Alexander D. Afanasev

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NAME	
Alexander D. Afanasev	
INSTITUTIONAL AFFILIATION	
Irkutsk National Research Technical University, Irkutsk, Russia	
POSITION TITLE	
Full Professor of Physics Irkutsk National Research Technical University, Irkutsk, Russia	

POSITIONS AND HONORS

St. Petersburg State University, Saint Petersburg, Russia (USSR)	1976-1977	Research Scientist
Irkutsk State University, Irkutsk, Russia	1981 – 1995	Assistant, Senior lecturer, Associate professor
University of Utah, Utah, USA	02/1991 – 08/1991	Fulbright Scholar, Professor
University of Utah, Utah, USA	04/1993 – 04/1994	Visiting Professor
University of Utah, Utah, USA	04/1995 –07/1995	Research program
Irkutsk State University, Irkutsk, Russia	1995 – 01/ 2006	Head of the Department "General physics", Professor
Chienkuo Technology University, Taiwan	11/1995 – 12/ 1995	Visiting Professor
Irkutsk National Research Technical University, Irkutsk, Russia	04/2006 – 10/2010	Vice-President for Research
Irkutsk National Research Technical University, Irkutsk, Russia	10/2010 – 11/2011	Vice-President for International Relations
Irkutsk National Research Technical University, Irkutsk, Russia	02/2006 –10/2017	Head of the Department "Quantum physics and nanotechnologies"
Irkutsk National Research Technical University, Irkutsk, Russia	7/2013 –10/2016	Acting president
Irkutsk National Research Technical University, Irkutsk, Russia	10.2016 - present	Full Professor of Physics and Mathematics
Irkutsk National Research Technical University, Irkutsk, Russia	10.2020 - present	Head of the Laboratory for Artificial Intelligence and Machine Learning

EDUCATION/TRAINING

(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	MM/YY	FIELD OF STUDY
Irkutsk State University, Irkutsk, Russia (USSR)	M.S.	1971-1976	Physics.

St. Petersburg State University, St. Petersburg, Russia (USSR)	Ph.D.	1977-1980	Physics: Optics
Irkutsk State University, Irkutsk, Russia	Dr. Sc.	1999	Solid State Physics: Optics
Irkutsk State University, Irkutsk, Russia	Professor	2000	Physics
TACIS PIP (Productivity Initiative Program), Belgium and Germany	Internship	04/1998 – 06/1998	"Enterprise crisis management"
IREX program "The university administration support program", Vermont, USA	Internship	09/2002 – 12/2002	"University management in the USA"
Tomsk State University of Control Systems and Radioelectronics	Diploma of professional retraining	03/2017 – 12/2017	Information Security

PERSONAL STATEMENT

My personality:
I am energetic, enthusiastic, creative and punctual. I get along well with all people, carry on business negotiations, and am fluent in English.

As a faculty member:
I like teaching and I am proud that my students achieve outstanding goals, hold key positions in many Russian companies. They work around the globe including most advanced countries. To name a few, my former student Sergey Eroshenko (2012 -2015), is ex-governor of Irkutsk Region. My former student Konstantin Kazakov is a top-notch scientist and outstanding professor of Physics & Mathematics at Institute of Atmospheric Physics, Russian Academy of Sciences, Moscow, Russia.
Now I am the Head of the Laboratory for Artificial Intelligence and Machine Learning

As a scientist:
I established and headed a school of sciences that specialized in spectroscopy of impurity molecules in solid materials (Optics). I was a chairman of the 2010 – 2016 scientific committee for Ph.D. and post-doctoral dissertations in two areas:
1. 01.04.01 – Devices and methods of experimental physics,
2. 05.12.04 – Radio technology, including systems and TV devices

As a leader:
I am very experienced in building large teams, in motivating and inspiring all team members for achieving common goals. I always drive my projects to completion and have completed a number of successful scientific and commercial projects. For instance, as a Vice President of Irkutsk State Technical University I led our university toward being recognized as "National Research University" in 2009. I encouraged close collaboration and concerted activities of all university divisions to fulfill government requirements. With this new status, our university received 2 billion rubles (over 600 million USD) for growth and development as a 10 year program until 2019. Today it is one of the top 40 universities in Russia.

Awards and Honors   Fulbright Scholarship in USA (1991), TACIS Productivity Initiative Program (1998), IREX program "The university administration support program" (2002),

Research grants: 12 large research and business grants over 2.5 billion rubles worth

Graduate students: In 2006, I established and headed   "Quantum Physics and Nanotechnology" department, which has about 150 undergraduate and graduate students annually in these two areas: 1. "Nanomaterials", 2. "Information Security".

. SELECTED PEER-REVIEWED PUBLICATIONS
- A.D. Afanasyev, M.O. Bulanin, M.V. Tonkov The collision-induced translational spectrum of CF4+He gas mixtures // Canad. J. Phys. 1980, No.58, P.836.
- A.D. Afanasiev, F. Luty FTIR study of two types of OH-/OH- and OD-/OD- defect pairs in KBr // Solid State Comm. 1996, V.98, No.6, P.531.

- A.D. Afanasiev, A.A. Ivanov, Fritz Luty, S.M. Melikova, D.N. Shchepkin Stretching mode interaction of equal and unequal pairs of SeH and SeD- defects in Alkali Halides // Radiation Effects & Defects in Solids, V.151. 1999, P.311.
- A.D. Afanasiev, A.A. Ivanov and Fritz Luty FTIR stretching-mode measurements and calculations of equal and unequal pairs of SH- and SD- defects in KCl // Radiation Effects & Defects in Solids. V.155, 2001, P. 345.
- K.V. Kazakov and A.D. Afanasiev Overtone Transitions of Diatomic Dimers XH-XH- in Ionic Crystals // Optics and Spectroscopy. V.95, No1, 2003, P. 54.
- E.A. Shteyner, A. K. Srivastava, V. G. Chigrinov, H. S. Kwok Submicron-scale liquid crystal photo-alignment // Soft Matter. 2013. V. 9. №21. P. 5160-5165.
- A.D. Afanasiev, Z.S. Afanasieva. Artificial intellect practicum in information security sphere // International Scientific Conference "Security: Information, Technology, Behavior". Collection of papers from international conferences by HNRI «National development». December 2017– SPb.: HNRI «National development», 2017.
- Long The Nguyen, Huong Thu Nguyen, Alexander Diomidovich Afanasiev & Tao Van Nguyen. Automatic Identification Fingerprint Based on Machine Learning Method // Journal of the Operations Research Society of China (2021)   http://link.springer.com/article/10.1007/s40305-020-00332-7
- Afanasyeva Z.S., Afanasyev A.D. (2020) Signature Detection and Identification Algorithm with CNN, Numpy and OpenCV. In: Silhavy R., Silhavy P., Prokopova Z. (eds) Software Engineering Perspectives in Intelligent Systems. CoMeSySo 2020. Advances in Intelligent Systems and Computing, vol 1295. Springer, Cham. https://doi.org/10.1007/978-3-030-63319-6_43

RESEARCH SUPPORT

My major project is National Research University (2009). Our university received a higher status and 2 billion rubles (over 600 million USD) for growth and development as a 10 year program (2009 – 2019).
The total number of my large research projects (including the "National Research University") is over 12, and the total value is approximately 2.5 billion rubles (over 750 million USD).