

CURRICULUM VITAE AND BIBLIOGRAPHY

NAME: Oleg Sineshchekov

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Pages 1-16

PRESENT TITLE: Professor of Biochemistry

WORK ADDRESS: The University of Texas Medical School at Houston
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BIRTHDATE: 5/18/1948

CITIZENSHIP: Russia

UNDERGRADUATE EDUCATION: 09/1966-06/1971, Moscow State University,
Moscow, Russia

GRADUATE EDUCATION: 11/1971-12/1974, Moscow State University, Moscow,
Russia

ACADEMIC & ADMINISTRATIVE APPOINTMENTS:

1974-1985: Junior Research Scientist; Biology Department, Moscow State University,
Moscow, Russia

1985-2001: Senior Research Scientist; Biology Department, Moscow State University,
Moscow, Russia

1986 (Jan-Nov) & 1989 (Jun-Nov): Visiting Scientist, Laboratory of Prof. L. Keszthelyi,
Biological Research Center Hungarian Academy of Sciences, Szeged, Hungary

1990-1992: Visiting Scientist, Laboratory of Prof. W. Nultsch, Univ. of Marburg,
Germany

1992 (May-Jul): Visiting Scientist, Laboratory of Dr. P. Hegemann, Max-Planck-Institute
of Biochemistry, Martinsried bei Munchen, Germany

1993 (Jul-Oct): Visiting Scientist, Laboratory of Prof. L. Keszthelyi, Biological Research
Center Hungarian Academy of Sciences, Szeged, Hungary

1994 (May-Nov): Visiting Scientist, Laboratory of Prof. G.B. Witman, Worcester
Foundation for Experimental Biology, Shrewsbury, USA

1996 (Sep-Nov): Visiting Scientist, Laboratory of Prof. R. Kamiya, University of Tokyo,
Tokyo, Japan

Nov 1998 – Feb 1999 & 1999 (Oct-Dec): Visiting Professor, Laboratory of Prof. D.-P.

Hader, Univ. of Erlangen, Germany

1999 (Aug-Sep) & Dec 1999 – Jun 2000: Visiting Professor, Laboratory of Prof. J.L. Spudich, Medical School, Department of Microbiology & Molecular Genetics, University of Texas, Houston, USA

2001-2015: Leader Research Scientist; Biology Department, Moscow State University, Moscow, Russia

2001-2004: Visiting Professor, Laboratory of Prof. J.L. Spudich, Medical School, Department of Microbiology & Molecular Genetics, University of Texas, Houston, USA

2005-2007: Visiting Professor, Laboratory of Prof. J.L. Spudich, Department of Biochemistry and Molecular Biology, Medical School, University of Texas Health Science Center - Houston, Houston, TX

2007-2010: Assistant Professor, Laboratory of Dr. J.L. Spudich, Department of Biochemistry and Molecular Biology, Medical School, University of Texas Health Science Center - Houston, Houston, TX

2010-PRESENT: Professor, Laboratory of Dr. J.L. Spudich, Department of Biochemistry and Molecular Biology, Medical School, University of Texas Health Science Center - Houston, Houston, TX

PROFESSIONAL ORGANIZATIONS:

Member, Advisory Committee for International Conferences on Retinal Proteins
2007-Present

HONORS AND AWARDS:

1990: Alexander-von-Humboldt Postdoctoral Fellowship (Univ. of Marburg, Germany)

1994: Fogarty Foundation Exchange Grant (Worcester Foundation for Experimental Biology, USA).

1995: George Soros Foundation Award (Principal Investigator).

1997: International Association for Cooperation with Scientists from the former Soviet Union Grant (Principal Investigator).

1998: NATO Linkage Grant (Principal Investigator).

2009: NIH Challenge Grant (Principal Investigator)

EDITORIAL POSITIONS:

Member, Organizing Committee for the 13th International Conference on Retinal

Proteins, 2008, Barcelona, Spain (editorial functions for proceedings of the conference)

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:

Potapova, L.D. (1979-1982). Sudnitsyn, V.V. (1979-1986). Govorunova E.G. (1985-1993), Altshuler I.M. (1999-2002), Voytsekh, O.O. (2004-2007).

SPONSORSHIP OF POSTDOCTORAL FELLOWS:

Govorunova E.G. (1994-1997), Alekseeva N.V. (1998-2000).

CURRENT GRANT SUPPORT:

PAST GRANT SUPPORT:

1. "Advanced Naturally Designed Channelrhodopsins for Photocontrol of Neural Activity"

NIH Challenge Grant 1RC1AG035779

Sineshchekov, O.A.: PI; Spudich, J.L.: PI 09/30/2009 – 08/31/2013 \$ 900,354

2. "Investigation of the molecular components of photo- and chemo-reception systems in unicellular flagellated algae"

Russian Foundation for Basic Research 05-04-48805-a

Sineshchekov O.A.: PI 04/01/2005 – 12/ 01/2007 ~\$ 30,000

3. "Rhodopsin Signaling in a Model Eukaryotic Microorganism"

National Science Foundation 009128705

Sineshchekov O.A.: Co-PI; Spudich J.L.: PI 05/15/2001 - 04/30/2005 \$ 261,000

4. "Mechanisms of photo-, chemo- and gravi-stimuli reception and motility control in microorganisms"

Russian Foundation for Basic Research 02-04-49179-a

Sineshchekov O.A.: PI 04/11/2002 - 10/08/2004 ~\$ 25,000

5. "Role of electrical processes in photo-, chemo- and gravi-reception and cell motility control"

Russian Foundation for Basic Research 99-04-49015-a

Sineshchekov O.A.: PI 05/18/1999 - 11/13/2001 ~\$ 15,000

6. "Automatic bioassay for detection of toxic substances in water"

NATO Linkage grant No. ENVIR.LG.971306

Sineshchekov O.A.: PI 01/01/1998 – 12/31/1999 ~\$ 20,000

7. "In vivo investigation of a new type of rhodopsin photoreceptors from lower plants"
 INTAS-RFBR No. 95-1134
 Sineshchekov O.A.: PI 01/01/1997 – 12/31/1998 ~\$ 60,000
8. "Mechanisms of photoreception and motility control in microorganisms"
 Russian Foundation for Basic Research 96-04-49439-a
 Sineshchekov O.A.: PI 04/08/1996 - 12/04/1998 ~\$ 5,000
9. "Photoelectric study of rhodopsin-mediated photosensory transduction and photomovements in green flagellated algae"
 Soros Foundation NB 6300
 Sineshchekov O.A.: PI 01/01/1995 – 12/31/1996 ~\$ 37,000
10. "Comparative investigation of primary events of photoregulation in plants"
 Russian Foundation for Basic Research 93-04-07117-a
 Sineshchekov O.A.: Co-PI; Litvin F.F.: PI 06/03/1993 - 12/04/1995 ~\$ 7,000

PUBLICATIONS:

A. Abstracts

1. Sineshchekov, O.A., Sineshchekov, V.A., and Litvin, F.F.: Photoreceptor potential in phototaxis of algae. An CMEA Symposium, Book of abstracts: 15-16, 1978.
2. Sineshchekov, O.A.: Electrophysiology of photomovements in flagellated algae. NATO-ASI "Biophysics of Photoreceptors and Photomovements in Microorganisms", Book of abstracts: 47, 1990.
3. Sineshchekov, O.A. and Nultsch, W.: Light-induced electrical responses and their involvement in photomovement of Chlamydomonas. IV Congress of the European Society for Photobiology, Book of abstracts: 15, 1991.
4. Sineshchekov, O.A. and Nultsch, W. Signal transduction in rhodopsin-mediated photomovements of flagellates. 5th International Conference on Retinal Proteins, Dourdan, France, 1992.
5. Sineshchekov O.A., Govorunova E.G., Der A., Keszthelyi L.: Retinal-induced photoelectric responses in Chlamydomonas reinhardtii blind mutants. 5th International Conference on Retinal Proteins, Dourdan, France, 1992.
6. Sineshchekov, O.A. and Nultsch, W.: Photomovements and sensory transduction in stigma-containing heterotrophic flagellate Polytomella. V Congress of the European Society for Photobiology, Book of abstracts: 25, 1993.
7. Sineshchekov, O.A.: Light reception and signal transduction in Chlamydomonas and related algae. I European Phycological Congress, Book of abstracts: 7, 1996.

8. Sineshchekov, O.A.: Light reception and signal transduction in Chlamydomonas and related algae. VII International Conference on the Cell and Molecular Biology of Chlamydomonas, Book of abstracts: S31, 1996.
9. Sineshchekov, O.A.: A new concept for early processes of photosensory transduction in green flagellated algae. 7th Congress of the European Society for Photobiology, Stresa, Italy, 1997.
10. Govorunova E.G., Sineshchekov O.A. and Hegemann P.: Desensitization and dark recovery of the photoreceptor current in Chlamydomonas. 7th Congress of the European Society for Photobiology, Stresa, Italy, 1997..
11. Sineshchekov, O., Govorunova, E., Pazour, G., Witman, G., and Nultsch, W.: Two photoreceptor currents in photosensory transduction in unicellular flagellates. Biophys J., 74: A237., 1998.
12. Sineshchekova O.O., Govorunova E.G., Smirnova E.A., and Sineshchekov O.A.: Activation of receptor currents for phototaxis during the cell transition to the motile state in Chlamydomonas reinhardtii. 8th International Conference on the Cell and Molecular Biology of Chlamydomonas, Tahoe City, USA, 1998.
13. Govorunova E.G., Sineshchekov O.A., Gärtner W., Chekunova E.M., Chunaev A.S. and Hegemann P.: Restoration of photoelectric currents in "blind" Chlamydomonas mutants by retinal and its analogs. 8th International Conference on the Cell and Molecular Biology of Chlamydomonas, Tahoe City, USA, 1998.
14. Sineshchekov O., Govorunova E., Pazour G., Witman G., and Nultsch W.: Two photoreceptor currents in photosensory transduction in unicellular flagellates. 42th Annual Meeting of the Biophysical Society, Kansas City, USA, 1998.
15. Sineshchekov, O.A.: Investigation of motile responses to the variety of physical and chemical stimuli in Chlamydomonas and related algae by the new electrophysiological approach. VIII International Conference on the Cell and Molecular Biology of Chlamydomonas, Book of abstracts: S43, 1998.
16. Sineshchekov, O.A. Primary electrical events initiated by chlamyrodopsin. XIII International Congress for Photobiology, Book of abstracts: 23, 2000.
17. Govorunova E.G., Sineshchekov O.A., Gärtner W., Chunaev A.S. and Hegemann P.: Photocurrents and phototactic orientation in Chlamydomonas reconstituted with 9-desethyl-retinal. 9th International Conference on Retinal Proteins, Szeged, Hungary, 2000.
18. Govorunova E.G., Sineshchekov O.A., Gärtner W., and Hegemann P.: Photoreceptor currents and phototaxis mediated by an analog chlamyrodopsin containing 9-desmethyl-retinal. 13th International Congress for Photobiology, San Francisco, USA, 2000.
19. Sineshchekov O.A., Govorunova E.G., Litvin F.F.: Phototaxis in green flagellate algae. 2nd E.N. Kondratieva Symposium on Phototroph Microorganisms, Moscow, Russia, 2000.
20. Govorunova E.G., Sineshchekov O.A., Gärtner W., Chunaev A.S., Hegemann

- P.: Photoinduced electrical currents and photoorientation in *Chlamydomonas* cells recorded upon substitution of the native chromophore with 9-demethyl-retinal. 2nd E.N. Kondratieva Symposium on Phototroph Microorganisms, Moscow, Russia, 2000.
21. Govorunova E.G., Altschuler I.M., Häder D.-P., Sineshchekov O.A.: New express method for detecting toxic substances in water by recording rhodopsin-mediated photoelectric responses in *Chlamydomonas* cell suspensions. 2nd E.N. Kondratieva Symposium on Phototroph Microorganisms, Moscow, Russia, 2001.
 22. Sineshchekov, O.A. and Govorunova, E.G.: Light signal transduction in flagellates as a model system for biomedical research. Humboldtian Conference "Biomedical Sciences", Book of abstracts: 20, 2001.
 23. Govorunova E.G., Altschuler I.M., Sineshchekov O.A.: Detection of water pollution by toxic substances by measuring their influence on photoelectric responses in suspensions of green flagellate algae. 3^d Russian Photobiology Congress, Voronezh, Russia, 2001.
 24. Sineshchekov, O.A., Jung, K.-H., and Spudich, J.L.: Two rhodopsins mediate motility responses at low and high-intensity light in green flagellated algae. X International Conference on Retinal Proteins, Book of abstracts: L51, 2002.
 25. Govorunova E., Sineshchekov O.A.: Activation of a gamete-specific chemosensory system inhibits the photoreceptor currents in *Chlamydomonas reinhardtii*. 10th International Conference on the Cell and Molecular Biology of *Chlamydomonas*, Vancouver, Canada, 2002.
 26. Govorunova E.G., Alexeeva N.V., Sineshchekov O.A.: New express method to detect water pollution: recording photoelectric responses in green flagellate algae. The International Conference "New Technologies of Protection Water Ecosystems Biodiversity", Moscow, Russia, 2002.
 27. Sineshchekov, O.A., Jung, K.-H., Govorunova, E.G., and Spudich, J.L.: Function of *Chlamydomonas* sensory rhodopsins (CSRA and CSRB) in photomotility responses. The 31th Annual Meeting of the American Society for Photobiology, Baltimore, USA, Book of Abstracts: 15, 2003.
 28. Sineshchekov, O.A.: Sensory rhodopsins of photosynthetic microbes. XI International Conference on Retinal Proteins, Book of abstracts: L25, 2004.
 29. Govorunova E.G., Voytsekh O.O., Sineshchekov O.A.: A K⁺ conductance is involved in gamete-specific chemosensory transduction in *Chlamydomonas*. 11th International Conference on the Cell and Molecular Biology of *Chlamydomonas*, Kobe, Japan, 2004.
 30. Alexeeva N.V., Govorunova E.G., Sineshchekov O.A.: The role of active and passive processes in *Chlamydomonas* gravitaxis. 3^d Russian Congress of Biophysics, Voronezh, Russia, 2004.
 31. Govorunova E.G., Sineshchekov O.A.: Rhodopsin pigments in phototroph microorganisms. 3^d E.N. Kondratieva Symposium on Phototroph Microorganisms,

Moscow, Russia, 2005.

32. Sineshchekov, O.A., Govorunova, E.G., Jung, K.-H., Zauner, S., Maier, U.-G., and Spudich, J.L.: Rhodopsins mediate phototaxis in cryptophyte flagellates. XII International Conference on Retinal Proteins, Book of abstracts: 207, 2006.
33. Govorunova E.G., Sineshchekov O.A.: Gamete-specific chemical sensing in *Chlamydomonas*. 46th Annual Meeting of the American Society for Cell Biology, San Diego, USA, 2006.
34. Filonova A.P., Govorunova E.G., Sineshchekov O.A.: Chemosensory sensitivity and its relationship with gametogenesis in the green alga *Chlamydomonas reinhardtii*. The International Conference "Molecular, Membrane and Cellular Foundations of Biosystems Function", Minsk, Belarus, 2006.
35. Sineshchekov O.A., Govorunova E.G., Jung K.-H., Zauner S., Maier U.-G., Spudich J.L.: Rhodopsins mediate phototaxis in cryptophyte flagellates. 12th International Conference on Retinal Proteins, Kobe, Japan, 2006.
36. Filonova A.P., Govorunova E.G., Sineshchekov O.A.: Sensitivity to the chemoeffectors tryptone and ammonium, and its changes during gametogenesis in the green flagellate alga *Chlamydomonas reinhardtii*. 6th Congress of the Russian Society for Plant Physiology/The International Conference "Modern Plant Physiology: from Molecules to Ecosystems", Siktivkar, Russia, 2007.
37. Sineshchekov, O.A., and Spudich, J.L.: Photosensory functions of channelrhodopsins in native algal cells. HHMI Conference Genetic Manipulation of Neuronal Activity. Book of abstracts: 77(S), 2008.
38. Sineshchekov, O.A.: A Schiff base connectivity switch controls sensory rhodopsin signaling. XIII International Conference on Retinal Proteins, Book of abstracts: , 2008.
39. Sineshchekov, O.A., Govorunova, E.G., Spudich, E.N. and Spudich, J.L.: Channelrhodopsins in vivo and in vitro. XIV International Conference on Retinal Proteins, Book of abstracts: L1, 2010.
40. Spudich, J.L. and Sineshchekov, O.A. Diversity and Mechanisms of Channelrhodopsins and Homologous Photosensors. XV International Conference on Retinal Proteins, Book of abstracts: L22, p.42, 2012.
41. Govorunova, E.G., Sineshchekov, O.A., Wang, J. and Spudich, J.L. Intramolecular proton transfers in channelrhodopsins. XV International Conference on Retinal Proteins, Book of abstracts: P12, p.94, 2012.
42. Sineshchekov, O.A. and Spudich, J.L. The Two Distinct Functions of Channelrhodopsins in Algae. XIV Congress of International Union of Photobiology, Cordoba, Argentina, Book of abstracts, 2014.
43. Govorunova E.G., Sineshchekov O.A., Melkonian M., Gane K.-S. Wong, Spudich J.L.: Functional analysis of anion channelrhodopsin homologs from cryptophyte algae. 17th International Conference on Retinal Proteins, Potsdam, Germany, Book of abstracts: p. 41, 2016.

44. Sineshchekov O.A., Govorunova E.G., Schafer C.T., Li H., Spudich J.L.: Functional and Photochemical Characterization of Anion Channelrhodopsin 2 from *Guillardia theta*. 18th International Conference on Retinal Proteins, Toronto, Canada, Book of abstracts: p. 46, 2018.
45. Sineshchekov O.A., Govorunova E.G., Schafer C.T., Li H., Spudich J.L.: Functional and Photochemical Characterization of Anion Channelrhodopsin 2 from *Guillardia theta*. 18th International Conference on Retinal Proteins, Toronto, Canada, Book of abstracts: p. 46, 2018.
46. Li H., Huang C.-Y., Govorunova E.G., Schafer C.T., Sineshchekov O.A., Wang M., Zheng L., Spudich J.L.: Crystal Structure of a Natural Light-Gated Anion Channelrhodopsin. 18th International Conference on Retinal Proteins, Toronto, Canada, Book of abstracts: p. 43, 2018.
47. Govorunova E.G., Sineshchekov O.A., Hemmati R., Janz R., Morelle O., Melkonian M., Wong G.K.S., Spudich J.L.: Variant cryptophyte anion channelrhodopsins expand the time domain for neuronal silencing. Society for Neuroscience Annual Meeting, San Diego, USA, 2018.
48. Govorunova E.G., Sineshchekov O.A., Li H., Schafer C.T., Spudich J.L.: Natural anion channelrhodopsins (ACRs): diversity and mechanisms. The joint 17th International Congress of Photobiology and 18th Congress of the European Society for Photobiology, Barcelona, Spain, 2019.
49. Govorunova E.G., Sineshchekov O.A., Spudich J.L.: New channelrhodopsin families: Rapid desensitization and highly red-shifted absorption. The 8th Annual Symposium of the Neurotechnology Center at Columbia University, New York, 2020.

B. Refereed Original Articles in Journals

50. Sineshchekov, O.A., and Litvin, F.F.: Phototaxis of microorganisms, its mechanism and relation to photosynthesis. *Usp. Sovrem. Biol. (Moscow)* 78:57-75, 1974.
51. Sineshchekov, O.A., Andrianov, V.K., Kurella, G.A., and Litvin, F.F.: Bioelectric phenomena in unicellular flagellated alga, its relation to phototaxis and photosynthesis. *Fiziol. Rast. (Moscow)* 23: 229-237, 1976.
52. Sineshchekov, O.A., and Litvin, F.F.: Induction of fluorescence of a single chloroplast in an entire cell of the green alga *Haematococcus pluvialis*. *Biofizika (Moscow)* 22: 58-63, 1977.
53. Sineshchekov, O.A., Sineshchekov, V.A., and Litvin, F.F.: Photoinduced bioelectric responses in the phototaxis of unicellular flagellated alga. *Dokl. Acad. Nauk USSR (Moscow)* 239: 471-474, 1978.

54. Litvin, F.F., Sineshchekov, O.A., and Sineshchekov, V.A.: Photoreceptor electric potential in the phototaxis of the alga *Haematococcus pluvialis*. *Nature* 271:476-478, 1978.
55. Potapova, L.D., Yaglova, L.G., and Sineshchekov, O.A.: Autoregulation of vacuolar pH in *Nitellopsis obtusa* cell. *Fiziol. Rast. (Moscow)* 27:800-805, 1980.
56. Andrianov, V.K., Svintitskih, B.A., Sineshchekov, O.A., and Rubin, A.B.: Photoinduced changes in membrane potential and pH of cytoplasmic drop, isolated from *Nitella* cell. *Dokl. Acad. Nauk USSR (Moscow)* 266:758-761, 1982.
57. Dubrovskii, V.T., Balashov, S.P., Sineshchekov, O.A., Chekulaeva, L.N., and Litvin, F.F.: Light-induced changes in quantum yields of the photochemical cycle of conversion of bacteriorhodopsin and transmembrane proton transfer in cells of *Halobacterium halobium*. *Biokhimiya (Moscow)* 47:1230-1240, 1982.
58. Sineshchekov, O.A., Sudnitsyn, V.V., and Litvin, F.F.: Periodic electric activity in unicellular flagellated alga and its possible relationship with klinokinesis. *Biofizika (Moscow)* 29:643-648, 1984.
59. Sudnitsyn, V.V., Sineshchekov, O.A., and Litvin, F.F.: Influence of light and electrical currents on the pulses of the periodic electrical activity in unicellular flagellated alga. *Biofizika (Moscow)* 29:842-844, 1984.
60. Sudnitsyn, V.V., Sineshchekov, O.A., Boichenko, V.A., and Litvin, F.F.: The role of photosystem I in control of the frequency of periodic activity in photosynthetic flagellate. *Biofizika (Moscow)* 31:430-433, 1986.
61. Sudnitsyn, V.V., Sineshchekov, O.A., and Litvin, F.F.: The relation between respiration and periodic activity in flagellate *Haematococcus pluvialis*. *Biofizika (Moscow)* 31:530-532, 1986.
62. Sudnitsyn, V.V., Sineshchekov, O.A., and Litvin, F.F.: Periodic micromovement of the protoplast in unicellular flagellated alga *Haematococcus pluvialis*. *Biofizika (Moscow)* 33: 370-371, 1988.
63. Sineshchekov, O.A., Govorunova, E.G., and Litvin, F.F.: The role of photosynthetic apparatus and stigma in formation of the spectral sensitivity of phototaxis in green flagellated algae. *Biofizika (Moscow)* 34:255-258, 1989.
64. Sineshchekov, O.A., Litvin F.F., and Keszthelyi, L.: Two components of photoreceptor potential in phototaxis of the flagellated green alga *Haematococcus pluvialis*. *Biophys. J.* 57:33-39, 1990.
65. Sineshchekov, O.A., and Govorunova, E.G.: Rhythmic activity in flagellated algae and its role in phototaxis. *Biofizika (Moscow)* 36:603-608, 1991.
66. Sineshchekov O.A., Govorunova E.G., and Litvin F.F.: The rhodopsin-like photoreceptor in *Haematococcus*: hydroxylamine effect on photoelectric responses and phototaxis of cells. *Sensornye Systemy* 5:51-55, 1991.
67. Sineshchekov, O.A., Govorunova, E.G., Der, A., Keszthelyi, L., and Nultsch, W.: Photoelectric responses in phototactic flagellated algae measured in cell suspension. *J. Photochem. Photobiol. B: Biol.* 13:119-134, 1992.

68. Kreimer, G., Overlaender, C., Sineshchekov, O.A., Stolzis, H., Nultsch W., and Melkonian, M.: Functional analysis of the eyespot in *Chlamydomonas reinhardtii* mutant eye 627, mt-. *Planta* 188:513-521, 1992.
69. Sineshchekov, O.A., Govorunova, E.G., Der, A., Keszthelyi, L., and Nultsch, W.: Photoinduced electric currents in carotenoid-deficient *Chlamydomonas* mutants reconstituted with retinal and its analogs. *Biophys. J.* 66:2073-2084, 1994.
70. Sineshchekov, V.A., Geiss, D., Sineshchekov, O.A., Galland, P., and Senger, H.: Fluorometric characterization of pigments associated with isolated flagella of *Euglena gracilis*: evidence for energy migration. *J. Photochem. Photobiol. B: Biol.* 23:225-237, 1994.
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73. Govorunova, E.G., Sineshchekov, O.A., and Hegemann, P.: Desensitization and dark recovery of the photoreceptor current in *Chlamydomonas reinhardtii*. *Plant Physiol.* 115:633-642, 1997.
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75. Sineshchekov, O., Lebert, M., and Haeder, D.-P.: Effects of light on gravitaxis and velocity in *Chlamydomonas reinhardtii*. *J. Plant Physiol.* 157:247-254, 2000.
76. Govorunova, E.G., Altschuler, I.M., Häder D.-P., and Sineshchekov, O.A.: A novel express bioassay for detecting toxic substances in water by recording rhodospin-mediated photoelectric responses in *Chlamydomonas* cell suspensions. *Photochem. Photobiol.* 72:320-326, 2000.
77. Sineshchekov, O.A., Sudnitsyn, V.V., Govorunova, E.G., and Litvin, F.F.: Rhythmic activity in green flagellated alga *Haematococcus pluvialis* and its role in cell photomotility. *Biol. Memb. (Moscow)* 18:83-91, 2001.
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80. Govorunova, E.G., and Sineshchekov, O.A.: Integration of photo- and chemosignaling pathways in *Chlamydomonas*. *Planta* 21:535-540, 2003.

81. Wang, W.-W., Sineshchekov, O.A., Spudich, E.N., and Spudich, J.L.: Spectroscopic and photochemical characterization of a deep ocean proteorhodopsin. *J. Biol. Chem.* 278:33985-33991, 2003.
82. Govorunova, E.G., Jung, K.-H., Sineshchekov, O.A., and Spudich, J.L.: Chlamydomonas sensory rhodopsins A and B: cellular content and role in photophobic responses. *Biophys. J.* 86:2342-2349, 2004.
83. Man-Aharonovich, D., Sabehi, G., Sineshchekov, O.A., Spudich, E.N., Spudich, J.L., and Beja, O. Characterization of RS29, a blue-green proteorhodopsin variant from the Red Sea. *Photochem. Photobiol. Sci.* 3:459-462, 2004.
84. Sineshchekov, O.A., and Spudich, J.L.: Light-induced intramolecular charge movements in microbial rhodopsins in intact *E. coli* cells. *Photochem. Photobiol. Sci.* 3:548-554, 2004.
85. Vogeley, L., Sineshchekov, O.A., Trivedi, V.D., Sasaki, J., Spudich, J.L., and Luecke, H.: Anabaena sensory rhodopsin: a photochromic color sensor at 2.0 Å. *Science* 306:1390-1393, 2004.
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C. Invited Articles in Journals

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D. Book Chapters

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F. Other Professional Communications

1. Presentations

145. Chlamydomonas phototaxis reception. Gordon Research Conference "Photosensory Receptors and Signal Transduction", Il Ciocco, Italy, April 30 - May 5, 2000.
146. Two rhodopsins mediate phototaxis to low- and high-intensity light in Chlamydomonas reinhardtii. Gordon Research Conference "Photosensory Receptors and Signal Transduction", Il Ciocco, Italy, May 19-24, 2002.
147. In vivo measurements of light-induced charge movements in type I rhodopsins expressed in E. coli. Gordon Research Conference "Protons and Membrane Reactions", Ventura, CA, February 23-28, 2003.
148. Function of Chlamydomonas sensory rhodopsins in phototile responses. Gordon Research Conference "Photosensory Receptors and Signal Transduction", Ventura, CA, January 25-30, 2004.
149. Cytoplasmic domain controls the vectoriality of charge movement in Anabaena sensory rhodopsin. Gordon Research Conference "Photosensory Receptors and Signal Transduction", Il Ciocco, Italy, April 30 - May 5, 2006.
150. A Schiff base connectivity switch controls sensory rhodopsin signaling. Gordon Research Conference "Photosensory Receptors and Signal Transduction", Ventura, CA, January 27- February 1, 2008.

More than 25 presentations at the USSR and Russia National Scientific Meetings.

Invited seminar speaker in more than 30 laboratories and institutions in Hungary, Germany, Japan and the USA.