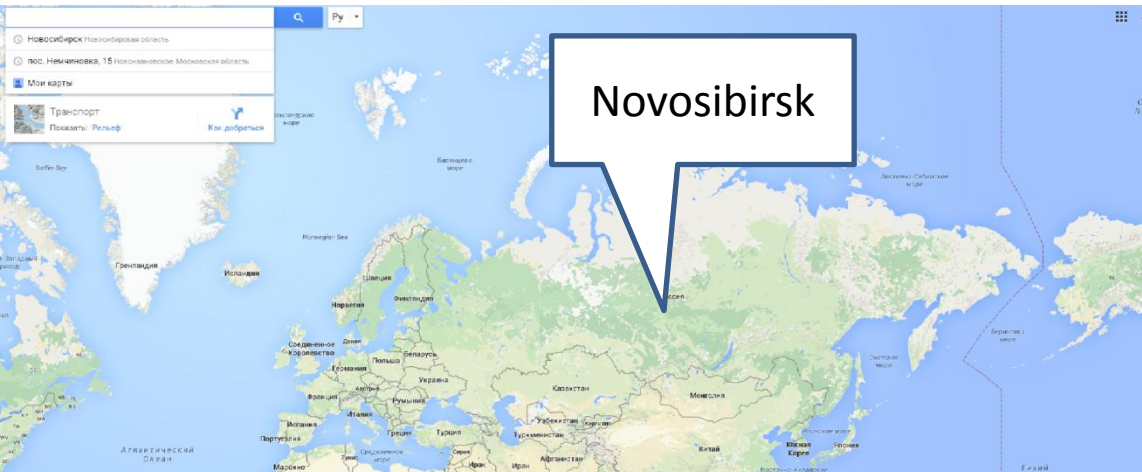# MBT Workshop History

Alexander K. Petrenko

Holger Schlingloff

PSI'2001 (Ershov Conference, Novosibirsk) MBT Discussions
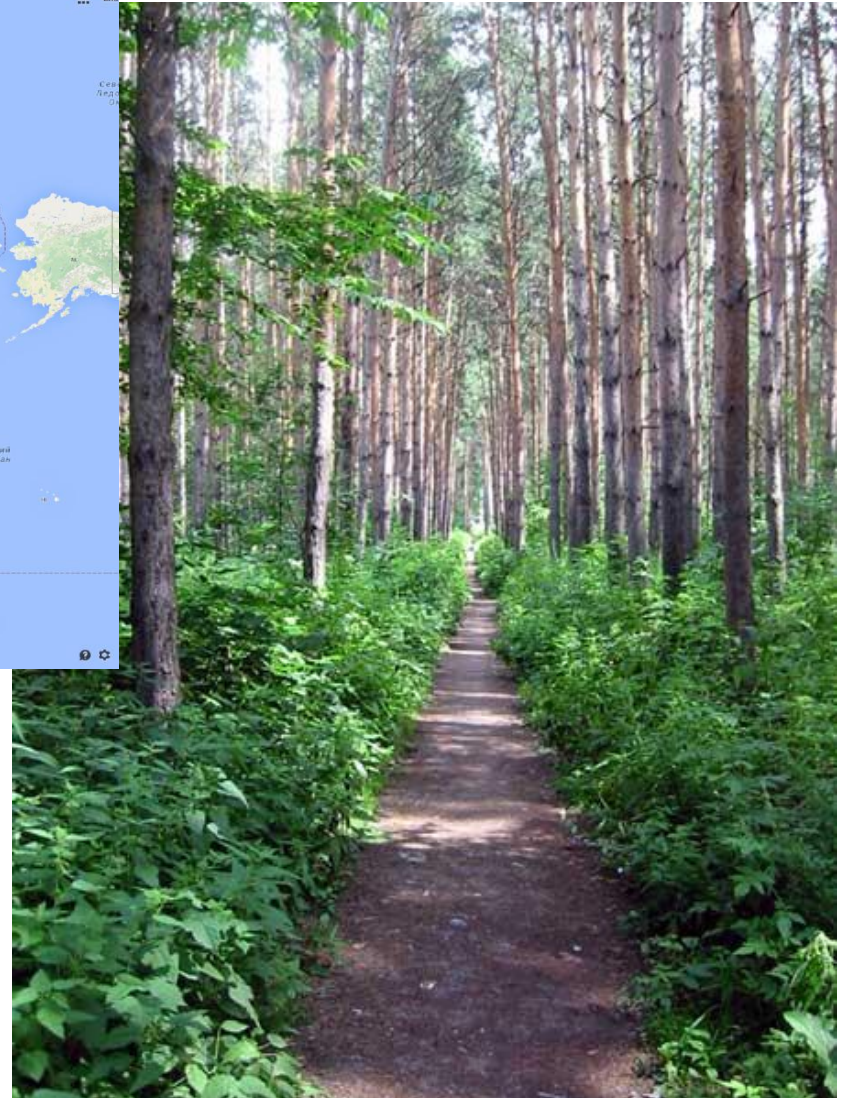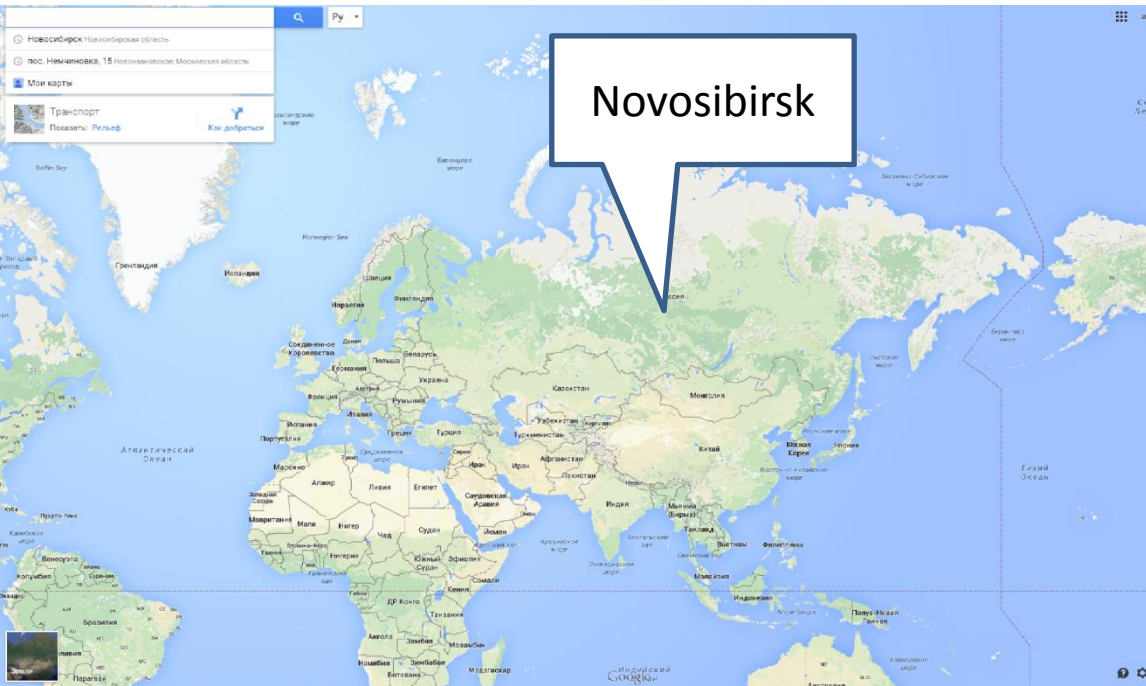

Novosibirsk

PSI'2001 (Ershov Conference, Novosibirsk)
MBT Workshop Origin

First MBT Workshop.
Barcelona 2004

MBT Workshop Invited Speakers

Year	Invited Speaker	Affiliation	Title of invited lecture
2004	Keith Stobie	Microsoft	Model Based Testing in Practice at Microsoft
	Rober V.Binder	mVerify	Test automation
2006	Harry Robinson	Microsoft	Model-based Tesing for the Masses
	Alan Hartman	IBM Haifa Research Labs	Ten Years of Model Based Testing – A sober evaluation
2007	Rob Hierons	Brunel University	Finding a Good Order for Applying Adaptive Test Cases
	Antti Huima	Conformiq	Model-Based Testing in the Standardization of Information and Communication Technologies: the ETSI Perspective
2008	Wolfgang Grieskamp	Microsoft	Using Model-Based Testing for Quality Assurance of Protocol Documentation
	Marie-Claude Gaudel	Université de Paris-Sud, Orsay	Coverage-Biased Random Exploration of Large Models
2009	Patrice Godefroid	Microsoft	Whitebox Fuzzing for Security Testing
	Darko Marinov	University of Illinois at Urbana-Champaign	Model-Based Testing Using Test Abstractions
2010	Jan Tretmans	Radboud University Nijmegen	Model Based System Development
2012	Ina Schieferdecker	Fraunhofer FOKUS	Model-Based Security Testing
2013	Jan Peleska	University of Bremen, Verified Systems International GmbH	Industrial-Strength Model-Based Testing - State of the Art and Current Challenges
2014	Alexandre Petrenko	Computer Research Institute of Montreal (CRIM)	How Does Nondeterminism Occur in Test Models and What Do We Do with It?

MBT Workshop Co-organizers

2004	Alexander K. Petrenko	Yuri Gurevich	Alexander Kossatchev
2006	Alexander K. Petrenko	Yuri Gurevich	Bernd Finkbeiner, Sergey Groshev
2007	Alexander K. Petrenko	Yuri Gurevich	Bernd Finkbeiner
2008	Alexander K. Petrenko	Yuri Gurevich	Bernd Finkbeiner
2009	Alexander K. Petrenko	Yuri Gurevich	Bernd Finkbeiner
2010	Alexander K. Petrenko	Yuri Gurevich	Bernd Finkbeiner
2012	Alexander K. Petrenko	Holger Schlingloff	Victor Kuliamin
2013	Alexander K. Petrenko	Holger Schlingloff	Victor Kuliamin
2014	Alexander K. Petrenko	Holger Schlingloff	Nikolay Pakulin

Co-organizers-2004

2004	Alexander K. Petrenko	Yuri Gurevich	Alexander Kossatchev
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Co-organizers-2006-2010

2004	Alexander K. Petrenko	Yuri Gurevich	Alexander Kossatchev
2006	Alexander K. Petrenko	Yuri Gurevich	Bernd Finkbeiner, Sergey Groshev
2007	Alexander K. Petrenko	Yuri Gurevich	
2008	Alexander K. Petren		
2009	Alexander K. Petren		

MBT-Workshop: New Generation

Co-organizers-2012-2013

		Gurevich		
		Gurevich		
		Gurevich		
		Gurevich		
		Gurevich		
		Gurevich		

2012	Alexander K. Petrenko	Holger Schlingloff	Victor Kuliamin
2013	Alexander K. Petrenko	Holger Schlingloff	Victor Kuliamin
2014	Alexander K. Petrenko	Holger Schlingloff	Nikolay Pakulin

Co-organizers-2014-2015

2004			
2006			
2007			
2008			
2009			
2010			
2012		gloff	
2013	Alexander K. Petrenko	Holger Schlingloff	
2014	Alexander K. Petrenko	Holger Schlingloff	Nikolay Pakulin

Gartner Hype Cycle
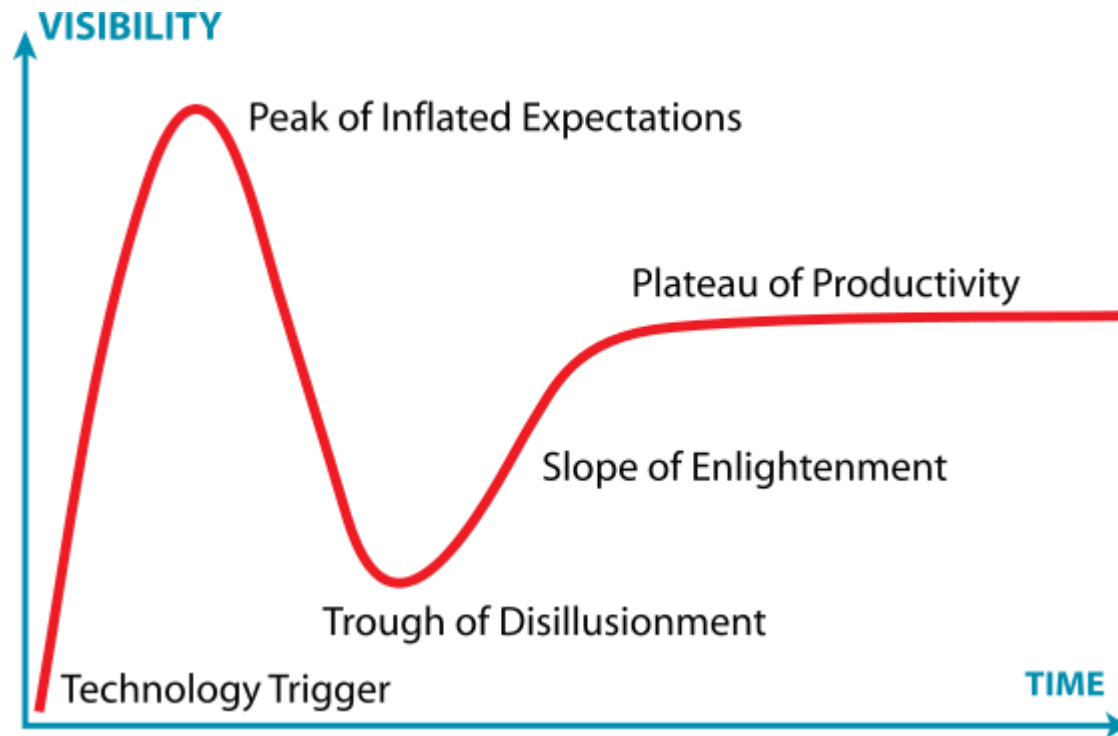
Perspectives of MBT

We need:

- Integration of formal methods and tools
- Improving modeling techniques
- New generation of testers

Integration of formal methods and tools

- How can MBT become part of the „normal" software engineering process (like, e.g., unit testing)? How to start modeling?

- Test models versus implementation models: What is „the best" use of existing models? How to make sure models are updated?

- How can we measure the test quality (in particular, for testing safety-critical systems)? Which quality metrics for models and test suites should be used? Which MBT coverage criteria should be acknowledged quality standards?

- Which guarantees can we give? How can we trust the tools?

- Can we combine MBT with, e.g., static analysis or model checking? What would be the role of each technique in the process?

Improving modeling techniques

- Most MBT tools use some form of state machines. How about continuous and hybrid models, (extended) live sequence charts, full UML, SysML/AADL? Could we use even physical models or simulations (e.g., flow dynamics) for test derivation?

- Can we use (controlled) natural language specifications in the future? Which language subset is adequate?

- How does this fit to approaches based on usual programming languages and libraries? Property patterns?

- Can we employ MBT for security testing? What are adequate models for this purpose, how to model an intruder?

- How to model autonomous and self-* systems? How to test them? How about massively parallel computational systems?

New generation of testers

- Computational costs of test generation are still (too) high. Can we find better data structures and algorithms for MBT?

- How can we establish a „race to excellence" benchmark suite similar as in the SAT/SMT community?

- There is still a lot of expert knowledge necessary for using the existing tools. Can we „smoothen" this such that MBT can be used without a steep learning curve?

- How about an integrated tool suite for MiL, SiL, PiL, HiL testing?