

CURRICULUM VITAE

for

Andrey Y. SHEVEL

Name: Andrey Y. Shevel

Education: University degree (master) in 1973 at Leningrad Politechnical Institute (Russia) (after five years education from 1967 autumn to early spring 1973). Major by education: "Electronic Computing Machines".

Diploma thesis: 'Program simulation for conveyer computer systems'

Nationality: **Russian Federation**

Born: 22 January 1950 in city Saratov, Russian Federation

Current working addresses:

Petersburg Nuclear Physics Institute (**PNPI**)
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and

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Current positions: department head (4+ senior engineers) at Petersburg Nuclear Physics Institute and senior lecturer at University of Information Technology, Mechanics, and Optics. Lecture course is “Computing clusters, Computing Grids, and Computing Clusters”. I have prepared and read the course + practice each year from 2012 for Russian speaking students and English speaking students who are looking for Master and/or PhD degree.

Current tasks/responsibilities: development, deployment, tuning, support computing infrastructure for High Energy Physics (400+ hosts including centralized HTTP server, proxy server), centralized Petersburg Nuclear physics Institute mail server, etc. + a range of network routers and switches, small virtualized computing cluster, electric and peripheral equipment UPSs, UDPs, tape drives, etc.). As a senior lecturer I am responsible for the course at the University entitled “Computing clusters, grid, and cloud architectures in communications”. Also I take participation in the University research <http://sdn.ifmo.ru/>.

Current professional interests: Computing Clouds, Virtualization, Computing clusters, Linux distributions, Software Defined Networks, Software Defined Storage, Big Data.

Professional organizations membership: I am professional member of IEEE and ACM.

Publication Hirsh level = 23 (Scopus)

Main positions at PNPI

- o **1992-up to now** : Computing Systems Department head (400+ active users) (see <http://hepd.pnpi.spb.ru/CSD>);
- o **1986** : the institute computer centre head (several hundreds of users);
- o **1976** : team (15 persons) leader (about 70 users).

Areas of work:

- Development and support the computing/networking infrastructure for High Energy Physics experiments.
- Experience as production manager, as responsible person for large program deployment.
- Grid deployment and development, computing cluster development and deployment.

- Teaching in computing infrastructures for students who are looking Master and/or PhD degree.
- Author of one book on computing (in Russian).

Participation in International and national research programs:

- NSF grant NSF 01-149 (2002-2005) “Computing Grid for analysis of data from **PHENIX** at **RHIC**”
- INTAS 93-56 (I was responsible for the implementation of the satellite IP channel **PNPI - DESY**);
- collaboration **HERMES** at **DESY** (<http://hermes.desy.de>).
- Collaboration **PHENIX** at **BNL** (<http://www.phenix.bnl.gov>).
- Collaboration **ALICE** at **CERN** (<http://aliceinfo.cern.ch>)

Professional activity:

- **Until now** I am at PNPI and at the same time from November 2012 I am senior lecturer at the St.Petersburg National Research University of Information Technologies, Mechanics, and Optics, Department of Information and Communication technologies, research in area of Software Defined Networks (SDN), Software Defined Storage (SDS)
- **2006/2007** working at CERN (ALICE, project DAQ) as CERN associated project member
 - o ~ 200 machines cluster + ~50 desktops;
 - o ~ 200 TB of disk storage.
- **2005/2002:** I (as visiting fellow) develop/run cluster (development, planning, purchase, installation, maintenance hardware and software including **Globus/Grid** infrastructure – everything alone with minor help from students).
 - o Software and hardware deployment and tuning on the computing cluster
 - 35+ machines;
 - 6 TB RAID;
 - 3 TB tape library.
 - o **Globus/Grid** infrastructure in flavor Grid3 has been deployed by myself on the cluster. It was tested collaborative work (jobs) on several clusters: SUNYSB, RCF (BNL), HPC at University of New Mexico, HPC at

IN2P3 (France), **ACCRE** at University of Vanderbilt. This work was done in collaboration with many colleagues: physicists, local and remote managers, etc.

- o Several **Grid** developments for collaborations **PHENIX and STAR**.
- **2001**: Deploying **Globus** distributed system with several institutes:
 - o **PNPI** (www.pnpi.spb.ru),
 - o **HPC&DB** (www.csa.ru),
 - o **SUNYSB** cluster RAM (<https://sites.google.com/site/ramdata2009/>).
- **1999**: Development of regional computing infrastructure for LHC at St.Petersburg (Russia) region (see <http://hepd.pnpi.spb.ru/RRCF>).
- **1998**: Development and implementation the computing cluster based on PC for general purpose batch computing (see <http://hepd.pnpi.spb.ru/pcfarm/>).
- **1997**: Maintenance/improvements in collaboration **HERMES** (DESY, Hamburg, Germany) in production PC farm and working 1/2 year as the production manager.
- **1995**: the implementation of satellite IP channel for PNPI (PNPI-DESY) and local tcp/ip network infrastructure.
- **1991**: development and implementation of *transputer* computing farm at **PNPI**.
- **1990**: **PNPI** computer centre modernization (responsible person for planning and deployment of equipment and system software).
- **1986**: Development and implementation of software technology: so called metaprogramming (full text in Russian at <http://hepd.pnpi.spb.ru/CSD/CSDPublications/Meta.pdf>).
- **1985**: Development and implementation multi-terminal multi-computer system at **PNPI** (full text in Russian <http://hepd.pnpi.spb.ru/CSD/CSDPublications/TerciaPaper.pdf>).
- **1976**: Development and implementation of interactive system on the base of mainframe computer to gather and analyze the data in **HEP** experiments at **PNPI**.

Personal experience in computer software:

- **Operating systems:**
 - o Unix/Linux.

- o IBM OS VS1.
- o MS Windows.
- o IBM VM/CP/CMS.
- o PDP-11 [RT,RSX].
- **Programming languages and related stuff:**
 - o Fortran, C, Rexx, Unix shells, Perl, Python, Java, HTML, XML, etc.
- **Various systems** (deployment and use in developments):
 - o ROOT (application system);
 - o CVS;
 - o Oracle, Postgres, MySql;
 - o AFS;
 - o PBS, SGE, Condor;
 - o Globus toolkit;
 - o backup system '**Legato Networker**';
 - o Openstack;
 - o ceph (distributed storage system);
 - o many other systems.
- **Successfully performed roles/tasks:**
 - o program developer;
 - o computer system architecture development;
 - o department head (from several to many tens of employee);
 - o report, proposals, book preparing;
 - o system manager with many tens/hundreds of users with great variety of levels (including demands) in environment of several Oses, applications sets:
 - offline data analysis;
 - online data taking on accelerators.
 - o planning person for computer infrastructure on department and institute level;
 - o deployment of middle range computing clusters (from hardware, OS, Grid middleware, to applications for **HEP**).
 - o distributed (in scale of several cluster sites) computing platform for High Energy Physics research (Grid-like);
 - o production manager in experimental collaboration.

Communication languages:

- o Russian - mother language;
- o English - business level;
- o Deutsch – understanding to some extent.

Working in international research centers:

- o CERN, Switzerland (many times 1979, 1986, 1991, 2006);
- o DESY, Germany - (in total more than two years: 1993-1997);
- o BNL, SUNYSB USA - (in total more than 4 years in period 2000-2005, 2007).

Private interests

I like to walk on open air, visiting museums (like Russian Museum and Hermitage in St.Petersburg, Metropolitan in NY, etc), reading something interesting from history (memoirs, etc.), hearing symphonic music, etc. An outdoor jogging and swimming in pool are also in my list.

I am married and we (with wife) have two adult children and three grandchildren.

Shevel's Publication list

(This publication list does contain only topics where I was key or main author. In according to Scopus.com I have publication Hirsh level around 23. My conference presentations are available at <http://hepd.pnpi.spb.ru/CSD/CSDPublications.shtml>)

- **2016: Sergey Khoruzhnikov, Vladimir Grudin, Oleg Sadov, Andrey Shevel, Stefanos Georgiou, and Arsen Kairkanov**

- **“Environment for Data Transfer Measurement”**, Data Mining and Big Data, First International Conference, DMBD 2016, Bali, Indonesia, June 25–30, 2016, Proceedings, pp 416–421. DOI: 10.1007/978-3-319-40973-3_42
- **2015: Khoruzhnikov S.E., Grudin V.A., Sadov O.L., Shevel A.Y., Kairkanov A.B.**
 - **“Transfer of large volume data over Internet with parallel data links and SDN”**, The 6th international conference on swarm intelligence ICSI-2015, Beijing, China, 25-28 June, 2015, Proceedings, Part III, pp. 463-471, ISSN 0302-9743, ISBN 978-3-319-20468-0.
- **2014: A.Y Shevel**
 - **“The role of micro size computing clusters for small physics groups”**, 20th International Conference on Computing in High Energy and Nuclear Physics (CHEP2013) IOP Publishing, Journal of Physics: Conference Series **513** (2014) 062045 doi:10.1088/1742-6596/513/6/062045 iopscience.iop.org/1742-6596/513/6/062045 (2013 Impact Factor = 0.619).
- **2013: A.Y. Shevel**
 - **Computing facilities for small physics analysis group // poster on CHEP2013**
- **2010: D. Reynolds, A.Y. Shevel**
 - **Computing facilities for small physics analysis group - PHENIX Technical Note, 18 Apr 2011**
[<http://www.phenix.bnl.gov/phenix/WWW/publish/shevel/tech-reports/ClusterPaper-2011-04-11.pdf>]
- **2010: A.Shevel**
 - **Estimations of the speedup of large data set analysis with geographically distributed computing facilities** – the presentation on the conference “GRID-2010” (<http://grid2010.jinr.ru>).
 - **Brief review of the HEPiX2010 spring workshop** – the presentation on the HEPD seminar 18 May 2010
- **2009: A. Shevel**
 - **Brief review of the conference “Computing in high energy and nuclear physics – CHEP2009”** – the presentation on the HEPD seminar 28 April 2009.
- **2008: A. Shevel**
 - **“Computing Grid and Data in Grid”**
journal 'Linux Format' (Russian), Nov 2008, #11, pp. 92-95 and Dec 2008, #12, pp 78-81.
- **2007: A. Lodkin, A. Oreshkin, A. Shevel, T. Serebrova**
Architecture of small computing clusters in High Energy Physics

Proceedings "PNPI High Energy Physics Division Main scientific activities in 2002-2006", Gatchina, 2007, pp 329-333 [photo copy [PDF](#)].

- **2007:** Andrey Y Shevel
Review of the HEPIX 2007 (Spring) workshop {entitled '*Computing clusters: problems and tendencies*' (Rus)} '*Open Systems*'; photo copy from the journal [PDF](#) , pp 14-19.
- **2006:** A. Shevel, R. Lacey
 - ***Midrange computing cluster architectures for data analysis in High Energy Physics***
 - Poster presentation on ***Computing in High Energy and Nuclear Physics*** 13-17 February 2006, T.I.F.R. Mumbai, India
 - ***Benchmarking the LDCs for Point 2 (Supermicro X6 and X7)***
 - Presentation on ALICE DAQ Meeting (please see <http://indico.cern.ch/conferenceDisplay.py?confId=6722>, 10 October 2006)
- **2005:** A. Shevel, R. Lacey
 - ***Initial experience with use of cluster Teragrid for High Energy Physics research***
 - Presentation on GlobusWorld-2005 (presenter A. Shevel)
- **2004:** A. Shevel, B. Jacak, R. Lacey, D. Morrison, M. Reuter, I. Sourikova, T. Thomas, A. Withers
 - ***PHENIX job monitoring/submission in transition to Grid infrastructure.***
 - Presentation on CHEP-2004 (presenter A. Shevel)
- **2003:** A. Shevel
 - ***Visualization of states of computing clusters***
 - Open Systems/Russia, number 1, 2003.
 - B. Jacak, R. Lacey, S. Mioduszewski, D. Morrison, A. Shevel, I. Sourikova
 - ***Data management for physics analysis in PHENIX (BNL,RHIC)***
 - Presentation on CHEP-2003 (presenter A. Shevel)
- **2001:** A. Shevel
 - ***Next revolution in computing: Grid Technology***
 - Open Systems/Russia, number 2, 2001.
 - A. Shevel, V. Korkhov
Deployment of Globus in St.Petersburg region
Open Systems/ Russia, number 3, 2001.
 - A. Shevel
Simple text conversion in Linux

- Book, Piter-Press/Russia, 350 pages.
- **2000:** A. Shevel
 - ***Russian Regional Computing Facility for LHC***
 - BYTE/Russia, number 2, 2000, (Russian)
- **1999:** A. Shevel
 - ***Mass computing on PC clusters***
 - BYTE/Russia, number 9, 1999, pp.74-81 (Russian).
- **1998:** A.Chevel, A.Lodkin, A.Oreshkin, V.Barashko
 - ***The Status of PNPI centralized Networking***
 - PNPI Research Report 1996-1997, Gatchina, 1998, pp. 387-389
 - A.Chevel, A.Lodkin, A.Oreshkin, V.Barashko, T.Serebrova
 - ***Batch Computing Facility based on PC (project BCFpc)***
 - PNPI Research Report 1996-1997, Gatchina, 1998, pp. 390-391
- **1997:** Andrei Chevel, Alexander Lodkin, Anatoly Oreshkin, Victor Barashko
 - ***Tendencies in Centralized Computing and Networks in relatively small Physics Laboratory: Case of Petersburg Nuclear Physics Institute***
 - NATO ADVANCED NETWORKING WORKSHOP (ANW) May 20-24, 1997 Yerevan Physics Institute, Nor Amberd Conference Center, Armenia. The text is available in "<http://dbserv.pnpi.spb.ru/~oreshkin/>".
- **1996:** A. Chevel, S.Kulikov, V.Leontiev, A.Lodkin, S.Nikolaev, A.Oreshkin
 - ***The Process of an Integration of Petersburg Nuclear Physics Institute into the World Wide Information Space***
 - PNPI Research Report 1994-1995, Gatchina 1996, p.300-301.
- **1995:** S.A. Kulikov, A.N. Lodkin, A.E. Shevel
 - ***Network Activity at Petersburg Nuclear Physics Institute***
 - Proceedings "Information Systems in Science-95", 10-11 January 1995.

- **1994:** A.N. Lodkin, A.A. Oreshkin, T.S. Serebrova, A.E. Shevel
 - ***The realization of the common computing installation on the base of PC-486***
 - Transaction of the International conference on the programming and mathematical methods, Dubna, 14-19 June 1993, Dubna, 1994, JINR, P11-94-100, pp.114-116

- **1991:** S.A. Kulikov, A.E. Shevel
 - ***A method to realize backup procedure in OS VM (short message)***
 - USiM, 1991, number 6, pp. 133-135, Kiev, Ukraina.

- **1990:** S.A. Kulikov, A.E. Shevel
 - ***A method to realize a backup procedure on OS VM with large amounts of the disk drives***
 - Preprint LNPI, number 1609, June 1990, 14 p.
 - A.E. Shevel
 - ***The features of the computing organization at LNPI at 1990 and in nearest future***
 - Preprint LNPI, number 1647, October 1990, 12 p.

- **1987:** S.G.Dolgobrodov, A.E. Shevel
 - ***An measurement of the times for the operation performing in the system REDUCE***
 - Preprint LNPI, Number 1320, September 1987, 14 p.

- **1986:** A.E. Shevel
 - ***The method to develop the programs and program systems (The Meta-programming)***
 - Programirovanie, 1, 1986, pp 31-37, Moscow, Russia
 - A.G. Atamanchuk, V.I. Benevelski, I.I. Gracheva, N.M. Gulina, S.G. Dolgobrodov, A.N. Lodkin, P.V. Neustroev, A.A. Oreshkin, E.M. Orischin, T.S. Serebrova, N.A. Seregin, B. Yu. Sokolovsky, E.V. Fotieva and A.E. Shevel
 - ***The realization of the local terminal network***
 - Autometria, 4, 1986, pp 45-49, Novosibirsk, Russia

- **1985:** A.N. Lodkin, B. Yu. Sokolovsky, A.E. Shevel

- ***Program tools for maintaining the experiments on High Energy Physics with RIAD computers***
 - Preprint LNPI, number 1063, May 1985, 30 p.
- **1983:** A.E. Shevel, L.F. Shevel
 - ***The use of the JCL procedure language in OS RIAD to support the physical experiments***
 - Preprint LNPI, number 913, December 1983, 35 p.
 - I.I.Gracheva, A.N.Lodkin, A.E.Shevel
 - ***A realization of the archive on magnetic tape (OS RIAD) to keep the programs and listings***
 - Preprint LNPI, number 914, December 1983, 21 p.
- **1981:** M.N. Andronenko, I.I. Gracheva, A.E. Shevel
 - ***Application software for processing the data on a magnetic tape***
 - Preprint LNPI, number 658, May 1981, 24 p.
 - S.S. Volkov, Yu.V. Dosenko, L.G. Kudin, N.P.Kuropatkin, A.A. Oreshkin, O.E. Prokofiev, A.E. Shevel
 - ***The data acquisition system for 1 GeV proton quasi-free scattering experiments***
 - Preprint LNPI, number 674, July 1981, 41 p.
 - A.A. Oreshkin, T.S. Serebrova, A.E. Shevel
 - ***The development of the application interactive programs to serve the High Energy Physics experiments***
 - Preprint LNPI, number 705, October 1981, 15 p.
 - I.I. Gracheva, A.A. Oreshkin, T.S. Serebrova, A.E. Shevel
 - ***Interactive text editor for the middle range computers***
 - Preprint LNPI, number 706, October 1981, 15 p.
- **1979:** I.I. Gracheva, A.A. Oreshkin, A.E. Shevel, V.A. Schegelsky
 - ***Subroutines to work with a disk storage in operative mode under DOS***
 - Preprint LNPI, number 496, July 1979, 16 p.
- **1977:** T.S. Serebrova, L.F. Suvorova, A.E. Shevel, S.V. Yasikova
 - ***The interactive software for physics experiments at LNPI synchrocyclotron***
 - Preprint LNPI, number 302, 1977, 34p.

- 1975: I.I. Gracheva, A.E. Shevel
 - ***A Software for display unit "LOGIKA-820" to show graphic and alfa-betic information***
 - Preprint LNPI, number 164, July 1975, 24 p.

- 1974: A.E. Shevel
 - ***The using of the computer RIAD-1020 in physics experiments (The work was dedicated to develop the patches for the system supervisor in DOS IBM/360)***
 - Preprint LNPI, number 128, December 1974, 8 p.

= End of publication list.