



Part A. PERSONAL INFORMATION

CV date

31/01/2024

First name	Antonio		
Family name	Vallecillo		
Gender	Male	Birth date	27/12/1962
ID number	25047092T		
e-mail	av@uma.es		http://www.lcc.uma.es/~av
Open Researcher and Contributor ID (ORCID)			0000-0002-8139-9986

A.1. Current position

Position	Full Professor (Retired)	Initial date	17/11/2009-01/10/2023
Institution	Universidad de Málaga	Dept/Center	ITIS Sofware
Country	Spain	Tel.	(+34) 678998465
Key words	Software Engineering, Model-Based Software Engineering, Software Quality		

A.2. Previous positions

Period	Position/Institution/Country
1985-1991	Part-time lecturer, Universidad de Málaga, Spain
1986-1989	Técnico de Diseño, Fujitsu España S.A., Spain
1989-1991	Jefe de Área Software y Firmware, Fujitsu España S.A., Spain
1991-1994	Products Marketing Manager, ICL PLC, England
1994-1995	Director de Productos, IngeniA S.A.
1995-1998	Lecturer (Prof. Asociado T.C.), Universidad de Málaga, Spain
1998-2001	Assistant Professor (TEU), Universidad de Málaga, Spain
2001-2009	Associate Professor (TU), Universidad de Málaga, Spain
2009-2023	Full Professor, Universidad de Málaga, Spain

A.3. Education

	University/Country	Year
Licenciado en Matemáticas	Universidad de Málaga, Spain	1985
Doctor Ingeniero en Informática (PhD)	Universidad de Málaga, Spain	1999

Part B. CV SUMMARY (max. 5000 characters, including spaces)

Antonio Vallecillo is a retired Full Professor of Software Engineering at the Universidad de Málaga. His research interests include Model-based Software Engineering, open distributed processing (ODP) and software quality. Between 1986 and 1995 he was in the Computer Industry, working for Fujitsu and ICL, both in Spain (1986-1991) and in the UK (1991-1994). In 1996 he joined the University of Málaga, leading the ATENEA research group on Software Modeling and Analysis (<http://atenea.lcc.uma.es>). He has participated in 41 research project (5 European, 8 National Projects, 1 Iberoamerican, 1 PETRI, 1 FEDER, 12 Networks, 5 Integrated Actions, 3 Special Actions, 5 regional projects), being the PI of 15 of them.

He is involved in several standardization activities within AENOR, ISO, ITU-T and the OMG, being co-editor of ISO/IEC standard 19793, ITU-T X.906 (UML4ODP) and of the revised version of RM-ODP (ISO/IEC 10746, Parts 2 and 3, ITU-T X.902 and ITU-T X.903). He has been the Spanish representative at IFIP TC2 and ISO SC7, and the leader of CTN 71 Working Group on "Techniques for the specification of IT Systems" (GT19) at UNE. He has served as a reviewer for CCSDS (Consultative Committee for Space Data Systems) and for NASA/JPL on the application of RM-ODP standards to the RASDS (Reference Architecture for Space Data Systems) y Future Mars Network Architecture (2004-08) projects. He is also a certified Technical Expert at ENAC (Entidad de Acreditación Nacional), and serves since 2013 as Assessor for the Australian Research Council (ARC).

Antonio has organized several international conferences, including ECOOP'02 and TOOLS'10, and has been the General Chair for MODELS'13 (Miami, FL), ECOOP'17 (Barcelona) and CEDI 20/21 (Málaga). He initiated and organized the International Conference on Model Transformations (ICMT) and several series of international workshops (WODPEC,

MDWE, MDI and VAO). He has served as PC Chair of several international conferences (ICMT'08, IDEAS'08, TOOLS Europe 2011, ECMFA'12, QoSA'12, ICSOC'17, ECMFA'20, QUATIC'22), and national ones (JSWEB'08, JISBD'09). He is on the Editorial Board of the Software and Systems Modeling (Sosym), Business & Information Systems Engineering (BISE) and the Journal of Object Technology (JOT). He has been the keynote speaker at the international conferences ICPE'11, QUATIC'19 and UYMK'20.

He has published more than 70 journal articles and 50 conference papers in high-quality venues, plus 2 books and 15 book chapters, more than 130 papers in other conferences and workshops. He has been the editor of 2 books (Springer and RA-MA), 17 journal special issues in top venues, and 25 conference proceedings (5 Springer LNCS, 5 ACM/IEEE DL). He has an h-index of 45 in Google Scholar, with above 6000 cites to his work. He has published with more than 100 authors from 30 countries. His works have obtained 8 Best Papers Awards and 2 Most-Influential Paper Awards. He has supervised 8 PhD theses, and 2 more are currently in progress. He has been awarded with 4 sexenios (1996-2019) and 5 quinquenios (-2017).

He served as Vice-President of Postgraduate and Doctoral studies at the Universidad de Málaga, being responsible for all Master and PhD programs, the University's Lifelong-Learning and Continuing Education courses, the University's MOOCs program, and the Doctoral School. Between 2014 and 2018 he was the President of the Spanish Society on Software Engineering (SISTEDES, www.sistedes.es). Between 2017 and 2020 he coordinated the Computer Science and Information Technologies (INF) area of the Spanish Research Agency (AEI). Between 2020 and 2023 he was the Vice-President of the Spanish Society on Informatics (SCIE, www.scie.es). He is a Senior Member of ACM, an AAIA Fellow, and Member of the Academia Europaea. Further information about his projects and publications is available at <http://www.lcc.uma.es/~av>.

Part C. RELEVANT MERITS

C.1. Relevant Publications (last 5 years)

- R. Salado, A. Vallecillo, K. Munir, J. R. Romero "SWEL: A Domain-Specific Language for Modelling Data-Intensive Workflows". *Bus. & Inf. Syst. Eng.* (BISE), Aug. 2023 <https://doi.org/10.1007/s12599-023-00826-7>
- J.M. Jézéquel, A. Vallecillo. "Uncertainty-aware simulation of adaptive systems". *ACM Trans. Modeling & Comp. Simul.* (TOMACS), 2023. <https://dx.doi.org/10.1145/3589517>
- J. Cámara, L. Burgueño, J. Troya, A. Vallecillo." On the assessment of generative AI in modeling tasks: an experience report with ChatGPT and UML" *Software and Systems Modeling*, June 2023. <https://doi.org/10.1007/s10270-023-01105-5>
- L. Burgueño, P. Muñoz, R. Clarisó, J. Cabot, S. Sebastien, A. Vallecillo. "Dealing with belief uncertainty in domain models" *TOSEM* 32(2):1-34, 2023. <https://doi.org/10.1145/3487921>
- J. Cabot, A. Vallecillo. "Modeling should be an independent scientific discipline" *Software & Systems Modeling* 21:2101–2107, 2022. <https://doi.org/10.1007/s10270-022-01035-8>
- J. Cámara, J. Troya, A. Vallecillo, N. Bencomo, R. Calinescu, B. Cheng, D. Garlan, B. Schmerl. "The Uncertainty Interaction Problem in Self-Adaptive Systems." *Software and Systems Modeling*, 21(4):1277-1294, 2022. <https://doi.org/10.1007/s10270-022-01037-6>
- J. Sánchez-Cuadrado, L. Burgueño, M. Wimmer, A. Vallecillo. "Efficient execution of ATL model transformations using static analysis and parallelism". *IEEE Transactions on Software Engineering*, 48(4):1097–1114, 2022. <http://doi.org/10.1109/TSE.2020.3011388>
- A. Ramirez, N. Moreno, A. Vallecillo. "Rule-based preprocessing for data stream mining using complex event processing." *Expert Systems* 38(8), 2021.
- D. Ameller et al. "Dealing with Non-Functional Requirements in Model-Driven Development: A Survey." *IEEE Trans. on Software Engineering* 47(4):818-835, April 2021.
- J. Troya, N. Moreno, M. F. Bertoá, A. Vallecillo. "Uncertainty representation in software models: A survey" *SoSyM* 20(4):1183-1213, 2021.
- G. Barquero, J. Troya, A. Vallecillo. "Improving Query Performance on Dynamic Graphs" *SoSyM* 20(4):1011-1041, 2021. <https://doi.org/10.1007/s10270-020-00832-3>
- M. F. Bertoá, N. Moreno, L. Burgueño, A. Vallecillo. "Incorporating Measurement Uncertainty into OCL/UML Primitive Datatypes". *Software & Systems Modeling* 19(5):1163-1189, 2020. <https://doi.org/10.1007/s10270-019-00741-0>
- P. Muñoz, L. Burgueño, V. Ortiz, A. Vallecillo. "Extending OCL with Subjective Logic". *Journal of Object Technology* 19(3):1-15, 2020. <http://dx.doi.org/10.5381/jot.2020.19.3.a1>

- L. Burgueño, F. Ciccozzi, M. Famelis, G. Kappel, L. Lambers, S. Mosser, R. Paige, A. Pierantonio, A. Rensink, R. Salay, G. Taentzer, A. Vallecillo, M. Wimmer: Contents for a Model-Based Software Engineering Body of Knowledge. *Software and System Modeling* 18(6): 3193-3205, 2019.
- L. Burgueño, T. Mayerhofer, M. Wimmer, A. Vallecillo. “Specifying Quantities in Software Models”. *Information and Software Technology*, 113:82-97, 2019.

Books

- Peter F. Linington, Zoran Milosevic, Akira Tanaka, Antonio Vallecillo. “Building Enterprise Systems with ODP” Chapman & Hall/CRC Press. September 2011.
- R. Guerequeta, A. Vallecillo. Técnicas de Diseño de Algoritmos. SPICUM. 2000. (2 eds).
- J. García Molina, F. García López, V. Pelechano Ferragud, J. M. Vara Mesa, A. Vallecillo, C. Vicente-Chicote (Eds.) “Desarrollo de Software Dirigido por Modelos: Conceptos, Métodos y Herramientas”, RAMA, 2013. ISBN 978-84-9964-215-4.
- A. Cechich, M. Piattini, A. Vallecillo (Eds). “Component-Based Software Quality: Methods and Techniques” LNCS 2693, Springer-Verlag, June 2003. ISBN: 3-540-40503-8.

C.2. Conferences (Last 5 years)

- J. Cámera, S. Hahner, D. Perez-Palacin, A. Vallecillo, et al. “Uncertainty Flow Diagrams: Towards a Systematic Representation of Uncertainty Propagation and Interaction in Adaptive Systems”. of SEAMS’24, Lisbon, Portugal, April 2024.
- Robbert Jongeling, Antonio Vallecillo. “Uncertainty-aware consistency checking in industrial settings”. In Proc. of MODELS’23, pp. 73-83. IEEE, 2023.
- J. A. Llopis, P. Muñoz, J. Criado, J. Troya, L. Iribarne, A. Vallecillo. “Modeling and synchronizing Digital Twin environments”. In Proc. of ANNSIM’23, IEEE, May 2023.
- Javier Cámera, Radu Calinescu, Betty H.C. Cheng, David Garlan, Bradley Schmerl, Javier Troya and Antonio Vallecillo. “Addressing the Uncertainty Interaction Problem in Software-intensive Systems: Challenges and Desiderata”. In Proc. of MODELS’22, pp. 24-30. ACM.
- N. Moreno, A. Pérez-Vereda, A. Vallecillo. “Managing Reputation in Collaborative Social Computing Applications.” In proc. of ECMFA 2022, July 2022. (**Best Paper Award**)
- F. J. Navarrete and A. Vallecillo. “Introducing Subjective Knowledge Graphs”. Proc. of EDOC’21, Australia, October 2021. IEEE Computer Society. (**Best Paper Award**)
- P. Muñoz, A. Pérez-Vereda, N. Moreno, J. Troya and A. Vallecillo. “Incorporating Trust into Collaborative Social Computing Applications”. In Proc. of EDOC’21, October 2021.
- P. Muñoz, P. Karkhanis, M. van den Brand, A. Vallecillo. “Modeling Objects with Uncertain Behaviors.” In proc. of ECMFA 2021, JOT 20(3):1-24. Berger, Norway, June 2021.
- A. Vallecillo, M. Gogolla. “Modeling Behavioral Deontic Constraints using UML and OCL”. In Proc. of ER 2020, LNCS 12400, pp. 134-148, Springer. October 2020.
- G. Barquero, J. Troya and A. Vallecillo. “Trading Accuracy for Performance in Data Processing Applications”. In Proc. of ECMFA 2019, Journal of Object Technology 18(2):1-24, Eindhoven, The Netherlands, July 2019. (**Best Paper Award**)
- M. Gogolla, A. Vallecillo. “On Softening OCL Invariants” In Proc. of ECMFA 2019, Journal of Object Technology 18(2):6:1-22, Eindhoven, The Netherlands, July 2019.

C.3. Research projects

EU Projects

- Multi-Paradigm Modelling for Cyber-Physical Systems (MPM4CPS). **EU COST Action number IC1404**. 2014-18. PI: Hans Vangheluwe
- Seamless adaptive multi-cloud management of service-based applications (Seaclouds) **FP7**. Ref: EC-FP7-ICT-610531. 2013-16. PI: E. Pimentel
- European Network of Excellence on Aspect-Oriented Software Development (AOSD Europe) **FP6**. Ref.: FP6-IST-004349. 2004-09. PI: Awais Rachid
- SENSORIA (Software Engineering for Service-Oriented Overlay Computers) **FP6**. Ref: FET-GC II IST-2005-16004. 2005-09. PI: Martin Wirsing

National projects (last 5 years)

- IPSCA: Including people in smart city applications (PID2021-125527NB-I00) 1/9/2022-31/8/2026. **167.948,00 € (PI)**
- SoCUS: Social Computing for Urban Sustainability (TED2021-130523B-I00). 1/12/2022 - 1/12/2024. **192.280,00 €**

- MBT-I4A: Automated Model-Based Testing of Industry 4.0 Applications. Junta de Andalucía (PY20_00067). 5/10/2021-31/3/2023. **92.450 € (PI)**
- COSCA: Digital Avatars: A Framework for Collaborative Social Computing Applications (PGC2018-094905-B-I00) 2019-2022. **190.000 € (PI)**
- SOFOCLES: Software Orchestration for FOg, CLoud and Edge Systems. Junta de Andalucía (UMA18-FEDERJA-180). 1/1/2020 - 31/12/2021. **49.047,32 €**
- POLYCIMS: Un Marco dirigido por modelos para el diseño e integración de Sistemas Inalámbricos de Gestión de Infra. Críticas (TIN2014-52034-R). 2015-19. **179.300 € (PI)**

C.4. Contracts and technology transfer activities

- **Patent:** **Where2Publish (W2P)** Coral Calero, M. Ángeles Moraga, Antonio Vallecillo, Manuel Fernández Bertoa. Número de asiento registral: 00/2014/1264. País: España. Núm. solicitud: CR-42-14. 20/02/2014, 13:00
- **Editor of International Standards on RM-ODP:** ISO/IEC 10746-2:2009, 10746-3:2009, and 19793:2015 (ITU-T X.902, X.903, X.906)
- **Contributor,** OMG standard on “Precise Semantics for Uncertainty Modeling,” 2021.

C.5. Research Management

- Presidente de la Comisión de Evaluación del Topic13 (Gemelos Digitales: Modelización y Diseño) de la Convocatoria de Proyectos de Líneas Estratégicas de la AEI (2021)
- Coordinador de la subárea de Ciencias de la Computación y Tecnologías Informáticas (INF), Spanish Research Agency (AEI) (2017-2020).
- Adjunto al Coordinador del Área de Ciencias de la Computación y Tecnologías Informáticas (TIN), ANEP (2006-2009).
- Member of the evaluation panel for “Ramón y Cajal” and “Juan de la Cierva” Spanish grants (Área TIN) 2007-2009, 2015, 2016; and FPU grants (2009-2012)
- Project evaluation for ANEP, CYTED, FONCyT, the Flemish Science Foundation, the Dutch NWO and the Australian Research Council (ARC).
- Assessor, Australian Research Council (<http://arc.gov.au/>), 2013-present.
- Experto técnico y evaluador de ENAC (Entidad de Acreditación Nacional), 2011-present.

C.6. Community Service

- Vice-president of the Spanish Society on Informatics (SCIE, www.scie.es), 2020-2023
- President of the Spanish Society of Software Engineering and Software Development Technologies (SISTEDES, www.sistedes.es) 2014-2018
- Member of the Steering Committee of ECOOP (AITO), STAF, ICMT, TOOLS, ECMFA, JCIS, and JSWEB conferences
- AITO Secretary (www.aito.org) 2008-2010.
- General Chair of CEDI 20/21; ECOOP 2017; MODELS 2013
- Organizing Chair of TOOLS 2010 and ECOOP 2002
- PC Chair of QUATIC 2022, ECMFA 2020, ICSOC 2017, ECMFA 2012, QoSA 2012, TOOLS Europe 2011, JISBD 2009, JSWEB 2008, ICMT 2008, IDEAS 2008.
- Editorial Board Member: **Software and Systems Modeling** (SoSym), **Journal of Object Technology** (also Special Section Editor, 2009-13), **Business & Information Systems Engineering**, and **Journal of Software** (2005-10)
- Spanish representative at IFIP TC2 (2011-18), ISO, ITU-T, and AENOR/UNE
- Organizer of 16 international and 8 national Workshops.
- Member of jury/External reviewer of 56 PhD defenses in Spain, and 23 in other countries
- Keynote speaker at 3 international conferences ICPE’11, QUATIC’19 and UYMK’20
- 6 tutorials at international conferences, 12 invited talks at universities, 16 lectures in doctoral courses from 6 different universities.

C.7. Recognitions/Awards

- AAIA Fellow, Senior Member of ACM, Member of the Academia Europaea.
- 8 Best Paper Awards: ICWE’05, ICMT’10, JISBD’11, MODELS’15, MODELS’18, ECMFA’19, EDOC’21, ECMFA’22
- 2 Most Influential Paper (MIP) Awards, given at SLE’18 and ECMFA’21.

(Full CV available at <http://www.lcc.uma.es/~av/personal/CV-AVallecillo.pdf>)