

## MEDVEDEVA, YULIA SERGEYEVNA

Laboratory of Information Technologies in Computing Systems  
Siberian State University of Telecommunications and Information Sciences  
Russia, 630102, Novosibirsk, Kirova street, 86  
phone: +7 (383) 2698202

### Personal data and contacts:

**Date of birth:** 1983, November 24  
**Place of birth:** Novosibirsk, USSR  
**Citizenship:** Russian Federation  
**Home address:** Russia, 630009, Novosibirsk, Griboyedova street, 32/2-44  
**Home phone:** +7 (383) 2643584  
**E-mail:** brainwashed@yandex.ru,  
mjulja@gmail.com  
**Skype:** j.moari

### Academic degrees:

#### 2010 M Sc in Applied Mathematics

Siberian State University of Telecommunications and Information Sciences,  
Novosibirsk, Russia  
Advisor: Prof Boris Ryabko  
*Fast enumerative code for dklr-words*

#### 2015 Ph D in Engineering Sciences

Siberian State University of Telecommunications and Information Sciences,  
Novosibirsk, Russia  
Advisor: Prof Boris Ryabko  
*Fast enumeration of combinatorial objects, which has application for information transmission and storage systems*

### Employment history:

#### 2013-now Research engineer

Siberian State University of Telecommunications and Information Sciences,  
Novosibirsk, Russia

### Research interests:

Algorithm theory, algorithm constructing, discrete mathematics, information theory, coding, enumeration of combinatorial objects

### Research grants and awards:

- 2008:** Alcatel-Lucent Award for student research work
- 2009:** Grant of Administration of the Novosibirsk region
- 2012-2013:** Investigator, Grant of the Government of the Russian Federation under the leadership of the invited researchers under the agreement No. 12.740.1430 (contract 8504), Effective methods of construction of protected high-speed channels of digital data transmission for providing access to broadband multimedia services
- 2012-2013:** Investigator, Grant No. 12-07-00125-a of Russian Foundation for Basic Research, Information theory methods of the analysis of text information and their application to problems of forecasting and information security
- 2014:** NANUM 2014 Travel Grant for International Congress of Mathematicians (ICM 2014), Seoul, Korea

### Conferences:

- 2008** All-Russian Conference of Young Scientists on Mathematical Modeling and Information Technologies, Kemerovo, Russia
- 2009** IEEE International Symposium on Information Theory (ISIT'09), Seoul, South Korea.
- 2012** XI International Seminar "Discrete Mathematics and its Applications", Moscow, Russia.
- 2012** XIII International Symposium on Problems of Redundancy in Information and Control Systems, Saint-Petersbourg, Russia.
- 2013** XIV All-Russian Conference of Young Scientists on Mathematical Modeling and Information Technologies, Tomsk, Russia
- 2014** International Congress of Mathematicians (ICM 2014), Seoul, South Korea

### Publications:

1. Yu. S. Medvedeva, B. Ya. Ryabko.  
*Fast enumeration algorithm for words with given constraints on run lengths of ones.*  
Problems of Information Transmission, 2010, 46:4, 390–399.
2. Y. S. Medvedeva.  
*Fast enumeration of Grassmannian elements.*  
Computational Technologies, 2013, V. 18, N. 3, pp. 22–33.
3. Yu. Medvedeva.  
*Fast algorithm of enumerative encoding for main problems of information theory.*  
Vestnik SibGUTI, 2013, N. 4, pp. 80–105.
4. Yu. S. Medvedeva.  
*Fast enumeration of words generated by Dyck grammars.*  
Mathematical Notes, 2014, 96:1-2, pp.: 68–83.

### Conference theses:

1. Y. S. Medvedeva.  
*Fast algorithm of enumeration of words with given constraint on series length.*  
All-Russian Conference of Young Scientists on Mathematical Modeling and Information Technologies, Kemerovo, Russia, 2008.
2. Y. Medvedeva, B. Ryabko.  
*Fast enumeration of run-length-limited words.*  
Proceedings of IEEE International Symposium on Information Theory (ISIT'09), Seoul, South Korea, 2009, pp. 640–643.
3. Yu. Medvedeva.  
*Fast enumeration of Grassmannian elements.*  
Proceedings of XI International Seminar "Discrete Mathematics and its Applications", Moscow, Russia, 2012.
4. Y. Medvedeva.  
*Fast enumeration for Grassmannian space.*  
2012 XIII International Symposium on Problems of Redundancy in Information and Control Systems (RED), 2012, pp.: 48–52.
5. Yu. S. Medvedeva.  
*Fast algorithm of enumerational encoding for main problems of information theory.*  
All-Russian Conference of Young Scientists on Mathematical Modeling and Information Technologies, Tomsk, Russia, 2013.

### Referees:

Prof., Dr. Sci., Ph.D. Boris Ryabko, Head of Laboratory of data protection  
Institute of Computational Technologies, Siberian Branch of Russian Academy of Science  
Russia, 630090, Novosibirsk, Lavrentev pr., 6  
phone: +7 (383) 3306150, fax: +7 (383) 3306342  
boris@ryabko.net

Prof., Dr. Sci., Ph.D. Andrey Fionov, Head of Department of appl. math and cybernetics  
Siberian State University of Telecommunications and Computer Science  
Russia, 630102, Kirova str., 86  
phone: +7 (383) 2698202, fax: +7 (383) 2698203  
fionov@sibsutis.ru

Prof., Dr. Sci., Ph.D. Mikhail Fedoruk, Rector of Novosibirsk State University  
Head of Laboratory of Computational Technologies  
Institute of Computational Technologies, Siberian Branch of Russian Academy of Science  
Russia, 630090, Novosibirsk, Pirogova str., 2  
Phone: +7 (383) 3634000  
mifester@gmail.com