

**Personal Data , Teaching Experience
and Statement of Research Interests and Experience
of Dr. Nikolay V. Shilov**

Personal Data

- Date of Birth: April 24, 1961
- Sex: Male
- Family status: Married (4 sons, 2 daughters, and 1 wife)
- Citizenship: Russia

Mailing address:

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SUMMARY

My research interests are around *Theory, Logic, and Formal Methods* in Computer Science, Software Engineering, and Information Technology. I am experienced in theory of *program logics* and *algorithms* for reasoning about program systems. I have a sound knowledge of *Formal Description Techniques* (FDT) for distributed systems. I also have research experience with design, implementation and use of model checking algorithms in formal verification of FDT-specifications. Recently my research interests expanded to theory of knowledge representation, processing, and reasoning, multiagent systems and distributed algorithms, and computer languages ontology and methodology.

I have more than 20 years of experience in *Program Logic*: dynamic logic, temporal logic, logic of knowledge, description logic, etc. I am especially interested in algorithmic problems (i.e. model checking, decidability, and axiomatization) for propositional versions of these logics. The main application areas of my theoretical research are *formal methods, formal ontologies* (for example – for classification of Computer Languages), *knowledge representation and reasoning formalisms* (like Formal Concept Analysis, Description and Epistemic Logics), *distributed and multiagent systems*.

I have more than 17 years of teaching experience (including 5 years oversees) in Computer Science (in particular in Algorithms, Program Languages and Theory), in Discrete Mathematics (especially in Mathematical Logic) at different levels (college, undergraduate, graduate, and postgraduate). I am very much interested in different programming contests and Olympiads for students. In particular I am involved into organization of regional competitions of this kind. I also have supervisor/adviser experience at undergraduate, graduate, and postgraduate levels. I like very much popularization of Computer Science and Mathematical Logic among high school pupils and undergraduate students.

I have published more than 70 articles, papers and reports: 5 papers have been published in journals with International citation index (in particular, in *Communications of ACM*), more than 20 in proceedings of peer review International conferences and workshops (including >10 papers in *Lecture Notes in Computer Science*). A number of times I participated in International Program Committees, organized several Russian national workshops, have delivered several invited talks at International level.

Institutions presently associated with:

1. Institute of Informatics Systems of Russian Academy of Science (IIS) (full time Senior Researcher position, A.P. Ershov INSTITUTE OF INFORMATICS SYSTEMS, Russian Academy of Sciences, Siberian Division
6, Acad. Lavrentjev pr., Novosibirsk 630090, Russia
Phone +7 383 3308652 Fax +7 383 3323494 e-mail: iis@iis.nsk.su)
2. Novosibirsk State University (NSU) (part time Associate Professor position)
3. Novosibirsk State Technical University (part time Associate Professor position)

Education and Qualification:

- 1983 - Graduated Mathematics and Mechanics Department of Novosibirsk State University (NSU). Specialized in applied logic and computer science. Ms. Thesis' title: *Non-deterministic Program Schemata and their utility for logics of programs*.
- 1987 - Ph.D. in Computer Science, Institute of Computational Mathematics and Mathematical Geophysics of Siberian Branch of the Russian Academy of Sciences (former Novosibirsk Computing Center of Soviet Academy of Science). Ph.D. Thesis' title: *Program Logics and their Applications*.

Employment history:

- since 1987 - Research positions at Institute of Informatics Systems of Russian Academy of Science (IIS), Laboratory of Theoretical Programming
- since 1992 - Teaching at Novosibirsk State University (NSU), Mathematics and Mechanics Department, Mathematics and Mechanics Department, School of Programming
- since 2002 - Teaching at Novosibirsk State University (NSU), Department of Information Technology, School of General Informatics
- since 2006 Teaching at Novosibirsk State Technical University, Department of Applied Mathematics, School of High Performance Computing
- in 2007 – Visiting Distinguished Professor at School of Computer Science and Engineering, Chung-Ang University, Seoul, Korea
- in 2005 – Visiting Professor at Computer Science Department, Korea Advanced Institute of Science and Technology (KAIST)
- in 2003 – Visiting Associate Professor (Erskine Fellowship) at Department of Computer Science, University of Canterbury, New Zealand

- in 2000-2001 - Research Professor at Computer Science Department, Korean Advanced Institute of Science and Technology (KAIST)
- in 1998-1999 - Visiting Lecturer at School of Computing Science (now Department of Software Engineering), Faculty of Mathematical and Computing Science of University of Technology, Sydney

Area of expertise:

- Computer Science Logic (i.e. dynamic, temporal, epistemic, and description logic), algorithmic problems for Computer Science Logic (model checking, decidability, complexity, axiomatization, etc),
- Applications of Computer Science Logic for program specification and verification (Formal Methods), semantics of program languages, distributed and multiagent systems, knowledge representation and reasoning, Semantic Web, Computer Aided Software Engineering (CASE) and Formal Description Techniques (FDT).

Publications

More than 90 articles, papers, and reports (≥ 35 papers in English). List of the most significant papers follows (classified by type of publication).

1. Dissertations and Thesis

- 1.1. *Program Logics and their Applications*. Ph.D. thesis (in Russian), Novosibirsk Computing Center of Siberian Branch of the Soviet Academy of Science, 1987

2. Peer review journals with International Impact Factor

- 2.1. *Program schemata vs. automata for decidability of program logics*. Theoretical Computer Science, v. 175, 1997, p.15-27.
- 2.2. *Specification and verification of distributed systems by means of Elementary-REAL*. Programming and Computer Software, v.25, n.4, 1999, p.222-232 (with Nepomniaschy V.A. and Bodin E.V.)
- 2.3. *Engaging Students with Theory through ACM Collegiate Programming Contests*. Communications of ACM, v.45, n.9, 2002 (with Yi K.)
- 2.4. *Update and Abstraction in Model Checking of Knowledge and Branching Time*. *Fundamenta Informaticae*, v.72, n.1-3, 2006, p.347-361 (with Garanina N. O. and Choe K.-M.)
- 2.5. *Generation of verification conditions for imperative programs*. Programming and Computer Software, v.34, n.6, 2008, p.307–321. (with Anureev I.S. and Bodin E.V.)

3. Peer review National journals (since graduation at 1983)

- 3.1. *Dynamic Logic of Processes*. Programmirovanie (in Russian), v.12, 1986 (translation of this Soviet journal before 1991 was distributed by Plenum Press as Programming and Computer Software)
- 3.2. *Non-deterministic Program Schemata and their relation to Dynamic logic*. Kibernetika (in Russian), v. 24, 1988 (with Nepomniaschy V.A., translation of this Soviet journal

- before 1991 was distributed by Plenum Press as Cybernetics and Systems Analysis)
- 3.3. *REAL92: a Combined Specification Language for real-time concurrent systems and properties*. Programmirovanie (in Russian), v.19, 1993 (with Nepomniaschy V.A.)
 - 3.4. *Etude on Theme of Dijkstra: Computer Scientists at home of Geometers*. Potential (in Russian), n.9, 2006 (with Gorodnya L.V., Bodin E.V. and Andreeva T.V.)
 - 3.5. *Peanuts of Travelling Mathematician*. Kvant (in Russian), n.5, 2007.
4. Peer review book chapters (since 2000)
 - 4.1. *REAL: combined language for specification and verification of real-time systems* (in Russian). In Systemnaya Informatika (System Informatics), v.7, Nauka (Science) Publishers, Novosibirsk, 2000 (with Nepomniaschy V.A. and Bodin E.V.)
 - 4.2. *Program Logics Made Easy* (in Russian). In Systemnaya Informatika (- System Informatics), v.8, Nauka (Science) Publishers, Novosibirsk, 2002 (with K. Yi and E.V. Bodin)
 - 4.3. *How to find a coin: propositional program logics made easy*. In Current Trends in Theoretical Computer Science, World Scientific, v. 2, 2004 (with Yi K.)
 - 4.4. *Model Checking of Combined Logics of Knowledge, Action and Time* (in Russian). In Systemnaya Informatika (- System Informatics), v.10, Nauka (Science) Publishers, Novosibirsk, 2006 (with N.O. Garanina).
 - 4.5. *Modal Logics for reasoning about Multiagent Systems*. In Encyclopedia of Artificial Intelligence. J.R. Rabucal, J. Dorado, A.P. Sierra, editors. Information Science Reference. 2008, p.1089-1094 (with N.O. Garanina).
 5. Proceedings of peer review International Conferences and Workshops (since 2000)
 - 5.1. *On Expressive and Model Checking Power of Propositional Program Logics*. Proc. of int. Conf. Perspectives of System Informatics PSI'01, Russia, 2001, Springer LNCS, v.2244, 2001 (with Yi K.)
 - 5.2. *Basic-REAL: integrated approach for design, specification and verification of distributed systems*. Proc. of int. Conf. Integrated formal Methods IFM'02, Finland, 2002, Springer LNCS, v.2335, 2002 (with Nepomniaschy V.A. Bodin E.V. and Kazura V.E.)
 - 5.3. *Polynomial Approximations for Model Checking*. Proc. of int. Conf. Perspectives of System Informatics PSI'03, Russia, 2003, Springer LNCS, v.2890, 2004 (with Garanina N.)
 - 5.4. *Model Checking Mu-Calculus in Well-Structured Transition Systems*. Proc. of International Symposium Temporal Representation And Reasoning TIME'04, France, 2004, IEEE Press, 2004 (with Kouzmin E.V. and Sokolov V.A.)
 - 5.5. *Proofs about folklore: why model checking = reachability?* MATHEMATICAL LOGIC IN ASIA, Proceedings of the 9th Asian Logic Conference. World Scientific Publishing Co., 2006, p.41-50 (with K.-M. Choe, H. Eo, S.-H. O, and K. Yi).
 - 5.6. *Well-structured Model Checking of Multiagent Systems*. Proceedings of 6th International Conference Perspectives of System Informatics, Springer Lecture Notes in Computer

- Science, v. 4378, 2006, p.351-365 (with N.O. Garanina).
- 5.7. *On Mathematical Contents of Computer Science Contests*. Enhancing University Mathematics: Proceedings of the First KAIST International Symposium on Teaching. CBMS Issues in Mathematics Education v.14. American Society, 2007. p. 193-204 (with S.O Shilova).
 - 5.8. *Model Checking Problem for Acting Agents with log-files*. A Meeting of the Mind: Proceedings of the Workshop on Logic, Rationality and Interaction, Beijing, 2007. Oxford Texts in Computer Science V.8. P. 257-262. (with Garanina N.O.)
 - 5.9. *A proposal of Description Logic on Concept Lattices* Proceedings of the Fifth International Conference on Concept Lattices and their Applications, 2007. CEUR Workshop Proceedings, v.331, 2008, p.165-176. (with S.-Y. Han).
6. Other selected publications of years 2006-09
- 6.1. *SAT vs. SMV for automatic validation of tabular property of superintuitionistic logics*. Bulletin of Novosibirsk Computing Center, Special issue of A.P. Ershov Institute of Informatics Systems, Computer Science Series, v.25, 2006 (with Schreiner P.A. , Grebeneva J.V. and O S.).
 - 6.2. *Combining Two Formalism for Reasoning about Concepts*. Proceedings of the 2007 International Workshop on Description Logics. CEUR Workshop Proceedings, v.250, 2007, p.459-466. (with Anureev I.S. and Garanina N.O.)
 - 6.3. *Realization Problem for Formal Concept Analysis*. Proceedings of the 21st International Workshop on Description Logics (DL2008). CEUR Workshop Proceedings, v.353, 2008.
 - 6.4. *On the problem of computer language classification*. Bulletin of the Novosibirsk Computing Center. Series: Computer Science, v.28, 2008. (with Anureev I.S., Bodin E.V., Gorodnaya L.V., Marchuk A.G., Murzin F.A.)
 - 6.5. *Towards Ontology for Classification of Computer Languages*. Proceedings of the Knowledge and Ontology *ELSEWHERE* Workshop. University High School of Economics, Moscow, Russia, 2009, p.1-12.
 - 6.6. *Can Robots Solve the Assignment Problem?* Proceedings of the 2009 Workshop on Concurrency, Specification, and Programming. Kraków-Przegorzały, Poland, 28-30 September 2009, v.1, 2009, p.154-163 (with Garanina N.O., and Konyaev L.E.).

Teaching and Related Experience

- in 1990-98 – tutorials for 1-st year students on (a) Discrete Mathematics, and (b) Introduction to Computer Science at Mechanics & Mathematics Department of Novosibirsk State University;
- in 1996-98 and in 1999 – lectures and tutorials for 3-rd year students on Applications of Modern Mathematics in Computer Science at Information Technology Department of Novosibirsk State University;
- in 1994-98 and in 1999 – special courses (electives) for undergraduate students on (a)Program Logics & Verification, and (b)Categorizes, Lambda-Calculus & Decidable Theories for Computer Scientists at Mechanics & Mathematics Department of

Novosibirsk State University;

- in 1998-99 - tutorials and consultations for 4-th year students on Software Development Case Study at School of Computing Science of University of Technology, Sydney;
- in 1999-2000, 2001-2002, 2003-2004, and in 2007-2009 – teaching “Basics of Algorithm Design and Implementation” for 1-2 year students (15-17 years old) at College of Informatics of Novosibirsk State University;
- in 1995-1998, 1999, 2001, and in 2003 – (co-)trainer of student teams of Novosibirsk State University for programming contests (including ACM International Collegiate Programming Contests);
- in 1990-98 and in 1999, 2002, and in 2003-2004 – co-Chairman of a permanent educational & research seminar “Theoretical and Experimental Programming” at Institute of Informatics Systems and Novosibirsk State University (together with Prof. Nepomniaschy V.A.);
- since 1990 – supervisor of 20 undergraduate, 8 graduate, and 3 Ph.D. students at Novosibirsk State University and Institute of Informatics Systems;
- in 2000 – special course (electives) on Program Logics for graduate and postgraduate students of Program Languages Laboratory, Computer Science Department of Korea Advanced Institute of Science and Technology;
- in 2000 – Jury member of Asia Regional ACM International Collegiate Programming Contests;
- in 2001-2002 – special course on Math. Logics for graduate students at Chair of Parallel Computing Technologies of Novosibirsk State Technical University;
- in 2001-2002 and in 2003-2004 – graduate course on Algorithms on Graphs for graduate students at Chair of Informatics Systems, Information Technology Department of Novosibirsk State University;
- in 2003 – undergraduate courses on Programming Languages, on Algorithms, and training undergraduates for regional ACM International Collegiate Programming Contests at Department of Computer Science, University of Canterbury, New Zealand;
- in 2003-2004 and then since 2006 – undergraduate course on Programming Languages Processing (Compilation Techniques, Program Analysis and Verification) at Information Technology Department of Novosibirsk State University. At present I am preparing a Russian textbook and distance course on base of this course for Internet University of Information Technology (INTUIT);
- in 2005 – special course on Logic Formal Program Verification for graduate students of Program Languages Laboratory, Computer Department of Korea Advanced Institute of Science and Technology;
- in 2007 – undergraduate course on Programming and Data Structures at Electric Engineering Department of Chung-Ang University (Seoul, Korea);
- since 2004 – Jury member of Open All-Siberian Programming Contests;
- since 2005 – graduate course on Design and Analysis of Algorithms at Information

Technology Department of Novosibirsk State University;

- in 2006 – distance course on Graphs and Algorithms for high school students within Siberian Information Technology Distance Learning Center;
- since 2006 – special courses on Functional Programming and Parallel Algorithm Design for graduate students at Chair of Parallel Computing Technologies of Novosibirsk State Technical University;
- since 2007 – undergraduate courses Introduction to Programming and Data Structures at Mechanics and Mathematical Department of Novosibirsk State University;
- since 2008 – special course on New Formal Models for Concurrency for graduate students at Chair of Parallel Computing Technologies of Novosibirsk State Technical University.

Service to Academia

Current activities:

1. Since 2008 – member of the Editorial Board of “Computer Science and Telecommunications” electronic journal, published by Georgian Technical University and St. Andrew the First Called Georgian University of The Patriarchy of Georgia.
2. Member of the Program Committee of International Workshop on Program Semantics, Specification and Verification: Theory and Applications (PSSV 2010) affiliated with 5th International Computer Science Symposium in Russia (CSR-2010) (June 14-15, 2010 Kazan, Russia).

Past:

3. Organizer and Chair of Russian workshop (open for international participation) Knowledge and Ontology *ELSEWHERE* a satellite workshop of the 17th International Conference on Conceptual Structures (ICCS'09) (July 26-31, 2009 Moscow, Russia)
4. Member of the Program Committee of Third International Workshop on Program Understanding (June 19-22, 2009, Altai Mountains, Russia)
5. Member of the Program Committee of Seven Andrei Ershov International Conference Perspectives of System Informatics (June 22-26, 2009, Novosibirsk, Russia)
6. Organizer and Chair of Knowledge and Ontologies *ELSEWHERE*, a satellite workshop of the 11th Russian Conference on Artificial Intelligence (September 29 - October 3, 2008, Dubna, Moscow region, Russia).
7. Invited talk *Formal Models and Tools for Ontology Development and Processing* at Russian National Symposium on Ontology Modeling (May 20-21, 2008, Zvenigorod at Moscow Region, Russia)
8. Invited talk *Combining Logics of Knowledge, Time and Actions for Reasoning about Intelligent Agents* at 3-rd International Conference on Next Generation Web Services Practices NWeSP'07 (October 29-31, 2007, Seoul, Korea)
9. Member of the Program Committee of the 2007 ACS/IEEE International Conference on Computer Systems and Applications, AICCSA '2007 (May 13-16, 2007, Amman, Jordan)

10. Member of the Program Committee of the Second International Workshop on Program Understanding (July 02-04, 2006, Altai Mountains, Russia)
11. Member of the Programm Committee of Six Andrei Ershov International Conference Perspectives of System Informatics (June 27-30, 2006, Novosibirsk, Russia)
12. Member of the Program Committee of the International Workshop on Program Understanding (July 14-16, 2003 Altai Mountains, Russia)
13. Invited talk *Program Logics: theory and applications* at the International Conference on Industrial Survival Strategy for Next Generation Information Technology, organized by Korea Information Processing Society, June 21-22, 2001, Seoul, Korea
14. Co-editor of a monograph *Applied Cryptography*, Kuzminov T.V., Nauka (- Science) Publishers, 1999, Novosibirsk, Russia (in Russian)
15. Member of the Program Committee of the Workshop on Logic in Computer Science, organized by University of Technology, Sydney, December 16, 1998. Sydney, Australia.

International Seminars, Workshops and Conferences in which I participated since 2000

- 17th *International Conference on Conceptual Structures ICCS'09* (Moscow, Russia, July 26-31, 2009)
- International Conference *Mal'tsev Meeting* (Novosibirsk, Russia August 24-28, 2009)
- 4th International symposium Computer Science in Russia (*CSR-2009*) (Novosibirsk, Russia, August 18-23, 2009)
- PSI-2009: VII A. Ershov International Conference *Perspectives of System Informatics* (Novosibirsk, Russia, June 22-26, 2009)
- 21st International Workshop on *Description Logics DL2008* (Dresden, Germany, May 13-16 2008)
- The 6th International Semantic Web Conference ISWC-2007 and the 2nd Asian Semantic Web Conference ASWC-2007 (Busan, Korea, November 11-15, 2007)
- 3-rd International Conference on *Next Generation Web Services Practices NWeSP'07* (Seoul, Korea, October 29-31, 2007)
- Fifth International Conference on *Concept Lattices and Their Applications CLA-2007* (Montpellier, France, October 24-26, 2007)
- Workshop on *Logic, Rationality and Interaction LORI* (Beijing, China, August 5-9, 2007)
- 20th International Workshop on *Description Logics DL-2007* (Brixen-Bressanone, Italy, June 8-10, 2007)
- Workshop on *Logic and Collective Decision Making LCD'07* (Lille, France, March 13-14, 2007)
- International Workshop *Concurrency Specification And Programming CS&P'2006* (Wandlitz, Germany, September 27-29, 2006)
- International Symposium *Grand Challenges of Informatics* (Budapest, Hungary, September 19-20, 2006)

- Dagstuhl Seminar *Software Verification: Infinite-State Model Checking and Static Program Analysis* (Dagstuhl, Germany, February 19-24, 2006)
- PSI-2006: VI A. Ershov International Conference *Perspectives of System Informatics*, (Novosibirsk, Russia, June 27-30 2006)
- 4th International Conference on *Formal Concept Analysis* (Dresden, Germany, February 13-17, 2006)
- The 9th *Asian Logic Conference* (Novosibirsk, Russia, August 16-19, 2005)
- Tenth conference on *Theoretical Aspects of Rationality and Knowledge TARK-X* (Singapore, June 10-12, 2005)
- 1st KAIST International Symposium on *Enhancing University Mathematics Teaching* (Daejeon, Korea, May 12-16, 2005)
- TIME-2004: International Symposium *Temporal Representation And Reasoning* (Tatihou, Normandie, France, July 1-3, 2004)

- PSI-2003: V. A. Ershov International Conference *Perspectives of System Informatics* (Novosibirsk, Russia, July 9-12, 2003)
- National ICT Australia, *Inaugural Formal Methods Program Workshop* (Sydney, Australia, May 29-31, 2003)
- FICS-2002: *Fixed Points in Computer Science*, a satellite workshop to Logic In Computer Science LICS 2002 (July 20-21, 2002, Copenhagen, Denmark)
- FICS-2001: *Fixed Points in Computer Science*, a satellite Workshop to Principles, Logics and Implementations of high-level programming languages PLI 2001 (Florence, Italy, September 8, 2001)
- *Automata and Finite Model Theory*, a workshop of the 13th European Summer School in Logic, Language and Information ESSLLI 2001 (Helsinki, Finland, August 19-24, 2001)
- *Logic and Games*, a workshop of the 13th European Summer School in Logic, Language and Information ESSLLI 2001 (Helsinki, Finland, August 13-18, 2001)
- PSI-2001: IV A. Ershov International Conference *Perspectives of System Informatics*, (Novosibirsk, Russia, July 2-6, 2001)
- International Conference on Industrial Survival Strategy for Next Generation Information Technology, (Seoul, Korea, June 21-22, 2001)
- APLAS-2000: Asian Workshop on Programming Languages and Systems, (Singapore, December 18-20, 2000)
- *Formal Methods Elsewhere*, a satellite workshop of FORMal description TEchniques for distributed systems and communication protocols FORTE-2000 (Pisa, Italy, October 10, 2000)
- AiML-ICTL-2000: *Advances in Modal Logic and International Conference on Temporal Logic*, (Leipzig, Germany, October 4-7, 2000)

Personal grants since 2000:

- 2001 - travel grant of FOLLI
- 2002 - travel grant of FloC'02
- 2007 – travel grant of Russian Basic Research Foundation
- 2006-08 – research grant of Russian Basic Research Foundation
- 2009-2011 – research grant of Russian Basic Research Foundation

Some people with whom I work(ed) and related research topics

- Scientific Adviser of my Master and Ph.D. Thesis was Valery A. Nepomniaschy. In 1982-90 we developed Program Schemata Technique for Propositional Dynamic Logic.
- In 1990-2002 a focus of our collaboration with Valery A. Nepomniaschy moved to design of new FDT on base of program logics and to specification and verification of distributed systems.

- In 1998-99 we worked together with Ron van der Meyden on model checking knowledge and linear time logic.
- In 2000-05 we worked together with Kwang Yi on model checkers of program logics and better education on theory of Computer Science.
- Since 2002 we with Natalia Garanina learn the model checking knowledge, actions, and branching time and their applications for reasoning about multiagent systems.
- Since 2007 we work together with Sang Yong Han on combination of Description Logic and Formal Concept Analysis for Knowledge Representation and Reasoning.

Some former Master and Ph.D. students:

- Mr. Peter Schneider;
- Dr. Sergey Berezin (alternative spelling: Berrezine);
- Mr. Evgeny Bodin.;
- Dr. Natalia Garamina.

Running research projects in which I am involved

Title	Performing Institution	Duration	Sponsor	Principal Investigator	Responsibility
SAT-based automatic program verification	A.P. Ershov Institute of Informatics Systems	2009-2011	Russian Basic Research Foundation	Dr. N. Shilov	General management and research on program logics, specification, and verification.
Formal languages and methods of specification, analysis and synthesis of information systems	A.P. Ershov Institute of Informatics Systems	2009-2011	Presidium of Russian Academy of Science	Prof. A. Marchuk	Research on Knowledge Representation and Reasoning.
Research on Computer Languages Classification	A.P. Ershov Institute of Informatics Systems	2008-2010	Russian Basic Research Foundation	Prof. A. Marchuk	Research on computer language's concepts, their representation and reasoning.

Former Research Projects in which I was involved

Integration of Ontological, Logical, and Linguistic Models and Methods for Design and Development of Information	A.P. Ershov Institute of Informatics Systems	2006-2008	Presidium of Russian Academy of Science	Prof. A. Marchuk	Research on Knowledge Representation and Reasoning.
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Systems					
Research on verification and specification methods for models of program systems	A.P. Ershov Institute of Informatics Systems	2006-2008	Russian Basic Research Foundation	Dr. N. Shilov	General management and research on program logics and verification.
Conceptual and Model Theoretic Structures for Knowledge Processing	Novosibirsk Institute of Mathematics	2005-2008	Deutsche Forschungsgemeinschaft (German Research Foundation) and Russian Basic Research Foundation	Dr., Prof. K.E. Wolf Dr., Prof. D.I. Palchunov	Research on description logic and logics of knowledge, actions and time.
Typical Components Base Creation for Development of Experimental Systems of Functional Programming	A.P. Ershov Institute of Informatics Systems	2005-2007	Russian Basic Research Foundation	Dr. L.V. Gorodnya	Research on proof-caring code and verifying compiler.
Integration of Symbolic Boolean Transformations, Model Checking and Proving Properties of Boolean Functions	Novosibirsk State University	2003-2004	Russian Ministry of Education	Dr. N.A. Kalinina	Research on model checking for program logics.
Research On Program Analysis System	Korean Advanced institute of Science and Technology	2000-2001	Korean National Creative Research Initiative	A/Prof. K. Yi	Research on program logics

			Center		
Knowledge Based Programming of Distributed Systems: From Specification to Implementation	University of technology, Sydney	1998-1999	Australian Research Council	A/Prof. R. van der Meyden	Research on program logics
Methods and Tools for Verification and Analysis of Distributed Systems	A.P. Ershov Institute of Informatics Systems	1996-1998	International Association for Promotion of Cooperation with Scientists from Independent States of Former Soviet Union and Russian Basic Research Foundation	Prof. Ph. Schnoebelen and Prof. V.A. Nepomnjaschy	Research on applications of program logics
Verification of Distributed Systems	A.P. Ershov Institute of Informatics Systems	1995	International Scientific Foundation and Russian Basic Research Foundation;	Prof. Ph. Schnoebelen and Prof. V.A. Nepomnjaschy	Research on applications of program logics

Written by Nikolay V. Shilov

February 11 2010