

# Dániel Varró

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## Education

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| 2010 | Habilitation thesis (submitted); Budapest University of Technology and Economics                             |
| 2004 | PhD in Computer Science/Engineering (Technical Informatics); Budapest University of Technology and Economics |
| 2000 | MSc in Computer Engineering (Technical Informatics); Budapest University of Technology and Economics         |

## Academic Positions

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|             |   |
|-------------|---|
| 2009 -      | Associate Professor (tenured), Department of Measurement and Information Systems, Budapest University of Technology and Economics |
| 2005 - 2009 | Assistant Professor, Department of Measurement and Information Systems, Budapest University of Technology and Economics           |
| 2003 - 2005 | Lecturer, Department of Measurement and Information Systems, Budapest University of Technology and Economics                      |

## Research Interests

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Model driven software and systems engineering, Formal methods, Dependable systems,  
Application areas: critical embedded systems, service-oriented applications

## Publication highlights

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Total number of papers: 100  
Books and book chapters: 6  
Peer reviewed journal papers (excluding electronic journals): 15 from which 7 papers appeared in Software and Systems Modeling (Springer)  
Peer reviewed conference papers: 30  
Total number of citations: 1610 (as of December 31st, 2010 calculated by CIDS)  
h-index: 23, g-index: 37,  
[http://cids.di.fc.ul.pt/cids\\_3\\_0/results.php?acc=19271126111105329059](http://cids.di.fc.ul.pt/cids_3_0/results.php?acc=19271126111105329059)

## Research Visits

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|            |  |
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| 2004, 2005 | TU Berlin, Germany(2x 1 month, with Prof. Hartmut Ehrig, SEGRAVIS Grant)     |
| 2003       | Univ. Paderborn, Germany(3 months, with Prof. Gregor Engels, SEGRAVIS Grant) |
| 2001       | SRI International, US (4 months, with Dr. John Rushby)                       |

## Projects and Grants

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### Collaborative European Projects (as Site Leader or Research Director at our site)

|           |  |
|-----------|--|
| 2010-2013 | <b>E-Freight:</b> European e-Freight Capabilities for Co-modal Transport (EU-FP7-SST-IP, funding: 260,000 EUR)                                   |
| 2009-2012 | <b>SecureChange:</b> Security Engineering for Lifelong Evolvable Systems (EU-FP7-FET-IP, 231101-2009, funding: 250,000 EUR)                      |
| 2006-2010 | <b>DIANA:</b> Distributed, equipment Independent environment for Advanced avioNic Applications (EU-STREP, FP6-2005-Aero-1, funding: 410,000 EUR) |
| 2005-2010 | <b>SENSORIA:</b> Software Engineering for Service Oriented Overlay Computers (FP6 European IP, IST-016004, funding: 300,000 EUR)                 |

### Nationally Funded Projects with Central EC Review (as PI)

|           |  |
|-----------|--|
| 2010-2013 | <b>CERTIMOT:</b> Design and Analysis Techniques for Certifiable Model Transformations (ERC-HU-09: Starting Grant <sup>1</sup> , 370 000 EUR) |
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### Industrial Research Grants

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|-----------|--|
| 2007      | <b>IBM Faculty Award:</b> A framework for the model-driven design and analysis of standards-compliant IT infrastructure management (by IBM TJ Watson Research Centre, total funding: 20,000 USD) |
| 2006      | <b>IBM Faculty Award:</b> Model based deployment of services to standards-compliant reliable IBM middleware (by IBM TJ Watson Research Centre, total funding: 10,000 USD)                        |
| 2005      | <b>IBM Faculty Award:</b> Model Transformation Engineering as a complement to IBM Process Modeling Technologies (by IBM TJ Watson Research Centre, total funding: 6,000 USD)                     |
| 2006-2010 | Four collaborative projects with <b>Nokia Research Centre</b> on high-availability service platforms, and on model-driven development techniques   |

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<sup>1</sup>The Starting Grant proposal went to 2nd round at EC and it was recommended for funding but became out of budget, later partially funded by the Hungarian Research Agency

## Further Project Participation

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### Collaborative European Projects (with Major Contributions as Participant)

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| 2009-2011 | <b>INDEXYS:</b> INDustrial EXPloitation of the genesYS cross-domain architecture (ARTEMIS-2008-1-100021)   |
| 2006-2008 | <b>RESIST:</b> Resilience for Survivability in IST (EU-FP6 Network of Excellence)  |
| 2004-2007 | <b>DECOS:</b> Dependable Embedded Components and Systems (FP6 European IP)<br><b>SEGRAVIS:</b> Syntactic and Semantic Integration of Visual Modelling Techniques (Research Training Network 2002-2006) |

### National Research Projects (as Major Contributor)

|           |  |
|-----------|--|
| 2005-2006 | EC-Conforming Certification of Safety Equipments for Hungarian Railways (GVOP-2004-3.1.1)          |
| 2001-2003 | Operation Research Methods for the Analysis and Verification of IT Systems (OTKA T038027)          |
| 2000-2002 | Framework for the Development and Testing of Dependable, Safety-Critical Systems (IKTA-00065/2000) |
| 2000-2001 | Formal Methods in Informatics (MEH 96/2000)  |
| 1999-2001 | Automated Verification and Validation of UML Models for IT Systems (OTKA T030804)                  |

### National Projects on innovative exploitation of academic results (as Major Contributor)

|           |  |
|-----------|--|
| 2005-2007 | An MDA based product family for service dependability and optimization (GVOP-2005-3.3.1, in Hungarian) |
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## Awards

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|           |   |
|-----------|---|
| 2010-2013 | János Bolyai Scholarship (Design and Analysis Techniques for the Certification of Model Transformations) <sup>2</sup>   |
| 2009      | Distinguished Tutor <sup>3</sup>  |
| 2009      | Springer Best Paper Award and ACM Distinguished Paper Award (MODELS 2009: The 12th IEEE/ACM International Conference on Model Driven Engineering Languages and Systems) |
| 2005-2008 | János Bolyai Scholarship (Design and Analysis Techniques for Automated Model Transformations)   |
| 2003      | János Kemény Prize (John von Neumann Computer Society <sup>4</sup> )  |

<sup>2</sup>National Award of the Hungarian Academy of Sciences for young scholars.

<sup>3</sup>Bi-annual award for the supervision of MSc students carrying out early research; 3 awardees in Computer Science biannually;

## Software Projects

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|           |   |
|-----------|---|
| 2004-     | VIATRA2 Model transformation framework                    |
| 2010-     | EMF-IncQuery: Incremental queries over EMF models         |
| 2002-2004 | CheckVML: Model checking for graph transformation systems |

## Invited talks

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|      |   |
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| 2010 | Designing Domain-Specific Languages (at University of Szeged, Hungary)  |
| 2009 | Model driven development of configuration tables (at Rockwell Collins, US)  |
| 2008 | Precise model transformations for tool integration (at TU Berlin, Germany)  |
| 2007 | Model transformation by example (at ISIS, Vanderbilt University, US)  |
| 2007 | Model-Driven Deployment of Services to Standards Compliant Reliable Middleware (at Dagstuhl Seminar 07061 Autonomous and Adaptive Web Services)                             |
| 2004 | The VIATRA2 model transformation framework (at TU Darmstadt, Germany)   |
| 2004 | Towards Automated Formal Verification of Visual Modeling Languages by Model Checking (at Dagstuhl Seminar 04101 Language Engineering for Model-Driven Software Development) |
| 2003 | Model checking visual modeling languages (at SRI International, US)   |

## Tutoring

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**PhD students (main supervisor):** 5 – István Ráth (2011), Ákos Horváth (2011), Gábor Bergmann (2012), Ábel Hegedüs (2013), Zoltán Ujhelyi (2013)

**PhD students (as co-tutor):** 3: – Gergely Varró (2008), András Balogh (2010), László Gönczy (2011)

**Number of Masters students graduated:** 23

**Tutoring MSc students on a national-level scientific competition:** 19 scientific reports; 3x 1st prize (on national level), 3x 3rd prize (on national level), 7x 1st prize (on faculty level), 6x second prize (on faculty level)) Distinguished Tutor (2009) (youngest ever nominee, requires 10 years of tutoring)

## Membership in Professional Societies

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requires 10 years of successful tutoring; I became the youngest ever awardee

<sup>4</sup>An annual award in Hungary for young scholars

2009-

John von Neumann Computer Society (vice-president)

Member of IEEE Computer Society

## Spoken Languages

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Hungarian (mother tongue)

English (fluent)

French (intermediate)

## Hobbies

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1997-2003, 2010-

futsal (indoor soccer); goalkeeper in 1st and 2nd league of the Hungarian National Championship

music (singing in choirs, and participating in concerts for children)

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## Publications

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### – Books and Book Chapter –

- [B1] A. Pataricza, T. Bartha, G. Csertán, S. Gyapay, I. Majzik, and D. Varró, *Formális módszerek az informatikában*. Typotex, 2004. In Hungarian.
- [B2] A. Balogh, G. Bergmann, G. Csertán, L. Gönczy, Á. Horváth, I. Majzik, A. Pataricza, B. Polgár, I. Ráth, D. Varró, and G. Varró, “Workflow-driven tool integration using model transformations,” in *Graph Transformations and Model-Driven Engineering - Essays Dedicated to Manfred Nagl on the Occasion of his 65th Birthday* (G. Engels, C. Lewerentz, W. Schäfer, A. Schürr, and B. Westfechtel, eds.), vol. 5765 of *Lecture Notes in Computer Science*, pp. 224–248, Springer, 2010.
- [B3] L. Gönczy, Á. Hegedüs, and D. Varró, *Methodologies for Model-Driven Development and Deployment: an Overview*. Springer-Verlag, 2010. To appear.
- [B4] G. Bergmann, A. Boronat, R. Heckel, P. Torrini, I. Ráth, and D. Varró, *Advances in model transformation by graph transformations: Specification, Analysis and Execution*. Springer, 2010. In Press.
- [B5] L. Grunske, L. Geiger, A. Zündorf, N. Van Eetvelde, P. Van Gorp, and D. Varró, *Model Driven Software Engineering*, ch. Using Graph Transformation for Practical Model Driven Software Engineering, pp. 91–118. Springer, 2005.
- [B6] A. Pataricza and D. Varró, *Formal Methods in Computing*, ch. Metamodeling and Model Transformations, pp. 357–425. Akadémiai Kiadó, 2005.

### – Refereed Journals –

- [J1] A. Horváth and D. Varró, “Dynamic constraint satisfaction problems over models,” *Software and Systems Modeling*, 2011. IF: 1.533, Available online.
- [J2] G. Bergmann, Á. Horváth, I. Ráth, and D. Varró, “Experimental assessment of combining pattern matching strategies with viatra2,” *Software Tools for Technology Transfer*, vol. 12, no. 3-4, pp. 211–230, 2010.
- [J3] S. Gilmore, L. Gönczy, N. Koch, P. Mayer, M. Tribastone, and D. Varró, “Non-functional properties in the model-driven development of service-oriented systems,” *Software and Systems Modeling*, 2010. IF: 1.533, Appeared online.
- [J4] I. Ráth, A. Ökrös, and D. Varró, “Synchronization of abstract and concrete syntax in domain-specific modeling languages,” *Software and Systems Modeling*, vol. 9, no. 4, pp. 453–471, 2010. IF: 1.533.
- [J5] Z. Balogh and D. Varró, “Model transformation by example using inductive logic programming,” *Software and Systems Modeling*, vol. 8, no. 3, pp. 347–364, 2009. IF: 1.533.
- [J6] M. Kovács, L. Gönczy, and D. Varró, “Formal analysis of BPEL workflows with compensation by model checking,” *International Journal of Computer Systems and Engineering*, vol. 23, no. 5, 2008. IF: 0.277.
- [J7] D. Varró and A. Balogh, “The model transformation language of the VIATRA2 framework,” *Science of Computer Programming*, vol. 68, pp. 214–234, October 2007. IF: 0.832.
- [J8] L. Baresi, R. Heckel, S. Thöne, and D. Varró, “Style-based modeling and refinement of service-oriented architectures,” *Software and Systems Modelling*, vol. 5, pp. 187–207, June 2006.
- [J9] Á. Horváth, D. Varró, and G. Varró, “Automatic generation of platform-specific transformation,” *Info-Communications-Technology*, vol. LXI, no. 7, pp. 40–45, 2006.

- [J10] G. Varró, K. Friedl, and D. Varró, “Implementing a graph transformation engine in relational databases,” *Software and Systems Modelling*, vol. 5, pp. 313–341, September 2006.
- [J11] D. Varró, “Automated formal verification of visual modeling languages by model checking,” *Software and Systems Modeling*, vol. 3, pp. 85–113, May 2004.
- [J12] S. Gyapay, R. Heckel, and D. Varró, “Graph transformation with time,” *Fundamenta Informaticae*, vol. 58, pp. 1–22, November 2003. IF: 0.691.
- [J13] D. Varró and A. Pataricza, “UML Action Semantics for model transformation systems,” *Periodica Polytechnica*, vol. 47, no. 3, pp. 167–186, 2003.
- [J14] D. Varró and A. Pataricza, “VPM: A visual, precise and multilevel metamodeling framework for describing mathematical domains and UML,” *Software and Systems Modeling*, vol. 2, pp. 187–210, October 2003.
- [J15] D. Varró, G. Varró, and A. Pataricza, “Designing the automatic transformation of visual languages,” *Science of Computer Programming*, vol. 44, pp. 205–227, August 2002. IF: 0.796.

– Peer Reviewed Conference Papers –

- [C1] G. Bergmann, Á. Horváth, I. Ráth, D. Varró, A. Balogh, Z. Balogh, and A. Ökrös, “Incremental evaluation of model queries over emf models,” in *Model Driven Engineering Languages and Systems - 13th International Conference, MODELS 2010, Oslo, Norway, October 3-8, 2010, Proceedings, Part I* (D. C. Petriu, N. Rouquette, and Ø. Haugen, eds.), vol. 6394 of *Lecture Notes in Computer Science*, pp. 76–90, Springer, 2010. Acceptance rate: 21%.
- [C2] Á. Hegedüs, G. Bergmann, I. Ráth, and D. Varró, “Back-annotation of simulation traces with change-driven model transformations,” in *Proceedings of the Eighth International Conference on Software Engineering and Formal Methods*, (Pisa), pp. 145–155, IEEE Computer Society, IEEE Computer Society, 09/2010 2010. Acceptance rate: 22%.
- [C3] G. Bergmann, Á. Horváth, I. Ráth, and D. Varró, “Efficient model transformations by combining pattern matching strategies,” in *Theory and Practice of Model Transformations, Second International Conference, ICMT 2009, Zurich, Switzerland, June 29-30, 2009. Proceedings* (R. F. Paige, ed.), vol. 5563 of *Lecture Notes in Computer Science*, pp. 20–34, Springer, 2009. Acceptance rate = 22%.
- [C4] Á. Horváth and D. Varró, “Csp(m): Constraint satisfaction problem over models,” in *Model Driven Engineering Languages and Systems, 12th International Conference, MODELS 2009, Denver, CO, USA, October 4-9, 2009. Proceedings* (A. Schürr and B. Selic, eds.), vol. 5795 of *Lecture Notes in Computer Science*, pp. 107–121, Springer, 2009. Acceptance rate: 18%.
- [C5] I. Ráth, G. Varró, and D. Varró, “Change-driven model transformations,” in *Model Driven Engineering Languages and Systems, 12th International Conference, MODELS 2009, Denver, CO, USA, October 4-9, 2009. Proceedings* (A. Schürr and B. Selic, eds.), vol. 5795 of *Lecture Notes in Computer Science*, pp. 342–356, Springer, 2009. Acceptance rate: 18%, Springer Best Paper Award and ACM Distinguished Paper Award.
- [C6] G. Bergmann, Á. Horváth, I. Ráth, and D. Varró, “A benchmark evaluation of incremental pattern matching in graph transformation,” in *Proc. 4th International Conference on Graph Transformations, ICGT 2008* (H. Ehrig, R. Heckel, G. Rozenberg, and G. Taentzer, eds.), vol. 5214 of *Lecture Notes in Computer Science*, pp. 396–410, Springer, 2008. Acceptance rate = 40%.
- [C7] L. Gönczy, Z. Déri, and D. Varró, “Model transformations for performability analysis of service configurations,” in *Models in Software Engineering, Workshops and Symposia at MODELS 2008, Toulouse, France, September 28 - October 3, 2008. Reports and Revised Selected Papers* (M. R. V. Chaudron, ed.), vol. 5421 of *Lecture Notes in Computer Science*, pp. 153–166, Springer, 2008.

- [C8] I. Ráth, G. Bergmann, A. Ökrös, and D. Varró, “Live model transformations driven by incremental pattern matching,” in *Proc. First International Conference on the Theory and Practice of Model Transformations (ICMT 2008)* (A. Vallecillo, J. Gray, and A. Pierantonio, eds.), vol. 5063 of *Lecture Notes in Computer Science*, pp. 107–121, Springer, 2008. Acceptance rate = 31%.
- [C9] I. Ráth, D. Vago, and D. Varró, “Design-time simulation of domain-specific models by incremental pattern matching,” in *IEEE Symposium on Visual Languages and Human-Centric Computing, VL/HCC 2008, Herrsching am Ammersee, Germany, 15-19 September 2008, Proceedings*, pp. 219–222, IEEE, 2008. Acceptance rate = 29%.
- [C10] G. Varró, Á. Horváth, and D. Varró, “Recursive graph pattern matching: With magic sets and global search plans,” in *Proc. Third International Workshop and Symposium on Applications of Graph Transformation with Industrial Relevance (ACTIVE 2007)* (A. Schürr, M. Nagl, and A. Zündorf, eds.), vol. 5088 of *Lecture Notes in Computer Science*, Springer, 2008.
- [C11] A. Kövi and D. Varró, “An eclipse-based framework for ais service configurations,” in *Proc. 4th International Service Availability Symposium, ISAS 2007, Durham, NH, USA, May 21-22, 2007* (M. Malek, M. Reitenspieß, and A. P. A. van Moorsel, eds.), vol. 4526 of *Lecture Notes in Computer Science*, pp. 110–126, Springer, 2007.
- [C12] D. Varró and Z. Balogh, “Automating model transformation by example using inductive logic programming,” in *Proceedings of the 2007 ACM Symposium on Applied Computing (SAC 2007), Seoul, Korea, March 11-15, 2007* (Y. Cho, R. L. Wainwright, H. Haddad, S. Y. Shin, and Y. W. Koo, eds.), pp. 978–984, ACM Press, 2007. Acceptance rate = 32%.
- [C13] A. Balogh and D. Varró, “Advanced model transformation language constructs in the VIATRA2 framework,” in *ACM Symposium on Applied Computing – Model Transformation Track (SAC 2006)*, (Dijon, France), pp. 1280–1287, ACM Press, April 2006. Acceptance rate = 32%.
- [C14] A. Balogh, G. Varró, D. Varró, and A. Pataricza, “Compiling model transformations to EJB3-specific transformer plugins,” in *ACM Symposium on Applied Computing – Model Transformation Track (SAC 2006)*, (Dijon, France), pp. 1288–1295, ACM Press, April 2006. Acceptance rate = 32%.
- [C15] A. Kövi, D. Varró, and Z. Németh, “Making legacy services highly-available with OpenAIS: An experience report,” in *Third International Service Availability Symposium (ISAS 2006)* (F. Tam and K. Raatikainen, eds.), vol. 4328 of *LNCS*, (Helsinki, Finland), pp. 206–216, Springer, 2006.
- [C16] D. Varró, “Model transformation by example,” in *Proc. Model Driven Engineering Languages and Systems (MODELS 2006)*, vol. 4199 of *LNCS*, (Genova, Italy), pp. 410–424, Springer, 2006. Acceptance rate = 29%.
- [C17] D. Varró, S. Varró-Gyapay, H. Ehrig, U. Prange, and G. Taentzer, “Termination analysis of model transformations by Petri nets,” in *Proc. Third International Conference on Graph Transformation (ICGT 2006)* (A. Corradini, H. Ehrig, U. Montanari, L. Ribeiro, and G. Rozenberg, eds.), vol. 4178 of *LNCS*, (Natal, Brazil), pp. 260–274, Springer, 2006. Acceptance rate = 45%.
- [C18] A. Balogh, G. Varró, D. Varró, and A. Pataricza, “Model-based optimization of enterprise application and service deployment,” in *Second International Service Availability Symposium, ISAS 2005, Berlin, Germany, April 25-26* (M. Malek, E. Nett, and N. Suri, eds.), vol. 3694 of *LNCS*, pp. 84–98, Springer, 2005.
- [C19] H. Ehrig, K. Ehrig, J. de Lara, G. Taentzer, D. Varró, and S. Varró-Gyapay, “Termination criteria for model transformation,” in *Proc. FASE 2005: International Conference on Fundamental Approaches to Software Engineering* (M. Cerioli, ed.), vol. 3442 of *LNCS*, (Edinburgh, UK), pp. 49–63, Springer, April 2005. Acceptance rate = 22%.
- [C20] G. Varró, A. Schürr, and D. Varró, “Benchmarking for graph transformation,” in *Proc. IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 05)*, (Dallas, Texas, USA), pp. 79–88, IEEE Press, September 2005. Acceptance rate = 31%.

- [C21] L. Baresi, R. Heckel, S. Thöne, and D. Varró, “Style-based refinement of dynamic software architectures,” in *Proc. WICSA 2004: 4th Working International IEEE/IFIP Conference on Software Architecture*, (Oslo, Norway), pp. 155–164, IEEE Computer Society, 2004. Acceptance rate = 30%.
- [C22] Z. Pap and D. Varró, “Static safety analysis of uml action semantics for critical systems development,” in *GI Jahrestagung (1)* (P. Dadam and M. Reichert, eds.), vol. 50 of *LNI*, pp. 57–61, GI, September 2004.
- [C23] A. Rensink, Á. Schmidt, and D. Varró, “Model checking graph transformations: A comparison of two approaches,” in *Proc. ICGT 2004: Second International Conference on Graph Transformation*, vol. 3256 of *LNCS*, (Rome, Italy), pp. 226–241, Springer, 2004.
- [C24] D. Varró and A. Pataricza, “Generic and meta-transformations for model transformation engineering,” in *Proc. UML 2004: 7th International Conference on the Unified Modeling Language* (T. Baar, A. Strohmeier, A. Moreira, and S. Mellor, eds.), vol. 3273 of *LNCS*, (Lisbon, Portugal), pp. 290–304, Springer, October 10–15 2004. Acceptance rate = 22%.
- [C25] L. Baresi, R. Heckel, S. Thöne, and D. Varró, “Modeling and analysis of architectural styles,” in *Proc ESEC 2003: 9th European Software Engineering Conference* (P. Inverardi and J. Paakki, eds.), (Helsinki, Finland), pp. 68–77, ACM Press, September 2003. Acceptance rate = 20%.
- [C26] Á. Schmidt and D. Varró, “CheckVML: A tool for model checking visual modeling languages,” in *Proc. UML 2003: 6th International Conference on the Unified Modeling Language* (P. Stevens, J. Whittle, and G. Booch, eds.), vol. 2863 of *LNCS*, (San Francisco, CA, USA), pp. 92–95, Springer, October 20–24 2003. Acceptance rate = 15%.
- [C27] G. Csertán, G. Huszerl, I. Majzik, Z. Pap, A. Pataricza, and D. Varró, “VIATRA: Visual automated transformations for formal verification and validation of UML models,” in *Proc. ASE 2002: 17th IEEE International Conference on Automated Software Engineering* (J. Richardson, W. Emmerich, and D. Wile, eds.), (Edinburgh, UK), pp. 267–270, IEEE Press, September 23–27 2002. Acceptance rate = 20%.
- [C28] S. Gyapay, R. Heckel, and D. Varró, “Graph transformation with time: Causality and logical clocks,” in *Proc. ICGT 2002: 1st International Conference on Graph Transformation* (A. Corradini, H. Ehrig, H.-J. Kreowski, and G. Rozenberg, eds.), vol. 2505 of *LNCS*, (Barcelona, Spain), pp. 120–134, Springer-Verlag, October 7–12 2002.
- [C29] D. Varró, “A formal semantics of UML Statecharts by model transition systems,” in *Proc. ICGT 2002: 1st International Conference on Graph Transformation* (A. Corradini, H. Ehrig, H.-J. Kreowski, and G. Rozenberg, eds.), vol. 2505 of *LNCS*, (Barcelona, Spain), pp. 378–392, Springer-Verlag, October 7–12 2002.
- [C30] D. Varró and A. Pataricza, “Metamodeling mathematics: A precise and visual framework for describing semantics domains of UML models,” in *Proc. Fifth International Conference on the Unified Modeling Language – The Language and its Applications* (J.-M. Jézéquel, H. Hussmann, and S. Cook, eds.), vol. 2460 of *LNCS*, (Dresden, Germany), pp. 18–33, Springer-Verlag, September 30 – October 4 2002. Acceptance rate = 30%.

– Other Conference Papers –

- [O1] Á. Horváth, D. Varró, and T. Schoofs, “Model-driven development of arinc 653 configuration tables,” in *29th IEEE & AIAA Digital Avionics System Conference (DASC)*, (Salt Lake City, US), IEEE, IEEE, 10/2010 2010.

– Refereed Workshop Papers –

- [W1] Á. Hegedüs, I. Ráth, and D. Varró, “From bpel to sal and back: a tool demo on back-annotation with viatra2,” in *Proc. SEFM 2010: Posters and Tool Demo Session Track*, pp. 35–42, 09/2010 2010. Accepted for the SEFM 2010 Posters and Tool Demo Session Track.

- [W2] G. Bergmann, I. Ráth, and D. Varró, "Parallelization of graph transformation based on incremental pattern matching," *Electronic Communications of EASST*, vol. 18, 2009.
- [W3] L. Gönczy, I. Majzik, Á. Horváth, D. Varró, A. Balogh, Z. Micskei, and A. Pataricza, "Tool support for engineering certifiable software," *Electr. Notes Theor. Comput. Sci.*, vol. 238, no. 4, pp. 79–85, 2009.
- [W4] G. Bergmann, A. Ökrös, I. Ráth, D. Varró, and G. Varró, "Incremental pattern matching in the viatra model transformation system," in *Proc. Graph and Model Transformations (GRAMOT 2008)* (G. Karsai and G. Taentzer, eds.), ACM, 2008.
- [W5] L. Gönczy, M. Kovács, and D. Varró, "Modeling and verification of reliable messaging by graph transformation systems," *Electr. Notes Theor. Comput. Sci.*, vol. 175, no. 4, pp. 37–50, 2007.
- [W6] Á. Horváth, D. Varró, and G. Varró, "Generic search plans for matching advanced graph patterns," *Electronic Communications of the EASST*, vol. 6, 2007. Selected papers of GT-VMT 2007: Graph Transformation and Visual Modelling Techniques 2007.
- [W7] M. Kovács, L. Gönczy, and D. Varró, "Formal modeling of bpm workflows including fault and compensation handling," in *EFTS '07: Proceedings of the 2007 workshop on Engineering fault tolerant systems*, (New York, NY, USA), p. 1, ACM, 2007.
- [W8] A. Balogh and D. Varró, "Pattern composition in graph transformation rules," in *European Workshop on Composition of Model Transformations*, (Bilbao, Spain), July 2006.
- [W9] A. Darabos, A. Pataricza, and D. Varró, "Towards testing the implementation of graph transformations," in *Proc. of the Fifth International Workshop on Graph Transformation and Visual Modelling Techniques*, ENTCS, Elsevier, 2006.
- [W10] L. Gönczy and D. Varró, "Modeling reliable messaging in Service Oriented Architecture," in *International Workshop on Web Services – Modeling and Testing*, (Palermo, Italy), June 2006.
- [W11] T. Mens, P. van Gorp, G. Karsai, and D. Varró, "Applying a model transformation taxonomy to graph transformation technology," in *GraMot 2005, International Workshop on Graph and Model Transformations* (G. Karsai and G. Taentzer, eds.), vol. 152 of ENTCS, pp. 143–159, Elsevier, 2006.
- [W12] I. Ráth and D. Varró, "Challenges for advanced domain-specific modeling frameworks," in *International Workshop on Domain Specific Program Development (DSPD 2006)*, (Nantes, France), July 2006.
- [W13] S. Varró-Gyapay and D. Varró, "Optimization in graph transformation systems using petri net based techniques," *Electronic Communications of the EASST (ECEASST)*, vol. 2, 2006. Selected papers of Workshop on Petri Nets and Graph Transformations.
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- [W21] L. Baresi, R. Heckel, S. Thöne, and D. Varró, "Modeling and analysis of architectural styles based on graph transformation," in *The 6th ICSE Workshop on Component Based Software Engineering: Automated Reasoning and Prediction* (I. Crnkovic, H. Schmidt, J. Stafford, and K. Wallnau, eds.), (Portland, Oregon, USA), pp. 67–72, Carnegie Mellon University, USA, and Monash University, Australia, May 3-4 2003.
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- [W24] P. Domokos and D. Varró, "An open visualization framework for metamodel-based modeling languages," in *Proc. GraBaTs 2002, International Workshop on Graph-Based Tools* (T. Mens, A. Schürr, and G. Taentzer, eds.), vol. 72 (2) of *ENTCS*, (Barcelona, Spain), pp. 78–87, Elsevier, October 7–8 2002.
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- [W28] D. Varró, "Automatic program generation for and by model transformation systems," in *Proc. AGT 2002: Workshop on Applied Graph Transformation* (H.-J. Kreowski and P. Knirsch, eds.), (Grenoble, France), pp. 161–173, April 12–13 2002.
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- [W30] D. Varró, G. Varró, and A. Pataricza, "Designing the automatic transformation of visual languages," in *GRATRA 2000 Joint APPLIGRAPH and GETGRATS Workshop on Graph Transformation Systems* (H. Ehrig and G. Taentzer, eds.), (Berlin, Germany), pp. 14–21, March 25–27 2000.
- [W31] D. Varró, G. Varró, and A. Pataricza, "Visual graph transformation in system verification," in *DDECS 2000 International IEEE Workshop on the Design and Diagnostics of Electronic Circuits and Systems* (E. Gramatova, H. Manhaeve, and A. Pawlak, eds.), (Bratislava, Slovakia), pp. 137–141, April 5–7 2000.

– Invited Papers –

- [I1] J. Bézivin, R. France, M. Gogolla, Ø. Haugen, G. Taentzer, and D. Varró, “Teaching modeling: Why, when, what?,” in *Models in Software Engineering, Workshops and Symposia at MODELS 2009, Denver, CO, USA, October 4-9, 2009, Reports and Revised Selected Papers* (S. Ghosh, ed.), vol. 6002 of *Lecture Notes in Computer Science*, pp. 55–62, Springer, 2009.
- [I2] D. Varró, M. Asztalos, D. Bisztray, A. Boronat, D.-H. Dang, R. Geiss, J. Greenyer, P. V. Gorp, O. Kniemeyer, A. Narayanan, E. Rencis, and E. Weinell, “Transformation of uml models to csp: A case study for graph transformation tools,” in *Proc. Third International Workshop and Symposium on Applications of Graph Transformation with Industrial Relevance (AGTIVE 2007)* (A. Schürr, M. Nagl, and A. Zündorf, eds.), vol. 5088 of *Lecture Notes in Computer Science*, pp. 540–565, Springer, 2008.
- [I3] M. Wirsing, M. M. Hölzl, L. Acciai, F. Banti, A. Clark, A. Fantechi, S. Gilmore, S. Gnesi, L. Gönczy, N. Koch, A. Lapadula, P. Mayer, F. Mazzanti, R. Pugliese, A. Schroeder, F. Tiezzi, M. Tribastone, and D. Varró, “Sensoriapatterns: Augmenting service engineering with formal analysis, transformation and dynamicity,” in *Leveraging Applications of Formal Methods, Verification and Validation, Third International Symposium, ISoLA 2008, Porto Sani, Greece, October 13-15, 2008. Proceedings* (T. Margaria and B. Steffen, eds.), vol. 17 of *Communications in Computer and Information Science*, pp. 170–190, Springer, 2008.
- [I4] K. Ehrig, G. Taentzer, and D. Varró, “Tool integration by model transformations based on the Eclipse Modeling Framework,” *EASST Newsletter*, vol. 12, 2006.

– Edited Volumes –

- [E1] J. de Lara and D. Varró, eds., *Proc. GRABATS 2010: International Workshop on Graph Based Tools*, EASST, 2010.
- [E2] A. Zündorf and D. Varró, “Workshop on graph-based tools,” in *Proc. Third International Conference on Graph Transformation (ICGT 2006)*, vol. 4178 of *LNCS*, (Natal, Brazil), pp. 465–466, Springer, 2006.
- [E3] R. Bruni and D. Varró, eds., *Fifth International Workshop on Graph Transformation and Visual Modelling Techniques*, ENTCS, Elsevier, 2006.

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## Service to Scientific Community

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– Program Chair –

- [CH1] AGTIVE 2011, *Fourth International Symposium on Applications of Graph Transformations with Industrial Relevance*, (Budapest, Hungary), October 3-7 2011.
- [CH2] GRABATS 2010, *International Workshop on Graph Based Tools*, (Enschede, Netherlands), September 28 2010.
- [CH3] GT-VMT 2006, *5th International Workshop on Graph Transformation and Visual Modelling Techniques*, (Vienna, Austria), April 1-2 2006.
- [CH4] GRABATS 2006, *International Workshop on Graph Based Tools*, (Natal, Brazil), September 18 2006.

– Steering Committee Member –

- [SC1] ETAPS, *The European Joint Conferences on Theory and Practice of Software*, 2006-2009.

– Conference Organization –

- [LO1] MODELS 2012, *ACM/IEEE International Conference on Model Driven Engineering Languages and Systems*, (Innsbruck, Austria), October 2012. Demo and Exhibition Chair.
- [LO2] SENSUS 2009, *SENSUS Summer School*, (Keszthely, Hungary), June 29 - July 3 2009.
- [LO3] ETAPS 2008, *The European Joint Conferences on Theory and Practice of Software*, (Budapest, Hungary), March 29 - April 6 2008. 670 participants.
- [LO4] MODELS 2007, *ACM/IEEE International Conference on Model Driven Engineering Languages and Systems*, (Nashville, TN, US), October 1 2007. Academic Posters and Demos Chair.
- [LO5] EDCC 2005, *Fifth European Dependable Computing Conference*, (Budapest, Hungary), April 20-22 2005.

– Reviews for Journals –

- [JR1] Springer, “Software and systems modeling.” Regular reviewer.
- [JR2] Elsevier, “Science of computer programming.” Regular reviewer.
- [JR3] IEEE, “Transactions on software engineering.” Occasional reviewer.
- [JR4] ACM, “Transactions on software engineering and methodology.” Occasional reviewer.
- [JR5] Springer, “Software tools for technology transfer.” Occasional reviewer.
- [JR6] Springer, “Automated software engineering.” Occasional reviewer.

– Opponent (External PhD reviewer) –

- [DS1] G. Guta, *TBA*. PhD thesis, University of Linz, Austria, 2011.
- [DS2] T. Mészáros, *Supporting Model Simulation Methods with Graph Transformation*. PhD thesis, Budapest University of Technology and Economics, Budapest, Hungary, 2011.
- [DS3] T. Gergely, *Static and Dynamic Analysis of Programs*. PhD thesis, University of Szeged, Hungary, 2010. In Hungarian.
- [DS4] L. Vidács, *Software Maintenance Techniques for Preprocessed Languages*. PhD thesis, University of Szeged, Hungary, 2010.
- [DS5] T. Hettel, *Model Round-Trip Engineering*. PhD thesis, Queensland University of Technology, Australia, 2009.
- [DS6] A. Sipos, *Efficient Development of Template Based Meta-Programs*. PhD thesis, Eötvös University, Budapest, Hungary, 2009. In Hungarian.
- [DS7] G. Lukácsy, *Semantic Technologies based on Logic Programming*. PhD thesis, Budapest University of Technology and Economics, Budapest, Hungary, 2008.
- [DS8] S. Hajdara, *Designing and Synthesizing the Synchronization of Concurrent Object-Oriented Systems*. PhD thesis, Eötvös University, Budapest, Hungary, 2008.

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## Program Committee Membership

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### – Software Engineering –

- [SE1] FASE 2012, *Fundamental Approaches to Software Engineering*, (Tallinn, Estonia), March 2012.
- [SE2] MODELS 2011, *ACM/IEEE International Conference on Model Driven Engineering Languages and Systems*, (Wellington, New Zealand), October 16-21 2011.
- [SE3] FASE 2011, *Fundamental Approaches to Software Engineering*, (Saarbrücken, Germany), March 28 - April 2 2011.
- [SE4] ICMT 2011, *International Conference on Model Transformation*, (Zurich, Switzerland), June 28-30 2011.
- [SE5] ECMFA 2011, *7th European Conference on Modelling Foundations and Applications*, (Birmingham, UK), June 6-9 2011.
- [SE6] SOFSEM 2011, *37th International Conference on Current Trends in Theory and Practice of Computer Science*, (Novy Smokovec, Slovakia), January 22-28 2011.
- [SE7] MODELS 2010, *ACM/IEEE International Conference on Model Driven Engineering Languages and Systems*, (Oslo, Norway), October 3-8 2010.
- [SE8] FASE 2010, *Fundamental Approaches to Software Engineering*, (Paphos, Cyprus), March 22 - 26 2011.
- [SE9] ICMT 2010, *International Conference on Model Transformation*, (Malaga, Spain), June 28-29 2010.
- [SE10] ASE 2010, *IEEE/ACM International Conference on Automated Software Engineering*, (Antwerp, Belgium), September 20-24 2010.
- [SE11] MODELS 2009, *ACM/IEEE International Conference on Model Driven Engineering Languages and Systems*, (Denver, Colorado, US), October 4-9 2009.
- [SE12] FASE 2009, *Fundamental Approaches to Software Engineering*, (York, UK), March 22 - 29 2011.
- [SE13] ICMT 2009, *International Conference on Model Transformation*, (Zurich, Switzerland), June 29 - July 3 2009.
- [SE14] ASE 2009, *IEEE/ACM International Conference on Automated Software Engineering*, (Auckland, New Zealand), November 16-20 2009.
- [SE15] MODELS 2008, *ACM/IEEE International Conference on Model Driven Engineering Languages and Systems*, (Toulouse, France), September 28 - October 3 2008.
- [SE16] ICMT 2008, *International Conference on Model Transformation*, (Zurich, Switzerland), July 1-2 2008.
- [SE17] ARAMIS 2008, *1st Workshop on Automated engineering of Autonomic and run-time evolving Systems*, (L'Aquila, Italy), September 16 2008.
- [SE18] WAPL 2007, *1st Workshop on Advances in Programming Languages*, (Wisla, Poland), October 15-17 2007.
- [SE19] MODEVA 2007, *Perspectives on integrating MDA and V&V*, (Nashville, TN, US), October 2 2007.
- [SE20] ATEM 2007, *4th International Workshop on Metamodels, Schemas, Grammars and Ontologies for Reverse Engineering*, (Nashville, TN, US), October 1 2007.
- [SE21] SAC 2007, *The 22nd Annual ACM Symposium on Applied Computing (Track on Model Transformation)*, (Seoul, Korea), March 11-15 2007.

- [SE22] SAC 2006, *The 21st Annual ACM Symposium on Applied Computing (Track on Model Transformation)*, (Dijon, France), April 27 2006.
- [SE23] IWMEC 2006, *International Workshop on Models for Enterprise Computing*, (Hong Kong, China), October 6 2006.
- [SE24] MODEVA 2006, *Perspectives on integrating MDA and V&V*, (Genova, Italy), October 2 2006.
- [SE25] ATEM 2006, *3rd International Workshop on Metamodels, Schemas, Grammars and Ontologies for Reverse Engineering*, (Genova, Italy), October 1 2006.
- [SE26] GRAMOT 2006, *2nd International Workshop on Graph and Model Transformation*, (Brighton, UK), September 8 2006.
- [SE27] CMT 2006, *European Workshop on Composition of Model Transformations*, (Bilbao, Spain), July 10 2006.
- [SE28] GAMMA 2006, *First International Workshop on Global Integrated Model Management*, (Shanghai, China), May 22 2006.
- [SE29] MTIP 2005, *Model Transformations in Practice Workshop*, (Montego Bay, Jamaica), 2005 2005.
- [SE30] GRAMOT 2005, *1st International Workshop on Graph and Model Transformation*, (Tallinn, Estonia), September 28 2005.

– Visual Modeling Techniques and Tools –

- [VT1] FASE 2012, *Fundamental Approaches to Software Engineering*, (Tallinn, Estonia), March 2012.
- [VT2] VL/HCC 2011, *IEEE Symposium on Visual Languages and Human-Centric Computing*, (Pittsburgh, PA, USA), September 18-22 2011.
- [VT3] GT-VMT 2011, *10th International Workshop on Graph Transformation and Visual Modelling Techniques*, (Saarbrücken, Germany), April 2-3 2011.
- [VT4] GT-VMT 2010, *9th International Workshop on Graph Transformation and Visual Modelling Techniques*, (Paphos, Cyprus), March 20-21 2010.
- [VT5] GT-VMT 2009, *8th International Workshop on Graph Transformation and Visual Modelling Techniques*, (York, UK), March 28-29 2009.
- [VT6] GT-VMT 2008, *7th International Workshop on Graph Transformation and Visual Modelling Techniques*, (Budapest, Hungary), March 29-30 2008.
- [VT7] GRABATS 2008, *4th International Workshop on Graph-Based Tools: The Contest*, (Leicester, UK), September 12-13 2008.
- [VT8] GT-VMT 2007, *6th International Workshop on Graph Transformation and Visual Modelling Techniques*, (Braga, Portugal), March 31 - April 1 2007.
- [VT9] AGTIVE 2007, *3rd International Symposium on Applications of Graph Transformations with Industrial Relevance*, (Kassel, Germany), October 10-12 2007.
- [VT10] FUJABA 2006, *4th International Fujaba Days*, (Bayreuth, Germany), September 28-30 2006.
- [VT11] FUJABA 2005, *3rd International Fujaba Days*, (Paderborn, Germany), September 15-18 2005.
- [VT12] GRABATS 2004, *International Workshop on Graph Based Tools*, (Rome, Italy), October 2 2004.

– Dependable Computing –

- [DC1] EWDC 2011, *13th European Workshop on Dependable Computing*, (Pisa, Italy), May 11-12 2011.
- [DC2] DSN 2009, *The 39th Annual IEEE/IFIP International Conference on Dependable Systems and Networks*, (Estoril, Portugal), June 29 - July 2 2009.
- [DC3] EDCC 2006, *Sixth European Dependable Computing Conference*, (Coimbra, Portugal), October 18-20 2006.
- [DC4] ICDCS 2006, *The 26th IEEE International Conference on Distributed Computing Systems (Track on Fault Tolerance and Dependability)*, (Lisbon, Portugal), July 4-7 2006.

– Formal Methods –

- [FM1] ICTAC 2011, *8th International Colloquium on Theoretical Aspects of Computing*, (Johannesburg, South Africa), August 31 - September 2 2011.
- [FM2] ICGT 2010, *International Conference on Graph Transformation*, (Enschede, Netherlands), September 27 - October 2 2010.
- [FM3] ICTAC 2010, *7th International Colloquium on Theoretical Aspects of Computing*, (Natal, Brazil), September 1-3 2010.
- [FM4] FM 2009, *16th International Symposium on Formal Methods*, (Eindhoven, Netherlands), November 2-6 2009.
- [FM5] ICGT 2008, *International Conference on Graph Transformation*, (Leicester, UK), September 7-13 2008.
- [FM6] PNGT 2008, *3rd Workshop on Petri Nets and Graph Transformations*, (Leicester, UK), September 12-13 2008.
- [FM7] ICGT 2006, *International Conference on Graph Transformation*, (Natal, Brazil), September 17 - September 23 2006.
- [FM8] GTVC 2006, *Graph Transformation for Verification and Concurrency*, (Bonn, Germany), August 31 2006.