Ph.D. scholarship

1998-2002 Scholarship of the Ioannou S. Latsi Foundation

## **Research and Work Activities** (references on request)

Nov. 2016 – Assistant professor (tenure track) at the University of Groningen, the Netherlands, today embedded in the Software Engineering and Architecture research group (SEARCH) of the Bernoulli Institute for Mathematics, Computer Science and Artificial Intelligence.

Sep. 2011 – Post-doctoral researcher at the Institute of Architecture of Application Systems (IAAS), May 2016 University of Stuttgart, Germany; leading the Cloud Infrastructure research group. I worked for project <u>4CaaSt</u>:

4CaaSt: "Building the PaaS Cloud of the Future", funded by the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no.258862

The 4Caast project aimed to create an advanced PaaS Cloud platform which supports the optimized and elastic hosting of Internet-scale multi-tier applications. I coordinated the efforts of the research team of IAAS in the project, and represented the University of Stuttgart in decision making and other management activities in the project. I led the efforts in WP10 "Dissemination Communication, and Collaboration Activities", dealing with the technical and scientific publishing and promotion of the project, and collaboration with other projects, and co-led WP7 "Immigrant PaaS Technologies", focusing on adapting existing technologies for delivery in the PaaS model.

I also worked for project **ALLOW Ensembles**:

"ALLOW Ensembles", funded by the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement no.600792

The objective of the ALLOW Ensembles project was to develop a new design principle of large-scale systems realized as collectives of diverse heterogeneous actors situated both in the physical world, and in the backend information systems. I led the efforts in WP2 "Ensemble Models and Execution", aiming to develop the models and languages supporting the design, development, and execution of such systems. I also coordinated the research efforts of IAAS in the project.

Sep. 2010 – Post-doctoral researcher in the European Research Institute in Service Science (<u>ERISS</u>), Aug. 2011 Tilburg University, the Netherlands. I worked in the context of the <u>S-Cube</u> project:

S-Cube: "Software Services and Systems Network" Network of Excellence, funded by the European Union under the framework of the Seventh Framework Programme (FP7) Grant Agreement no.215483

S-Cube was a European Community initiative with the goal to establish an integrated, multidisciplinary research community in the field of Service Science. In addition to developing a model for the compatible evolution of services within the service life-cycle developed by the project, I also led the work package WP-IA-1.1 "Convergence Knowledge Model", with the aim of integrating the knowledge from the different research domains in the project into a knowledge model.

Mar. 2008 – Post-graduate researcher and leader of WP-IA-1.1 work package (as of March 2009) for Aug. 2010 Tilburg University in project S-Cube (see above).

Sep. 2006 – Member of Infolab, Tilburg University.

Mar. 2008
As a member of Infolab, I participated in the effort for innovative, interdisciplinary services

research.

Sep. 2001 – Researcher and junior engineer of the Databases Laboratory, Computer Engineering & Aug. 2004 Informatics Department, University of Patras, Greece in the project:

BalkaNet: "Design and Development of a Multilingual Balkan WordNet", funded by the European Union under the framework of the program: IST Programme (IST-2000-29388)

Jan. 2001 – Researcher for the Research Academic Computer Technology Institute, Greece in the Aug. 2001 project:

DIALEXIKO: "Development of a Linguistic Database for the Greek Language Organized in Semantically Related Sets", funded by the EPEAEK, Ministry of Development, GGET, EPET, Subprogramme 2 – Language Technology

Oct. 2000 – Researcher for the Research Academic Computer Technology Institute, Greece in the Jan. 2001 project:

EC-MT-GPS: "Development of a Machine Translation System for Greek in Public Administrations", funded by the European Union under the framework of the program: MultiLingual Information Society Programme (MLIS-4004)

# **Teaching**

#### Courses

Lecturer for the course <u>Web Engineering</u>, University of Groningen, since 2018/19. I designed and developed the course. I teach Web fundamentals and history, Web development and technologies, and service engineering.

Co-lecturer for the course <u>Web and Cloud Computing</u>, University of Groningen, since 2017/18. I updated and extended the Cloud Computing-related material of the course. I teach Cloud fundamentals including virtualization and resource management, Cloud-based reference architectures and engineering principles, and economics of Cloud Computing.

Tutor for the course <u>Introduction to Computing Science</u>, University of Groningen, from 2017/18 onwards. I support the course by offering group tutoring.

Lecturer for the course <u>Computer Architecture</u>, University of Groningen, since 2016/17. I reorganized the course and I am teaching it as its main lecturer. The course discusses the abstraction layer hierarchy of modern computers architecture with an emphasis on lower layers, plus selected subjects on computer networks.

Lecturer for the course <u>Service Engineering</u>, University of Stuttgart, 2012/13-2015/16. I prepared the teaching material, exercises and handouts; I hold both the lectures and the exercises for the course. I taught services lifecycle, service-oriented analysis and design, service development including service composition, and SOA project management.

Organizer of the <u>Cloud Computing</u> seminar, University of Stuttgart, 2014/15. I dealt with the organizational issues of the seminar and identified the research areas available for the students, in addition to supervising students participating in the seminar.

Lecturer for the course <u>Services & Service Composition</u>, University of Stuttgart, 2014/15. I taught Enterprise Application Integration fundamentals, Web-based technologies, REST and SOA architectural styles, Web services technologies, BPM and Workflow Management fundamentals, Web services composition.

Teaching assistant <u>Business Process Integration</u>, Tilburg University, 2006-2010. Taught UML, XML and Web Services technologies (WSDL and BPEL) as part of the lab sessions for the course.

Teaching assistant <u>Information Systems Analysis and Design</u>, Tilburg University, 2006-2008. Taught UML modelling for the course.

Laboratory assistant <u>Introduction to Software (Java)</u>, University of Patras, 2004-2005. Provided laboratory assistance for the programming tutorials on Java.

Teaching assistant <u>Databases I</u>, University of Patras, 2003-2005. Taught database fundamentals, ER modelling, relational algebra and SQL as part of the lab sessions for the course.

Laboratory assistant <u>Databases II</u>, University of Patras, 2003-2004. Provided laboratory assistance for the database creation and manipulation tutorials in the Oracle RDBMS.

### **Supervision & Mentoring**

## **University of Groningen:**

I am the daily supervisor for the PhD students Anja Reuter and Hector Cadavid, and co-supervisor for

Jie Tan. I have also supervised the following students in their thesis work:

MSc theses: Timon Back (Hybrid serverless and virtual machine deployment for cost minimization of cloud applications), Tonnie Boersma (Block based smart contracts), Eric Rwemigabo (Autonomic application topology redistribution), Peter Ullrich (Blockchain in Education), Sardar Yumatov (Architecture Recovery from DevOps Artefacts), Maarten Kollenstraat (Adaptive provisioning of heterogeneous resources for processing chains)

BSc theses: Ashton Spina (Visualizing Computational Waste in Cloud Computing), Alex Daffurn-Lewis (A Matchmaking Algorithm for a Blockchain-based Trading Platform), Barnabas Bursa (Proof of Actual Work), Thijs Klooster (Automatic Monitoring of Test Performance Evolution for Web Services), Patrick Vogel (A Dashboard for Automatic Monitoring Python Web Services)

### University of Stuttgart:

Master's Theses or Diploma Theses (equivalent to Master's): Alexander Darsow (Decision Support for Application Migration to the Cloud), Minh Thu Do (Introduction of Cloud Provider-specific Knowledge and Further Evaluation of the Cloud Decision Support Framework), Jinhui Huang (Extension of the Nefolog Decision Support System for the Cloud), Yating Le (Extension of Nefolog Decision Support System for the Cloud with Elasticity-related Capabilities), Sumadi Lie (Enabling the Compatible Evolution of Services based on a Cloud-enabled ESB Solution), Balduin Metz (Refinement and Extension of the Cloud Decision Support Framework for Application Migration to the Cloud), Alketa Ramaj (Extending an Open Source Enterprise Service Bus for PostgreSQL Statement Transformation to Enable Cloud Data Access), Anja Reuter (An Extensible Application Topology Definition and Annotation Framework), Zhe Song (A Decision Support System for Application Migration to the Cloud), Mengjie Sun (Risk Assessment-based Decision Support for the Migration of Applications to the Cloud), Penghao Tian (Extending a Multitenant Aware ESB Solution with Evolution Management), Qian Wu (Distributed Context Management for BPEL-based Collective Adaptive Systems), Mingzhu Xiu (Decision Support for Different Migration Types of Applications to the Cloud). Publications based on almost all these works have been accepted both at conference and at journal levels.

Furthermore, I acted as a mentor to the following PhD students, all of whom are also co-authors in published works: Santiago Gómez Sáez, Michael Hahn, Marigianna Skouradaki, Steve Strauch, Andreas Weiß, and Johannes Wettinger.

#### Tilburg University:

Master thesis: Rob Scheele (Can the Web be Used to Meet the Needs of the Enterprise? Architecting Service-Oriented Enterprise Applications Supporting Business Interactions)

### **Publications**

### **Books & Book chapters**

- Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Hahn, Michael; Karastoyanova, Dimka; Leymann, Frank; Skouradaki, Marigianna; Vukojevic-Haupt, Karolina: Performance and Cost Trade-Off in IaaS Environments: A Scientific Workflow Simulation Environment Case Study. In: Cloud Computing and Services Science. Communications in Computer and Information Science Vol. 581, Springer, 2016.
- 2. Strauch, Steve; Andrikopoulos, Vasilios; Karastoyanova, Dimka; Vukojevic, Karolina: Migrating eScience Applications to the Cloud: Methodology and Evaluation. In: Terzo, Olivier; Mossucca, Lorenzo (Editors): Cloud Computing with E-science Applications, pp. 89 114, CRC Press/Taylor & Francis, 2015.
- 3. Andrikopoulos, Vasilios; Strauch, Steve; Fehling, Christoph; Leymann, Frank: CAP-Oriented Design for Cloud-Native Applications. In: Ivanov, Ivan I.; van Sinderen, Marten; Leymann, Frank; Shan, Tony (Editors): Cloud Computing and Services Science, pp. 215-229, Springer, 2013.
- 4. Andrikopoulos, Vasilios; Bucchiarone, Antonio; Di Nitto, Elisabetta; Kazhamiakin, Raman; Lane, Stephen; Mazza Valentina; Richardson, Ita: Service Engineering. Book chapter in "S-Cube: Service Research Challenges and Solutions for the Future Internet," M.P. Papazoglou, K. Pohl, M. Parkin, A. Metzger (editors), pp. 271-337, Springer-Verlag, 2010.
- 5. Andrikopoulos, Vasilios: A Theory and Model for the Evolution of Software Services. Ph.D. Dissertation, Tilburg: Tilburg University Press, 2010.

# **Journals & Magazines**

- 1. Kollenstart, Maarten; Harmsma, Edwin; Langius, Erik; Andrikopoulos, Vasilios; Lazovik, Alexander: Adaptive Provisioning of Heterogeneous Cloud Resources for Big Data Processing. In: Big Data and Cognitive Computing (BDCC), Vol.2(3), MDPI, 2018.
- 2. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Bitsaki, Marina; Leymann, Frank; van Hoorn, André: Utility-based Decision Making for Migrating Cloud-based Applications. In: ACM Transactions on Internet Technology (TOIT), Vol. 18(2), pp. 1-22, ACM, 2018.
- 3. Weiß, Andreas; Andrikopoulos, Vasilios; Hahn, Michael; Karastoyanova, Dimka: Model-as-you-go for Choreographies: Rewinding and Repeating Scientific Choreographies. In: Transactions on Services Computing (TSC), IEEE, 2017. (in print)
- 4. Wettinger, Johannes; Andrikopoulos, Vasilios; Leymann, Frank; Strauch, Steve: Middleware-oriented Deployment Automation for Cloud Applications. In: Transactions on Cloud Computing (TCC), IEEE, 2016. (in print)
- 5. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Leymann, Frank; Strauch, Steve: Design Support for Performance Aware Dynamic Application (Re-)Distribution in the Cloud. In: Transactions on Services Computing (TSC), Vol. 8(2), pp. 225-239, IEEE, 2014. [IF: 3.049, 5YIF: -]
- 6. Strauch, Steve; Andrikopoulos, Vasilios; Karastoyanova, Dimka; Leymann, Frank; Nachev, Nikolay; Staebler, Albrecht: Migrating Enterprise Applications to the Cloud: Methodology and Evaluation. In: International Journal of Big Data Intelligence (IJBDI), Vol. 1(3), pp. 127-140, Perpetual Innovation Media Pvt. Ltd., 2014.
- 7. Strauch, Steve; Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Leymann, Frank: ESB^MT: A Multi-

- tenant Aware Enterprise Service Bus. In: International Journal of Next-Generation Computing (IJNGC), Vol. 4(3), pp. 230-249, Perpetual Innovation Media Pvt. Ltd., 2013.
- 8. Andrikopoulos, Vasilios; Binz, Tobias; Leymann, Frank; Strauch, Steve: How to adapt applications for the Cloud environment. In: Computing, Springer, Vol. 95(6), pp. 493-535, 2013. [IF: 1.055, 5YIF: 1.322]
- 9. García-Gómez, Sergio; Jiménez-Gañán, Miguel; Taher, Yehia; Momm, Christof; Junker, Frederic; Bíró, József; Menychtas, Andreas; Andrikopoulos, Vasilios; Strauch, Steve: Challenges for the Comprehensive Management of Cloud Services in a PaaS Framework. In: Scalable Computing: Practice and Experience (SCPE), Vol. 13(3), 2012.
- 10. Vara, Juan M.; Andrikopoulos, Vasilios; Papazoglou, Mike P.; Marcos, Esperanza: Towards Model-Driven Engineering Support for Service Evolution. In: Journal of Universal Computer Science (JUCS), vol. 18 (17), pp. 2364-2382, September 2012. [IF: 0.762, 5YIF: 0.594]
- 11. Mokhtari-Aslaoui, Karima; Benbernou, Salima; Sahri, Soror; Andrikopoulos, Vasilios; Leymann, Frank; Hacid, Mohand-Said: Timed Privacy-Aware Business Protocols. In: International Journal of Cooperative Information Systems (IJCIS), vol. 21 (02), pp. 85-109, 2012.
- 12. Andrikopoulos, Vasilios; Benbernou, Salima; and Papazoglou, Michael P.: On the Evolution of Services. In IEEE Transactions on Software Engineering (TSE), vol. 38 (3), pp. 609-628, May-June, 2012. [IF: 3.750, 5YIF: 4.865]
- 13. Papazoglou, Michael P.; Andrikopoulos, Vasilios; Benbernou, Salima: Managing Evolving Services. In: IEEE Software's SWSI: Component Software beyond Software Programming, vol. 28 (3), pp. 49-55, May/June 2011. [IF: 2.039, 5YIF: 2.551]
- 14. Koutsoubos, Ioannis-Dimitris; Andrikopoulos, Vassilis; Tzagarakis, Manolis; Christodoulakis, Dimitris: WMS: Towards a distributed network of Semantic Networks. In: Romanian Journal on Information Science and Technology, Dan Tufis (ed.), Special Issue on BalkaNet, Romanian Academy, 7 (1-2), 2004.

### Peer-reviewed proceedings

#### **Conferences**

- 1. Back, Timon; Andrikopoulos, Vasilios: Using a Microbenchmark to Compare Function as a Service Solutions. In: Proceedings of the 7<sup>th</sup> European Conference on Service-Oriented and Cloud Computing (ESOCC 2018), pp. 146-160, Springer, 2018.
- 2. Vogel, Patrick; Klooster, Thijs; Andrikopoulos, Vasilios; Lungu, Micea: A Low-Effort Analytics Platform for Visualizing Evolving Flask-Based Python Web Services. In: Proceedings of the 2017 IEEE Working Conference on Software Visualization (VISSOFT), pp.109-113, IEEE, 2017.
- 3. Skouradaki, Marigianna; Andrikopoulos, Vasilios; Kopp, Oliver; Leymann, Frank: RoSE: Reoccurring Structures Detection in BPMN 2.0 Process Model Collections. In: Proceedings of the OTM Confederated International Conferences (CoopIS 2016), pp. 263-281, Springer International, 2016.
- 4. Weiß, Andreas; Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Hahn, Michael; Karastoyanova, Dimka: ChorSystem: A Message-Based System for the Life Cycle Management of Choreographies. In: Proceedings of the OTM Confederated International Conferences (CoopIS 2016), pp. 503-521, Springer International, 2016.

- 5. Skouradaki, Marigianna; Andrikopoulos, Vasilios; Leymann, Frank: Representative BPMN 2.0 Process Model Generation from Recurring Structures. In: Proceedings of the 23rd IEEE International Conference on Web Services (ICWS 2016), pp. 468-465, IEEE, 2016.
- 6. Schäfer, David Richard; Weiß, Andreas; Tariq, Muhammad Adnan; Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Krawczyk, Lukas; Rothermel, Kurt: HAWKS: A System for Highly Available Executions of Workflows. In: Proceedings of the 13th IEEE International Conference on Services Computing (SCC 2016), pp. 130-137, IEEE, 2016.
- 7. Andrikopoulos, Vasilios; Bitsaki, Marina; Gómez Sáez, Santiago; Hahn, Michael; Karastoyanova, Dimka; Koutras, Giorgios; Psycharaki, Alina: Evaluating the Effect of Utility-based Decision Making in Collective Adaptive Systems. In: Proceedings of the 6th International Conference on Cloud Computing and Service Science (CLOSER 2016), pp.39-47, ScitePress, 2016.
- 8. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Leymann, Frank: Consolidation of Performance and Workload Models in Evolving Cloud Application Topologies. In: Proceedings of the 6th International Conference on Cloud Computing and Service Science (CLOSER 2016), pp.160-169, ScitePress, 2016.
- 9. Weiß, Andreas; Andrikopoulos, Vasilios; Hahn, Michael; Karastoyanova, Dimka: Rewinding and Repeating Scientific Choreographies. In: On the Move to Meaningful Internet Systems: OTM 2015 Conferences, pp. 337-347, Springer, Rhodes, Greece, October 26-30, 2015.
- Wettinger, Johannes; Andrikopoulos, Vasilios; Leymann, Frank: Enabling DevOps Collaboration and Continuous Delivery Using Diverse Application Environments. In: On the Move to Meaningful Internet Systems: OTM 2015 Conferences, pp. 348-358, Springer, Rhodes, Greece, October 26-30, 2015.
- 11. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Hahn, Michael; Karastoyanova, Dimka; Weiß, Andreas: Enabling Reusable and Adaptive Modeling, Provisioning & Execution of BPEL Processes. In: Proceedings of the 8th International Conference on Service-Oriented Computing and Applications (SOCA'15), pp. 51-58, IEEE Computer Society, Rome, Italy, October 19-21, 2015.
- 12. Weiß, Andreas; Andrikopoulos, Vasilios; Hahn, Michael; Karastoyanova, Dimka: Enabling the Extraction and Insertion of Reusable Choreography Fragments. In: Proceedings of the 2015 IEEE International Conference on Web Services (ICWS 2015), pp. 686-694, IEEE, New York City, NY, USA, June 27-July 2, 2015.
- 13. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Jiménez Sánchez, Roberto; Leymann, Frank; Wettinger, Johannes: Dynamic Tailoring and Cloud-based Deployment of Containerized Service Middleware. In: Proceedings of the 8th International Conference on Cloud Computing (CLOUD 2015), pp. 349-356, IEEE, New York City, NY, USA, June 27-July 2, 2015.
- 14. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Hahn, Michael; Karastoyanova, Dimka; Leymann, Frank; Skouradaki, Marigianna; Vukojevic-Haupt, Karolina: Performance and Cost Evaluation for the Migration of a Scientific Workflow Infrastructure to the Cloud. In: Proceedings of the 5th International Conference on Cloud Computing and Service Science (CLOSER 2015), pp. 1-10, ScitePress, Lisbon, Portugal, May 20-22, 2015.
- 15. Weiß, Andreas; Andrikopoulos, Vasilios; Hahn, Michael; Karastoyanova, Dimka: Fostering Reuse in Choreography Modeling Through Choreography Fragments. In: Proceedings of the 17th International Conference on Enterprise Information Systems (ICEIS 2015), pp. 28-36, ScitePress, Barcelona, Spain, April 27-30, 2015.
- 16. Wettinger, Johannes; Andrikopoulos, Vasilios; Leymann, Frank: Automated Capturing and Systematic Usage of DevOps Knowledge for Cloud Applications. In: Proceedings of the IEEE International

- Conference on Cloud Engineering (IC2E 2015), pp. 60-65, IEEE Computer Society, Tempe, AZ, USA, March 9-13, 2015.
- 17. Hahn, Michael; Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Karastoyanova, Dimka; Leymann, Frank: Development and Evaluation of a Multi-tenant Service Middleware PaaS Solution. In: Proceedings of the 7th International Conference on Utility and Cloud Computing (UCC 2014), pp. 278-287, IEEE Computer Society, London, United Kingdom, December 8-11, 2014.
- 18. Hahn, Michael; Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Karastoyanova, Dimka; Leymann, Frank: SCE^MT: A Multi-tenant Service Composition Engine. In: Proceedings of the 7th International Conference on Service-Oriented Computing and Applications (SOCA'14), pp. 89 96, IEEE Computer Society, Matsue, Japan, November 17-19, 2014.
- 19. Andrikopoulos, Vasilios; Darsow, Alexander; Karastoyanova, Dimka; Leymann, Frank: CloudDSF The Cloud Decision Support Framework for Application Migration. In: Proceedings of the Third European Conference on Service-Oriented and Cloud Computing (ESOCC 2014), pp. 1-16, Springer Berlin Heidelberg, Manchester, UK, September 2-4, 2014.
- 20. Andrikopoulos, Vasilios; Reuter, Anja; Gómez Sáez, Santiago; Leymann, Frank: A GENTL Approach for Cloud Application Topologies. In: Proceedings of the Third European Conference on Service-Oriented and Cloud Computing (ESOCC 2014), pp. 148-159, Springer Berlin Heidelberg, Manchester, UK, September 2-4, 2014.
- 21. Andrikopoulos, Vasilios; Bitsaki, Marina; Bucchiarone, Antonio; Gómez Sáez, Santiago; Karastoyanova, Dimka; Leymann, Frank; Nikolaou, Christos; Pistore, Marco: A Game Theoretic Approach for Managing Multi-Modal Urban Mobility Systems. In: Proceedings of the 5th International Conference on Applied Human Factors and Ergonomics (AHFE 2014), pp. 5716-5725, Krakow, Poland, July 19-23, 2014.
- 22. Andrikopoulos, Vasilios; Reuter, Anja; Xiu, Mingzhu; Leymann, Frank: Design Support for Costefficient Application Distribution in the Cloud. In: Proceedings of the 7th IEEE International Conference on Cloud Computing (CLOUD 2014), pp. 697-704, IEEE Computer Society, Alaska, USA, June 27 July 2, 2014.
- 23. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Leymann, Frank; Strauch, Steve: Towards Dynamic Application Distribution Support for Performance Optimization in the Cloud. In: Proceedings of the 7th IEEE International Conference on Cloud Computing (CLOUD 2014), pp. 248-255, IEEE Computer Society, Alaska, USA, June 27 July 2, 2014.
- 24. Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Leymann, Frank; Wettinger, Johannes: Optimal Distribution of Applications in the Cloud. In: Matthias Jarke, John Mylopoulos and Christoph Quix (Eds.), Proceedings of the 26th Conference on Advanced Information Systems Engineering (CAiSE 2014), pp. 75-90, Springer, Thessaloniki, Greece, June 16-20, 2014.
- 25. Andrikopoulos, Vasilios; Bitsaki, Marina; Gómez Sáez, Santiago; Karastoyanova, Dimka; Nikolaou, Christos; Psycharaki, Alina: Utility-based Decision Making in Collective Adaptive Systems. In: Proceedings of the Fourth International Conference on Cloud Computing and Service Science (CLOSER'14), pp. 308-314, SciTePress, Barcelona, Spain, April 3-5, 2014.
- 26. Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Karastoyanova, Dimka; Weiß, Andreas: Collaborative, Dynamic & Complex Systems: Modeling, Provision & Execution. In: Proceedings of the Fourth International Conference on Cloud Computing and Service Science (CLOSER'14), pp. 276-286, SciTePress, Barcelona, Spain, April 3-5, 2014.

- 27. Strauch, Steve; Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Leymann, Frank: Transparent Access to Relational Databases in the Cloud Using a Multi-Tenant ESB. In: Proceedings of the 4th International Conference on Cloud Computing and Service Science (CLOSER'14), pp. 5-14, SciTePress, Barcelona, Spain, April 3-5, 2014.
- 28. Andrikopoulos, Vasilios: On the (Compatible) Evolution of Services. In: Hasselbring, Wilhelm (ed.); Ehmke, Nils Christian (ed.): Software Engineering 2014, pp. 55-57, Gesellschaft für Informatik, 2014.
- 29. Wettinger, Johannes; Andrikopoulos, Vasilios; Strauch, Steve; Leymann, Frank: Characterizing and Evaluating Different Deployment Approaches for Cloud Applications. In: Proceedings of the IEEE International Conference on Cloud Engineering (IC2E 2014), pp. 205-214, IEEE Computer Society, Boston, Massachusetts, USA, March 10 14, 2014.
- 30. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Leymann, Frank; Strauch, Steve: Evaluating Caching Strategies for Cloud Data Access using an Enterprise Service Bus. In: Proceedings of the IEEE International Conference on Cloud Engineering (IC2E 2014), pp. 289-294, IEEE Computer Society, Boston, Massachusetts, USA, March 11 14, 2014.
- 31. Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Karastoyanova, Dimka; Weiß, Andreas: Towards Collaborative, Dynamic & Complex Systems. In: Proceedings of the 6th International Conference on Service-Oriented Computing and Applications (SOCA'13), pp. 241-245, IEEE Computer Society, 2013.
- 32. Strauch, Steve; Andrikopoulos, Vasilios; Thomas, Bachmann; Karastoyanova, Dimka; Passow, Stephan; Vukojevic-Haupt, Karolina: Decision Support for the Migration of the Application Database Layer to the Cloud. In: Proceedings of the 5th IEEE International Conference on Cloud Computing Technology and Science (CloudCom'13), pp. 639-646, IEEE Computer Society, 2013.
- 33. Strauch, Steve; Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Leymann, Frank: Implementation and Evaluation of a Multi-tenant Open-Source ESB. In: Proceedings of the European Conference on Service-Oriented and Cloud Computing (ESOCC'13), pp. 79-93, Springer Berlin Heidelberg, 2013.
- 34. Andrikopoulos, Vasilios; Song, Zhe; Leymann, Frank: Supporting the Migration of Applications to the Cloud through a Decision Support System. In: Proceedings of the 6th IEEE International Conference on Cloud Computing (CLOUD 2013), pp. 565-572, IEEE Computer Society, Santa Clara Marriott, CA, USA, June 27-July 2, 2013.
- 35. Wettinger, Johannes; Andrikopoulos, Vasilios; Strauch, Steve; Leymann, Frank: Enabling Dynamic Deployment of Cloud Applications Using a Modular and Extensible PaaS Environment. In: Proceedings of the IEEE 6th International Conference on Cloud Computing (IEEE CLOUD 2013), pp. 478-485, IEEE Computer Society, Santa Clara Marriott, CA, USA, June 27-July 2, 2013.
- 36. Strauch, Steve; Andrikopoulos, Vasilios; Breitenbücher, Uwe; Gómez Sáez, Santiago; Kopp, Oliver; Leymann, Frank: Using Patterns to Move the Application Data Layer to the Cloud. In: Proceedings of the 5th International Conference on Pervasive Patterns and Applications (PATTERNS'13), pp. 26-33, IARIA, Valencia, Spain, June 2013.
- 37. Andrikopoulos, Vasilios; Strauch, Steve; Leymann, Frank: Decision Support for Application Migration to the Cloud: Challenges and Vision. In: Proceedings of the 3rd International Conference on Cloud Computing and Service Science (CLOSER'13), pp. 149-155, SciTePress, Aachen, Germany, May 2013.
- 38. Li, Fei; Dustdar, Schahram; Bardram, Jakob; Serrano, Martin; Hauswirth, Manfred; Andrikopoulos, Vasilios; Leymann, Frank: EUPaaS Elastic Ubiquitous Platform as a Service for Large-scale Ubiquitous Applications. In: Proceedings of the 3rd International Conference on Cloud Computing

- and Service Science (CLOSER'13), pp. 309-314, SciTePress, Aachen, Germany, May 2013.
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- 40. Strauch, Steve; Andrikopoulos, Vasilios; Gómez Sáez, Santiago; Leymann, Frank; Muhler, Dominik: Enabling Tenant-Aware Administration and Management for JBI Environments. In: Proceedings of the 5th International Conference on Service-Oriented Computing and Applications (SOCA'12), pp. 206-213, IEEE Computer Society, December 2012.
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## **Workshops**

- Andrikopoulos, Vasilios: Engineering Cloud-based Applications: Towards an Application Lifecycle. In: Advances in Service-Oriented and Cloud Computing, proceedings of the CloudWays 2017 workshop, Springer, 2017.
- 2. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Leymann, Frank: Performance-aware Application Distribution in the Cloud. In: Proceedings of the Workshop on Enterprise Architekturen mit Big Data & Cloud (EABDC 2014).
- 3. Gómez Sáez, Santiago; Andrikopoulos, Vasilios; Wessling, Florian; Cassales Marquezan, Clarissa: Cloud Adaptation & Application (Re-)Distribution: Bridging the two Perspectives. In: Proceedings of the First International Workshop on Engineering Cloud Applications & Services (EnCASE 2014).
- 4. Schäfer, David Richard; Gómez Sáez, Santiago; Bach, Thomas; Andrikopoulos, Vasilios; Tariq, Muhammad Adnan: Towards Ensuring High Availability in Collective Adaptive Systems. In: Proceedings of the First International Workshop of Business Processes in Collective Adaptive Systems (BPCAS'14).
- Andrikopoulos, Vasilios; Bucchiarone, Antonio; Gómez Sáez, Santiago; Karastoyanova, Dimka; Mezzina, Claudio Antares: Towards Modeling and Execution of Collective Adaptive Systems. In: Proceedings of the 9th International Workshop on Engineering Service-Oriented Applications (WESOA'13), 2013.
- 6. Vara, Juan M.; Verde, Jenifer; Andrikopoulos, Vasilios; Bollati, Verónica; Marcos, Esperanza: An EMF-based toolkit for reasoning on web services evolution. In: Proceedings of the workshop on ACadeMics Tooling with Eclipse.
- 7. Karastoyanova, Dimka; Andrikopoulos, Vasilios: eScienceSWaT Towards an eScience Software Engineering Methodology. In: Proceedings of the 17th International Enterprise Distributed Object Computing Conference Workshops (EDOCW 2013), pp. 229-238, IEEE Computer Society Conference Publishing Services, September 2013.
- 8. Vara, Juan Manuel; Verde, Jenifer; Andrikopoulos, Vasilios; Bollati, Verónica; Marcos, Esperanza: An EMF-based toolkit for reasoning on web services evolution. In: Proceedings of the workshop on ACadeMics Tooling with Eclipse (ACME '13), Davide Di Ruscio, Dimitris S. Kolovos, Louis Rose, and Samir Al-Hilank (Eds.). ACM, New York, NY, USA, 2013.
- 9. Treiber, Martin; Andrikopoulos, Vasilios; Dustdar, Schahram: Calculating Service Fitness in Service Networks. In: Proceedings of the 2nd Workshop on Monitoring, Adaptation and Beyond (MONA+) at the 7th International Conference on Service Oriented Computing (ICSOC/ServiceWave 2009), pp. 283-292, Springer, November 2009.
- 10. Stamou, Sofia; Andrikopoulos, Vassilis; Christodoulakis, Dimitris: Towards Developing a Semantically Annotated Treebank Corpus for Greek. In: proceedings of the Second Workshop on Treebanks and Linguistic Theories (TLT 2003), Vaxjo, Sweden, November 2003.

#### **Research visits**

May and June 2008 Université Claude Bernard Lyon 1, France

December 2009 Politecnico di Milano, Italy

February 2010 Universität Stuttgart, Germany

June 2010 Université Paris Descartes, France

# **Engagement**

**Member** of IEEE. **Member** of the IFIP Working Group on Service Oriented Systems (to be confirmed). **Member** of VERSEN, the Dutch National Association for Software Engineering.

**Co-organizer** of the International Workshop on Engineering Cloud Applications & Services (EnCASE). **Co-chair** of the ESOCC 2018 PhD Consortium and the CloudWays 2018 Workshop at ESOCC.

**Program Committee (Conferences):** International Conference on Cloud Computing and Services Science (CLOSER – since 2013), European Conference on Service-Oriented and Cloud Computing (ESOCC – since 2015), International Conference on Service Oriented Computing (ICSOC – since 2016), IEEE International Conference on Advanced and Trusted Computing (ATC – since 2016), IEEE International Conference on Web Services (IEEE ICWS – since 2017), Collective and Cooperative Systems Special Track of the ACM Symposium on Applied Computing (SAC – since 2017), IEEE International Conference on Enabling Technologies: Infrastructure of Collaborative Enterprises (WETICE – since 2017); 11<sup>th</sup> IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2018), 25<sup>th</sup> International Conference on Cooperative Information Systems (CoopIS 2017), 10<sup>th</sup> IEEE International Conference on Service Oriented Computing and Applications (SOCA 2017), IEEE 22<sup>nd</sup> International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2014), 2011 IEEE/WIC/ACM International Conference on Web Intelligence (WI'11)

**Program Committee (Workshops**): International Workshop on Cross Enterprise Collaboration, People and Work (CEC-PAW 2010-2012), International Workshop on Adaptive Services for the Future Internet (WAS4FI) (2011-2015), International Workshop on Engineering Service-Oriented Applications (WESOA) (2012-2016), Models and Evolution workshop (ME) (2012-2017), International Workshop on Cloud Adoption and Migration (CloudWays) (since 2015); 1st Workshop on Flexible Advanced Information Systems (FAiSE 2018), 5th Workshop on Software Architecture Erosion and Architectural Consistency (SAEroCon 2018), 1st International Workshop on Optimization in Modern Computing Systems (OptiMoCS 2018), Third Workshop on Adaptive Service-Oriented and Cloud Applications (ASOCA 2018), First International Workshop on Business Process Management in the Cloud (BPM@Cloud 2017), International Workshop on Business Processes in Collective Adaptive Systems (BPCAS 2014), Second Workshop on Dependability and Interoperability in Heterogeneous Clouds (DIHC 2014), International Workshop on Hot Topics in Cloud Services (HotTopiCS 2013), 1st International Workshop on Capability based Engineering (WCE 2012), International Workshop on Clouds for Business and Business for Clouds (C4BB4C), 3rd International Workshop on Principles of Engineering Service-Oriented Systems (PESOS 2011)

**Reviewer for the journals:** ACM Transactions on Software Engineering and Methodology (TOSEM), ACM Transactions on Storage (TOS), Computers and Electrical Engineering (COMPELECENG), Computing, Future Generation Computer Systems (FGCS), IBM Journal of Research and Development (IBMJRD), IEEE Software, IEEE Transactions on Cloud Computing (TCC), IEEE Transactions on Services

Computing (TSC), Information Processing Letters (IPL), Information Systems Journal (IS), International Journal of Adaptive, Resilient and Autonomic Systems (IJARAS), International Journal of Business Process Integration and Management (IJBPIM), International Journal of Cloud Computing (IJCC), International Journal of E-Business Research (IJEBR), International Journal of Parallel, Emegergent and Distributed Systems (IJPEDS), Information Systems Journal (IS), International Journal on Software and System Modeling (SoSyM), Journal of Cloud Computing: Advances, Systems and Applications (JoCCASSA), Journal of Internet Services and Applications (JISA), Journal of Software: Evolution and Process (JSME), Journal of Systems and Software (JSS), Journal of Universal Computer Science (JUCS), Science of Computer Programming (SCICO), Service Oriented Computing and Applications Journal (SOCA).

**Editorial Board Member:** EAI Endorsed Transactions on Cloud Systems (ToCS).

**Reviewer** for the Netherlands Organisation for Scientific Research (NWO).

**Expert evaluator** for the Research Executive Agency (REA) of the European Commission (EC).