

Curriculum Vitae

by Victor Sysoev



First Name: Victor

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Date of birth: 05.07.1970

Place of birth: Saratov, Russia

Nationality: Russian

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Education:

- 1994-1998 Postgraduate education. “Solid-State Electronics, Microelectronics and Nanoelectronics” speciality. Department of Physics, Saratov State Technical University, Saratov (Russia).
- 1990-1994 Graduate education. “Physics of Semiconductors & Dielectrics, Microelectronics” speciality. Department of Solid State Physics, Physics Faculty, Saratov State University, Saratov, (Russia). Average grade is 4.9 of 5.
- 1987-1990 Graduate education. Department of Radio-Techniques and Electronics, Faculty of Systems of Automatic Control, Leningrad Mechanical Institute (at present, the Baltic State Technical University), Saint-Petersburg (Russia).
- 1980-1987 Undergraduate education. School no. 47, Saratov (Russia).
- 1977-1980 Undergraduate education. School no. 100, Saratov (Russia).

Degrees:

- 05.2003 Academic status of Docent (Ass. Professor) in Physics. The Highest Attestation Commission of Ministry for Higher Education, Moscow (Russia).
- 04.1999 Candidate of Physics & Mathematics. “Physics of Semiconductors & Dielectrics” speciality. Saratov State University, Saratov (Russia).
Theses topic: “The gas sensitivity of tin oxide thin films and their application to recognition of ambient gases”.
Supervisors: Prof. Dr. Yuri A. Zyuryukin; Prof. Dr. Vladimir V. Kisin.
- 07.1994 Diploma of engineer-physicist. “Microelectronics and Nanoelectronics” speciality, Saratov State University, Saratov (Russia).
Diploma topic: “The study of SnO_x film conductance at exposure to reducing and oxidising gases”
Supervisor: Dr. Vladimir V. Kisin.

Work experience:

- 09.2002-current Part-time Senior Researcher. Laboratory for Sensors & Microsystems at Department of Physics, Saratov State Technical University, Saratov (Russia).
Research of gas microsensors and multisensor arrays.
- 10.2004-12.2004 Visiting researcher. Institute for Instrumental Analytics, Karlsruhe Research

- Centre, Karlsruhe, Germany.
Research of multisensor microarrays.
- 10.2002-02.2003 Visiting researcher. Institute for Instrumental Analytics, Karlsruhe Research Centre, Karlsruhe, Germany.
Research of multisensor microarrays.
- 09.2000- current Docent (Ass. Professor). Department of Physics, Saratov State Technical University, Saratov (Russia).
Courses taught: General Physics.
- 02.1999-09.2000 Assistant. Department of Physics, Saratov State Technical University, Saratov, (Russia).
Courses taught: General Physics.
- 12.1998-02.1999 Research engineer. “Piezon”, R&D Co. at Saratov State Technical University, Saratov (Russia).
- 11.1996-09.1997 Visiting research engineer. National Microelectronics Research Centre, Cork (Ireland).
The work for Forbairt project: “Gas sensor development with SAW device”.
- 07.1994-10.1994 Research engineer. R&D Institute for Mechanics & Physics at Saratov State University, Saratov (Russia).
Research & development of thin-film gas sensors and gas analysers; number of projects.
- 1992-07.1994 Part-time research engineer. R&D Institute for Mechanics & Physics at Saratov State University, Saratov (Russia).
Research & development of thin-film gas sensors and gas analysers; number of projects.

Academic awards:

- 2004 “Michail Lomonosov” scholarship funded by Russ. Ministry for Education & Science and German Academic Exchange Service (DAAD) for 3-month training in German institution.
- 2004 The winner of All-Russian contest of youth innovation projects in science and technology. The gold medal of the 4th International Salon of Innovations and Investments, 24-27 February, Moscow, Russia.
- 2002-2003 DAAD scholarship for one-semester training in German institution.
- 2000-2002 Russ. Academy of Sciences scholarship for young talented scientists.
- 1996-1997 Russ. President’s scholarship for training abroad. Funded through Federal Ministry for Higher Education.
- 1995 Diploma of Russ. Academy of Sciences, “Znanie” Fund and RAO “Gasprom” as a winner of All-Russian contest of young scientists.
- 1987 School-leaving certificate with honour (silver medal).

Grants:

- 2004-2005 Russ. President’s grant for young postdocs, no. MK-1631.2004.8. Funded through Russ. Federal Ministry for Science & Industry.
- 2004 Joint grant of Russ. Academy of Sciences and Ministry for Higher Education for 1-month training abroad (“Integration” program), no.D4096.
- 2003 DAAD (German Academic Exchange Service) equipment grant. Funded by the cultural budget of the Ministry of Foreign Affairs of Federal Republic of Germany.
- 2003 Grant of Russ. Federal Ministry for Higher Education for one-month research together with a foreign partner, no.E02-2.0-1.

- 2002-2004 Research grant of Russ. Federal Ministry for Higher Education for young scientists, no. PD 02-2.7-42.
- 2001 Travel grant of Russ. Fund for Basic Research to visit an international conference abroad, no. 01-02-26598z.
- 1999 Travel grant of Russ. Federal Ministry for Higher Education and Russ. Academy of Sciences to visit an international conference abroad.
- 1996 Travel grant of LOGOVAZ Travel Programme, International Science Foundation, No. 01E-7, to visit an international conference abroad.

Skills:

Computer: DOS, Windows, Microsoft Office, numerous mathematics software. The basic knowledge of number of computer languages (Basic, Pascal, C++ etc.).

Languages: Russian (mother tongue); English (Oxford University Certificate); German (1-semester study at Language Centre of Karlsruhe University, Germany).

Hobbies: Sport (table tennis, tennis), guitar, tourism.

Scientific publications:

- 1) Sysoev V.V., Kucherenko N.I., Kissin V.V. The textured tin dioxide films for gas-recognition microsystems, Technical Physics Letters, V. 30, Iss.9, 2004, pp.759-761.
- 2) Sysoev V.V., Kiselev I., Frietsch M., Goschnick J. The temperature gradient effect on gas discrimination power of metal-oxide thin-film sensor microarray, Sensors, V.4, 2004, pp. 37-46.
- 3) Kissine V.V., Sysoev V.V., Voroshilov S.A. Conductivity of SnO₂ thin films in the presence of surface adsorbed species, Sensors & Actuators B, 79 (2-3), 2001, pp. 163-170.
- 4) Kissine V.V., Sysoev V.V., Voroshilov S.A. Individual and collective effects of oxygen and ethanol on the conductance of SnO₂ thin films, Applied Physics Letters, V.76(17), 2000, pp.2391-2393.
- 5) Kissine V.V., Sysoev V.V., Voroshilov S.A., Simakov V.V. Effect of oxygen adsorption on the conductivity of thin SnO₂ films, Semiconductors, V.34, No.3, 2000, pp.308-311.
- 6) Kisin V.V., Sysoev V.V., Voroshilov S.A. Discrimination of acetone and ammonia vapour using an array of thin-film sensors of the same type, Technical Physics Letters, V.25, Iss.8, 1999, pp.657-659.
- 7) Kissine V.V., Voroshilov S.A., Sysoev V.V. A comparative study of SnO₂ and SnO₂:Cu thin films for gas sensor applications, Thin Solid Films, 348(1-2), 1999, pp.307-314.
- 8) Kissine V.V., Voroshilov S.A., Sysoev V.V. Oxygen flow effect on gas sensitivity properties of tin oxide film prepared by r.f. sputtering, Sensors & Actuators B, 55(1), 1999, pp.55-59.
- 9) Kisin V.V., Voroshilov S.A., Sysoev V.V., Simakov V.V. Modelling of the low-temperature production of gas-sensitive tin oxide films, Technical Physics, V.44, N4, 1999, pp.452-453.
- 10) Kisin V.V., Simakov V.V., Voroshilov S.A., Sysoev V.V. Model of gas sensitivity in thin-film solid-state gas sensors, Proceedings of 4th Seminar "Solid State Ionics", Chernogolovka Centre of Russian Academy of Sciences, 21-22 April, 1997, pp.116-122. (In Russian).
- 11) Kisin V.V., Voroshilov S.A., Sysoev V.V., Simakov V.V. Three-electrode gas sensor, Instruments and Experimental Techniques, Vol.38, No.5, Part 2, 1995, pp.683-685.

Conference presentations:

- 1) Sysoev V.V., Sergantov V.G., Voroshilov A.S., Kisin V.V., Odor-recognition multisensor systems and perspectives of their applications to solving ecological problems, "WasteTech-2005", International conference & Exhibition on ecology problems of waste utilisation, 31 May- 3 June 2005, Moscow, Russia. Submitted.
- 2) Sysoev V., Kisin V., Frietsch M., Kiselev I., Habicht W., Bruns M., Goschnick J. The characterization of nanostructured copper-doped tin oxide films for gas sensor microarrays. Proceedings of 3rd IEEE conference on sensors, October 24-27, 2004, Vienna (Austria), p.130-133.
- 3) Sysoev V.V., Kisin V.V., Simakov V.V. The monitoring of air quality by means of semiconductor microsystems: from single sensors toward multisensors. IV International Conference "Air'2004", June 9-11, 2004, Saint-Petersburg (Russia), Book of Abstracts, pp.284-285.

- 4) Sysoev V.V., Kisin V.V. The textured nanocrystalline films of tin oxide for gas-recognition microsystems. International conference on Sensors Electronics and Microsystem Technology, June 1-5, 2004, Odessa (Ukraine), Book of Abstracts, p.245.
- 5) Kisin V.V., Kucherenko N.I., Sysoev V.V., Voroshilov A.S. Thin-film semiconductor sensor array as an instrument to build the reference system in the odor space. The 10th International Symposium on Olfaction and Electronic Nose, ISOEN'03, 26-28 June, 2003, Riga (Latvia). Book of Abstracts, p.267-269.
- 6) Simakov V.V., Voroshilov S.A., Sysoev V.V. The polarization effect in gas-sensitive thin-film structures of SnO₂. 9th International Meeting on Chemical Sensors, July 7-10, 2002, Boston (USA). Abstract Book, p.153.
- 7) Simakov V.V., Sysoev V.V., Voroshilov S.A., Kisin V.V. The effect of inhomogeneous distribution of adspecies at the semiconductor surface on electronic properties of gas-sensing thin-film resistors. International Conference on Physics at Surfaces and Interfaces, March 4-8, 2002, Puri (India). Oral presentation.
- 8) Sysoev V.V., Kissine V.V. Adjustment of semiconductor film properties for integrated system of the odour analysis. EMRS Spring Meeting, Symposium J: Materials in microtechnologies and microsystems, June 5-8, 2001, Strasbourg, (France). Abstract Book, J-19.
- 9) Sysoev V.V., Kissine V.V. Could we recognise gases with multisensor systems based on thin-film sensing elements of the same type? Gordon Research Conference on the Chemical Sensors and Interfacial Design, May 6-11, 2001, Il Ciocco (Italy). Oral poster presentation.
- 10) Sysoev V.V., Kissine V.V. Gas recognition by the array of monotype semiconductor thin-film gas sensors. The 8th International Meeting on Chemical Sensors, July 2-5, 2000, Basel (Switzerland). Abstract Book, p. 443.
- 11) Sysoev V.V., Kissine V.V. Arrays of semiconducting metal oxide thin-film sensors for organic vapour recognition. Proceedings of All-Russian conference on sensors and sensor systems "Sensor 2000", June 21-23, 2000, Saint-Petersburg (Russia). P. 176. (In Russian).
- 12) Kisin V.V., Sysoev V.V., Voroshilov S.A., Simakov V.V. Environment monitoring and estimation of air quality by means of semiconducting-film gas sensor. Abstracts of International Congress "Ecology, Life, Health", September 12-14, 1996, Volgograd (Russia). Pp.102-103. (In Russian).
- 13) Kisin V.V., Voroshilov S.A., Sysoev V.V. Long-life stability and reproducibility of solid-state gas sensors fabricated on tin oxide thin film. Abstracts of International Conference "Present problems of electronic device design", September 10-12, 1996, Saratov (Russia). Part 2. Pp.96-97. (In Russian).
- 14) Kisin V.V., Sysoev V.V., Kumakov A.V., Voroshilov S.A. The instrument to monitor the air quality on the basis of solid-state gas sensor. Abstracts of International Conference "Present problems of electronic device design", September 10-12, 1996, Saratov (Russia). Part 2. Pp.7-8. (In Russian).
- 15) Kisin V.V., Sysoev V.V., Simakov V.V., Voroshilov S.A. Thin film gas sensor: nature of sensitivity, Proceedings of the 10th European Conference on Solid-State Transducers - EUROSENSORS X, September 8-11, 1996, Leuven (Belgium). Pp. 977-980.
- 16) Kisin V.V., Sysoev V.V., Voroshilov S.A., Simakov V.V. Influence of film thickness and dopants on gas-sensing properties SnO_x thin film gas sensors. European conference on analytical chemistry "Euroanalysis IX", September 1-7, 1996, Bologna (Italy). Book of abstracts, Fr P26.
- 17) Kisin V.V., Voroshilov S.A., Sysoev V.V. Thin film gas sensor for hydrogen sulphide monitoring. Abstracts of Conference "Ecology safety problems in region of Nignee Povolgie arising from exploitation of oil-gas sites with a high content of hydrogen sulphide", August 27-29, 1996, Saratov (Russia). Pp.87-88. (In Russian).
- 18) Kisin V.V., Voroshilov S.A., Sysoev V.V., Simakov V.V. Oxygen adsorption mechanism on SnO₂ surface and oxygen sensor. Abstracts of International Conference on sensors and transducers "Sensor-96", May 1996, Gurzuf (Ukraine). Pp.243-244. (In Russian).
- 19) Kisin V.V., Sysoev V.V., Voroshilov S.A., Stecura Yu.V., Simakov V.V. Ethanol vapour alarm fabricated with thin-film solid-state gas sensor. Abstracts of International Conference on sensors and transducers "Sensor-96", May 1996, Gurzuf (Ukraine). Pp.235-236. (In Russian).
- 20) Kisin V.V., Sysoev V.V., Voroshilov S.A., Simakov V.V. Application of the solid-state CO sensor for automobile engine control. Abstracts of International Conference "Fundamental and applied problems of environment", September 12-16, 1995, Tomsk (Russia). Volume 3. Pp.23-24. (In Russian).
- 21) Kisin V.V., Sysoev V.V., Voroshilov S.A., Simakov V.V. Solid-state gas sensor for exhaust gases monitoring. Abstracts of International Conference "Scientific and regulatory aspects of air quality management (Air-95)", June 7-9, 1995, Saint-Petersburg (Russia). Pp.140-141.
- 22) Kisin V.V., Sysoev V.V. Thin-film solid-state gas sensor. Abstracts of International Conference "Methods and apparatus to estimate and to advance the reliability of devices and systems", April 1995, Penza (Russia). Pp.204-205. (In Russian).
- 23) Kisin V.V., Sysoev V.V., Voroshilov S.A., Simakov V.V., Elistratov V.A. Metal-oxide toxic gas sensor. Abstracts of the 1st Povolgie Conference "Research and development of high technologies for double applications", February 21-23, 1995, Samara (Russia). Pp.55-56. (In Russian).
- 24) Kisin V.V., Elistratov V.A., Sysoev V.V. Solid-state gas sensor fabricated by microelectronic technology and its power consumption. Abstracts of International Conference on sensors and transducers "Sensor-93", May 1993, Gurzuf (Ukraine). Pp.94-95. (In Russian).

References:

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