



SoSyM reflections: the 2019 “state of the journal” report

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We are delighted to bring you this first issue of SoSyM for 2020! Over the past year, SoSyM has achieved many new milestones. As reported in the next section, the SoSyM Impact Factor has increased by almost a full point, to its highest historical level and the number of downloads continues to rise. This suggests that the journal remains very healthy and that the software systems and modeling research community continues to thrive!

A very important step was taken in 2019 to reduce the backlog of papers that were accepted, but were awaiting assignment of a formal volume and page numbers down to the theoretically possible minimum. Springer agreed to publish at an accelerated rate to reduce this backlog to a level where we can publish future papers in the next open issue after typesetting is complete.

The review time was also reduced over the past year, but we strive to continue to make improvements in this area. As noted at the end of this editorial, there is a large community of volunteers who assist in reviewing for SoSyM. We rely on their efforts to assist in the review process, and we look toward expanding the pool of available reviewers.

One of our goals for the next year is to also broaden the geographical diversity of submissions. Presently, the largest number of submissions comes from Europe and North America. We plan to report in future editorials the creation of an Ambassadors Board, who will endeavor to inform

international researchers about the potential for publishing their research in SoSyM.

1 2019 Summary statistics

The six SoSyM issues published in 2019 contained 74 Regular papers, 2 Overview papers, 32 Special Section papers, 17 Theme Section papers, 2 Expert Voices, and 8 Guest Editorials. In total, 3614 pages were published in volume 18.

We are very happy to report that the Impact Factor for SoSyM over the past year increased again to 2.660 (previously at 1.722 in 2018). This is the highest Impact Factor since the inception of SoSyM, which we believe offers evidence to the growing interest in software and systems modeling as a research discipline and to SoSyM’s important role in the modeling research community. Also, the number of paper downloads continued to increase. In 2018, SoSyM papers were downloaded 93,033 times, which is more than four times as high when compared to the downloads in 2010. (There were 20,267 downloads in 2010.) We do not yet have the final number of downloads for 2019, but there were already 72,344 downloads by July 2019. Therefore, we expect that the total number of paper downloads for 2019 will be another record year.

The acceptance rate in 2019 was 22.5%, which is a respectable rate for a high-quality journal such as SoSyM. The average time from submission to the final decision (accept or reject) has been reduced to 128 days (138 days in 2018).

2 SoSyM’s ten-year most influential paper awards

MODELS 2019, held in Munich, Germany, in September 2019, provided another opportunity to recognize the most influential SoSyM papers from the past 10 years during the banquet dinner. The selection was based on the ISI citation index among papers published in SoSyM 10 years ago

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(2009). More information about the awards can be found at: <http://www.sosym.org/awards/>.

The SoSyM 2019 “Ten-year most influential Regular paper award” was given to:

Marcello La Rosa, Wil M. P. van der Aalst, Marlon Dumas, and Arthur H. M. ter Hofstede, “Questionnaire-based variability modeling for system configuration”, In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 8, Issue 2, pp. 251–274, Springer, April 2009.

<https://doi.org/10.1007/s10270-008-0090-3>.

The SoSyM 2019 “Ten-year most influential Theme Section paper award” was given to:

Karsten Ehrig, Jochen Malte Kuester, and Gabriele Taentzer, “Generating instance models from meta models”, In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 8, Issue 4, pp. 479–500, Springer, September 2009.

<https://dx.doi.org/10.1007/s10270-008-0095-y>.

3 SoSyM’s journal-first papers at MODELS 2019

We have established a continuous collaboration between SoSyM and the MODELS conference in organizing the SoSyM “Journal-First” opportunity, which enables authors of recent SoSyM papers to present their work across the core conference sessions at MODELS. Through this collaboration, selected SoSyM authors have the opportunity to reach a broader audience to present their work. This also benefits the MODELS conference program by including research talks that explore more depth through analytical and empirical evidence than that can be presented in a traditional conference submission. We look forward to continued collaboration with the MODELS conference to partner in recognizing the outstanding work of the software and systems modeling research community. At MODELS 2018, four articles were presented. At MODELS 2019, we were able to increase this number to seven articles that were accepted during the previous year (from July 2018 through June 2019). The SoSyM “Journal-First” papers presented at MODELS 2019 were the following:

- Yentl Van Tendeloo, Simon Van Mierlo, and Hans Vangheluwe, “A Multi-Paradigm Modelling approach to live modelling,” In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 18, Issue 5, pp. 2821–2842, Springer, October 2019.

<https://doi.org/10.1007/s10270-018-0700-7>.

- Alvaro Miyazawa, Pedro Ribeiro, Wei Li, Ana Cavalcanti, Jon Timmis, and Jim Woodcock, “RoboChart: Modelling and verification of the functional behaviour of robotic applications,” In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 18, Issue 5, pp. 3097–3149, Springer, October 2019.

<https://doi.org/10.1007/s10270-018-00710-z>.

- Patrick Leserf, Pierre de Saqui-Sannes, and Jérôme Hugues, “Trade-off analysis for SysML models using decision points and CSPs,” In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 18, Issue 6, pp. 3265–3281, Springer, December 2019.

<https://doi.org/10.1007/s10270-019-00717-0>.

- Fazilat Hojaji, Tanja Mayerhofer, Bahman Zamani, Abdelwahab Hamou-Lhadj, and Erwan Bousse, “Model execution tracing: A systematic mapping study,” In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 18, Issue 6, pp. 3461–3485, Springer, December 2019.

<https://doi.org/10.1007/s10270-019-00724-1>.

- Iván Ruiz-Rube, Tatiana Person, Juan Manuel Dodero, José Miguel Mota, and Javier Merchán Sánchez-Jara, “Applying static code analysis for domain-specific languages,” In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 19, Issue 1, Springer, January 2020.

<https://doi.org/10.1007/s10270-019-00729-w>.

- Jenny Ruiz, Estefanía Serral, and Monique Snoeck, “Evaluating user interface generation approaches: Model-based versus model-driven development,” In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 18, Issue 4, pp. 2753–2776, Springer, August 2019.

<https://doi.org/10.1007/s10270-018-0698-x>.

- Sabine Wolny, Alexandra Mazak, Christine Carpella, Verena Geist, and Manuel Wimmer, “Thirteen years of SysML: A systematic mapping study,” In: *Journal on Software and Systems Modeling (SoSyM)*, Volume 19, Issue 1, Springer, January 2020.

<https://doi.org/10.1007/s10270-019-00735-y>.

4 Changes to the editorial board

Several changes to the Editorial Board have occurred over the last year. Two of our long-time Editors have recently retired from the Editorial Board. We appreciate Heiko Dörr and Alan Hartman for all of their support and willingness to help with the SoSyM editorial responsibilities! We also welcome seven new Editors who joined the Editorial Board beginning in 2019: Silvia Abrahao, Nelly Bencomo, Didier Buchs, Davide di Ruscio, Dimitris Kolovis, Jan Mendling, and Iris Reinhartz-Berger. We look forward to collaborating with them in the future!

5 Reviewers in 2019

A strong research community depends on the efforts of volunteers who help serve as reviewers. The software and systems modeling community has always risen to the request for help from SoSyM. We appreciate all of the help that the reviewers provided in service to the modeling community! We would also like to offer special recognition to the following reviewers, who were recommended as the SoSyM Best Reviewers of 2019, based on the technical depth and feedback provided to authors over the past year—congratulations! We will send a certificate of recognition to each of the following reviewers:

Alexander Bock, Diego Calvanese, Gregor Engels, Erik Ernst, Dirk Fahland, Nicolas Hili, Kyriakos Kritikos (two separate nominations), Jeffrey Parsons, Rolf-Helge Pfeiffer, Jose Proenca, and Paul Temple.

Below is a list of those who reviewed one or more papers for the journal in the last year. The complete list of reviewers can also be found on our Web site <http://www.sosym.org/people/>.

Manzoor Ahmad, Mohammad Alhaj, Shaukat Ali, Joao Paulo Almeida, Ahmad Salim Al-Sibahi, Vasco Amaral, Mohammad Javad Amiri, Daniel Amyot, Eric Andonoff, Kelly Androustopoulos, Anthony Anjorin, Adil Anwar, Muhammad Anwar, Said Assar, Colin Atkinson, Marco Autili, Mehdi Bagherzadeh, Mira Balaban, Olivier Barais, Simon Barner, Eduouard Batot, Bernhard Bauer, David Benavides, Gabor Bergmann, Simona Bernardi, Ilia Bider, Saad bin Abid, Olivier Biot, Arnaud Blouin, Alexander Bock, Karsten Boehm, Dominik Bork, Artur Boronat, Anis Boubaker, Erwan Bousse, Lars Brehm, Ruth Breu, Jean-Michel Bruel, Davide Brugali, Hugo Bruneliere, Antonio Bucchiarone, Robert Buchmann, Andrea Burattin, Tomas Bures, Alexandru Butean, Arvid Butting, Diego Calvanese, Daniela Cancila, Javier Luis Canovas Izquierdo, Jessie Carbonnel, Jan Carlson, Gustavo Carvalho, Rubby Casallas, Ana Cavalcanti, Carlos Cetina, Michel R. V. Chaudron, Marsha Chechik, Vanea Chiprianov, Stanislav Chren, Chong Chun Yong, Antonio Cicchetti, Federico Ciccozzi, Robert Clarisó, Tony Clark, Peter Clarke, Loek Cleophas, Rolland Colette, Benoit Combemale, Nelly Condori-Fernández, Maxime Cordy, Vittorio Cortellessa, Luis Couto, Alcino Cunha, Fabiano Dalpiaz, Maya Daneva, Marian Daun, Alfonso de la Vega, Juan de Lara, Birgit Demuth, Joerg Desel, Xavier Devroey, Theo D’Hondt, Claudio Di Ciccio, Jessica Diaz, Aleksandar Dimovski, Crystal Chang Din, Juergen Dingel, Zinoviy Diskin, Julio do Prado Leite, Khanh-Hoang Doan, Peter Dolog, Wei

Dong, Heiko Dörr, Yanhua Du, Holger Eichelberger, Ghizlane El Boussaidi, Maged Elaasar, Gregor Engels, Romina Eramo, Huseyin Ergin, Erik Ernst, Gidon Ernst, Lorenz Esch, Rik Eshuis, Huascar Espinoza, Dirk Fahland, Michalis Famelis, Peter Fettke, Kathrin Figl, John Fitzgerald, Peter Forbrig, Frederik Gailly, Antonio García-Domínguez, Irene Garrigos, Gregory Gay, Sebastien Gerard, Sepideh Ghanavati, Mario Gleirscher, Claude Godart, Martin Gogolla, Thomas Goldschmidt, Claudio Gomes, Elena Gómez-Martínez, Paul Grefen, Alicia Grubb, Esther Guerra, Jens Gulden, Terry Halpin, Ragnhild Halvorsrud, Xiao He, Regina Hebig, Reiko Heckel, Thomas Heinze, Maritta Heisel, Martin Henkel, Ruben Heradio, Sebastian Herzig, Soichiro Hidaka, Nicolas Hili, James Hill, Nico Hochgeschwender, José Horcas, Jennifer Horkoff, Sinisa Ilic, Ludovico Iovino, Luis Iribarne, Fuyuki Ishikawa, Nima Jafari Navimipour, Amin Jalali, Manfred A. Jeusfeld, Paul Johannesson, Monika Kaczmarek, Bernhard Kaiser, Eduard Kamburjan, Gabor Karsai, Ajay Kattepur, Evangelia Kavakli, Timo Kehrer, Steven Kelly, Djamel Eddine Khelladi, Ferhat Khendek, Ramtin Khosravi, Dae-Kyoo Kim, Ekkart Kindler, Stefan Klikovits, Sascha Klüppelholz, Alexander Knapp, Shekoufeh Kolahdouz-Rahimi, Dimitris Kolovos, Tomaz Kosar, Padmanabhan Krishnan, Lars Kristensen, Kyriakos Kritikos, John Krogstie, Thomas Kühne, Leen Lambers, Yngve Lamo, Kevin Lano, Peter Gorm Larsen, Kenneth Lausdahl, Thomas Leich, Henrik Leopold, Timothy Lethbridge, Alexander Levis, Lukas Linsbauer, Romiro Liscano, David Lo, Malte Lochau, Mass Soldal Lund, Ioanna Lytra, Xiaoxing Ma, Nuno Macedo, Aitor Arrieta Marcos, Jabier Martinez, Salvator Martinez, Florian Matthes, Raimundas Matulevicius, Sean Maxon, Julio Medina, Claudio Menghi, Jose Merseguer, Michael Möhring, Pedro Molina, Brice Morin, Sebastien Mosser, Pieter Mosterman, Jean-Marie Mottu, Chokri Mraidha, John Mylopoulos, Andreas Naderlinger, Pascal Négros, Bernd Neumayr, Phu Nguyen, Erik Gøsta Nilsson, Alexander Nolte, Emmanuel Nowakowski, Manuel Núñez, Ileana Ober, Peter Ölveczky, Andreas Opdahl, Armando Ordonez, Richard Freeman Paige, Nick Papoulias, Oscar Pastor, Patrizio Pelliccione, David Pereira, Diego Perez-Palacin, Barbara Pernici, Dorina Petriu, Robert Pettit, Holger Pfeifer, Rolf-Helge Pfeiffer, Alfonso Pierantonio, Geert Poels, Fiona Polack, Andrea Polini, Luigi Pomante, James Power, Jose Proenca, Ahsan Qamar, Rick Rabiser, Ansgar Radermacher, István Ráth, Daniel Ratiu, Gianna Reggio, Iris Reinhartz-Berger, Wolfgang Reisig, Ralf Reussner, Francisca Rosique, Alejandra Ruiz, Francisco Ruiz, Mehrdad Sabetzadeh, Jesús Sánchez Cuadrado,

Stefan Sauer, Axel Scheithauer, David Schmalzing, Carl Schultz, Sandro Schulze, Cristina Seceleanu, Christoph Seidl, Bran Selic, Gehan Selim, Mojtaba Shahin, Anas Shatnawi, Bruno Silva, Marjan Sirjani, Monique Snoeck, Prina Soffer, Hui Song, Jean-Sebastien Sottet, Romina Spalazzese, Martin Steffen, Janis Stirna, Harald Störrle, Daniel Strüber, Patrick Stünkel, Arnon Sturm, Jianwen Su, Gerson Sunye, Eugene Syriani, Chantal Taconet, Gabriele Taentzer, Jérémie Tati-bouet, Ramin Tavakoli Kolagari, Paul Temple, Thomas Thüm, Matthias Tichy, Ulyana Tikhonova, Massimo Tisi, Juha-Pekka Tolvanen, Javier Troya, Javier Tuya, Benjamin Tyler, Roland Ukor, Antonio Vallecillo, Mark van den Brand, Han van der Aa, Dirk van der Linden, Simon Van Mierlo, Juan Manuel Vara, Tullio Vardanega, Mahsa Varshosaz, Sira Vegas, Michael Vierhauser, Andreas Vogelsang, András Vörös, Louis Wachtmeister, Heike Wehrheim, Marco Wehrmeister, Tim Weilkiens, Andrew Weinert, Bernhard Westfechtel, Manuel Wimmer, Marco Winckler, Karsten Wolf, Kim Wuyts, Eric Yu, Anna Zamansky, Jelena Zdravkovic, Uwe Zdun, Rasmus Zetter, Wei Zhang, Zhenkai Zhang, Alfred Zimmermann, Athanasios Zolotas, and Steffen Zschaler.

6 Contents of this issue

The contents of this issue are as follows:

1. Expert's voice
 - “Grand Challenges in Model-Driven Engineering: An analysis of the state of the research” by Richard Free-

man Paige, Antonio Bucchiarone, Jordi Cabot, and Alfonso Pierantonio.

2. MODELS 2017 special section
Guest Editors: Jeff Gray and Vinay Kulkarni.
3. Regular papers
 - “Applying static code analysis for domain-specific languages” by Iván Ruiz-Rube, Tatiana Person, Juan Manuel Dodero, José Miguel Mota, and Javier Merchán Sánchez-Jara.
 - “Thirteen years of SysML: A systematic mapping study” by Sabine Wolny, Alexandra Mazak, Christine Carpella, Verena Geist, and Manuel Wimmer.
 - “Design and automation of a COSMIC measurement procedure based on UML models” by Gabriele De Vito, Filomena Ferrucci, and Carmine Gravino.
 - “Lossless compaction of model execution traces” by Fazilat Hojaji, Bahman Zamani, Abdelwahab Hamou-Lhadj, Tanja Mayerhofer, and Erwan Bousse.
 - “Heterogeneous megamodel management using collection operators” by Rick Salay, Sahar Kokaly, Alessio Di Sandro, Nick Fung, and Marsha Chechik.

We wish you a Happy New Year with the hope that you enjoy reading the papers in this issue!

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