

**Список основных работ
Аллахвердиева Сулеймана Ифхан оглы**

**List of major publications
Suleyman I. Allakhverdiev**

(1978-2019)

I. Статьи в реферируемых журналах (Articles in refereed journals (275))

1. Климов В.В., Аллахвердиев С.И., Пашенко В.З. (1978) Измерение энергии активации и времени жизни флуоресценции хлорофилла фотосистеме 2. Докл. АН СССР, 242: 1204-1205.
2. Климов В.В., Аллахвердиев С.И., Деметер Ш., Красновский А.А. (1979) Фотовосстановление феофитина в фотосистеме 2 хлоропластов в зависимости от окислительно-восстановительного потенциала среды. Докл. АН СССР, 49: 227-230.
3. Климов В.В., Аллахвердиев С.И., Красновский А.А. (1979) Сигнал ЭПР при фотовосстановлении феофитина в реакционных центрах фотосистемы 2 хлоропластов. - Докл. АН СССР, 249: 485-488.
4. Климов В.В., Аллахвердиев С.И., Шутилова Н.И., Красновский А.А. (1980) Исследование фотовосстановления феофитина и фотоокисления хлорофилла P680 на препаратах фотосистемы 2 из хлоропластов гороха и *Chlamydomonas reinhardtii*. Физиология растений, 27: 315-326.
5. Klimov V.V., Allakhverdiev S.I., Shuvalov V.A., Krasnovsky A.A. (1982) Effect of extraction and re-addition of manganese on light reactions of photosystem II preparations. - FEBS Lett., 148: 307-312.
6. Аллахвердиев С.И., Клеваник А.В., Климов В.В., Шувалов В.А., Красновский А.А. (1983) Определение число атомов марганца, функционирующих в донорной части фотосистемы 2. Биофизика, 28: 5-8.
7. Куликов А.В., Богатыренко В.Р., Лихтенштейн Г.И., Аллахвердиев С.И., Климов В.В., Шувалов В.А., Красновский А.А. (1983) Магнитное взаимодействие марганца с анион-радикалом феофитина и катион-радикалом хлорофилла в реакционных центрах фотосистемы 2. Биофизика, 28:357-363.
8. Klimov V.V., Allakhverdiev S.I., Shafiev M.A., Demeter S. (1985) Effect of complete extraction and re-addition of manganese on thermoluminescence of pea photosystem II preparations. Biochim Biophys Acta, 809: 414-420.
9. Аллахвердиев С.И., Шафиев М.А., Климов В.В. (1985) Влияние экстрагирования и последующего добавления ионов марганца на фотоокисление хлорофилла P680 в препаратах фотосистемы 2. Биофизика, 31: 223-226.
10. Бойченко В.А., Аллахвердиев С.И., Ладыгин В.Г., Климов В.В. (1986) Функциональное сопряжение гидрогеназы с фотосистемой 2 в целых клетках мутантов *Chlamydomonas reinhardtii*. Докл. АН СССР, 290: 995-998.
11. Klimov V.V., Allakhverdiev S.I. and Ladygin V.G. (1986) Photoreduction of pheophytin in photosystem II of the whole cells of green algae and cyanobacteria. Photosynth. Res., 10: 355-361.

12. **Allakhverdiev S.I.**, Shafiev M.A. and Klimov V.V. (1986) Effect of reversible extraction of manganese on photooxidation of chlorophyll P₆₈₀ in photosystem II preparations. *Photobiochem. Photobiophys.*, 12: 61-65.
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14. **Allakhverdiev S.I.**, Setlikova E., Klimov V.V. and Setlik I. (1987) In photoinhibited photosystem II particles pheophytin photoreduction remains unimpaired. *FEBS Lett.*, 226: 186-190.
15. Klimov V.V., **Allakhverdiev S.I.** and Ladygin V.G. (1987) "Photoreduction of pheophytin in photosystem II reaction centers under anaerobic conditions"-*Proc. Indian Natl. Sci. Acad.*, B53: 385-389.
16. Maltsev S.V., **Allakhverdiev S.I.**, Klimov V.V. and Krasnovsky A.A. (1988) Hydrogen evolution by subchloroplast preparations of photosystem II from pea and spinach. *FEBS Lett.*, 240: 1-5.
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19. **Аллахвердиев С.И.**, Климов В.В., Ладыгин В.Г. (1988) Фотовосстановление феофитина в реакционных центрах фотосистемы 2 целых клеток зеленых водорослей и цианобактерий в анаэробных условиях. *Биофизика*, 33: 442-447.
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21. Куликов А.В., Юданова Е.И., Лихтенштейн Г.И., **Аллахвердиев С.И.**, Климов В.В. (1988) Изучение процесса выделения кислорода в хлоропластах гороха методом спиновых меток. *Биофизика*, 33: 984-989.
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24. Климов В.В., Шафиев М.А., **Аллахвердиев С.И.** (1989) Фотоинактивация фотосистемы 2 в субхлоропластных частицах после полного удаления марганца. *Физиология растений*, 36: 1073-1079.
25. **Аллахвердиев С.И.**, Куликов А.В., Климов В.В., Богатыренко В.Р., Лихтенштейн Г.И. (1989) Определение глубины погружения хлорофилла P₆₈₀, феофитина и вторичного донора электрона в субхлоропластных препаратах фотосистемы 2 гороха. *Биофизика*, 34: 434-438.
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31. Klimov V.V., Shafiev M.A., **Allakhverdiev S.I.** (1990) Photoinactivation of reactivation capacity of photosystem 2 in the subchloroplast particles after a complete removal of manganese. *Photosyn. Res.*, 23: 59-65.
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33. Клеваник А.В., Фейзиев Я.М., **Аллахвердиев С.И.**, Шувалов В.А., Климов В.В. (1991) О природе переменной флуоресценции хлорофилла фотосистемы 2 высших растений. *Биологические мембраны*, 8: 1053-1065.
34. **Аллахвердиев С.И.**, Козлов Ю.Н., Ель-Шейх М.М., Деметер Ш., Климов В.В. (1992) Влияние химической модификации тирозина и гистидина в изолированном реакционном центре фотосистемы 2 на термолюминесценцию ТЛ₅₅. *Биологические мембраны*, 9: 904-914.
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14. Nishiyama Y., Kojima K., Hayashi H., **Allakhverdiev S.I.**, Murata N. (2007) "Action of reactive oxygen species in the photoinhibition of photosystem II. *In: Proceedings of the 14th International Congress of Photosynthesis*, Glasgow, pp. 326-329.

V. Устные и/или приглашенные докладов с 1995г - Oral and / or invited lectures from 1995 (53)

1. **Satellite Meeting of International Congress on Photosynthesis: Visible and UV Light Stress, Paris, France, August, 1995**, "Evidence for the involvement of cyclic electron transport in the protection of photosystem II against photoinactivation: influence of a new phenolic compound".
2. **European Research Conferences: "Biophysics of Photosynthesis" Sitges, Spain, 5-10 October, 1996**, "Bicarbonate requirement for the donor side of photosystem II"
3. **European Workshop: "Molecular recognition in photosynthesis"** Jaca, Spain, 27-29 September, 1996, "Bicarbonate is an essential constituent of the water-oxidizing complex of photosystem II"
4. **The 13th International symposium on Plant Lipids, Seville, Spain, July, 1998**; "Effect of unsaturation of fatty acids in membrane lipids on the tolerance to light and high-salt stress and temperature-dependent regulation of the expression of genes for fatty acid desaturases in *Synechocystis*"
5. **Japan-Australia Binational Seminar "Molecular physiology of photosynthesis in Stress Environments"** Okazaki, Japan, March, 1998; "Bicarbonate may be required for ligation of manganese in the oxygen-evolving complex of photosystem II"
6. **Satellite Meeting of the 11th International congress on Photosynthesis: "International Workshop on Stress Synergisms in Plants: Abiotic and Biotic Stress in Photosynthesis"** Tata, Hungary, August, 1998; "Genetic engineering of the unsaturation of fatty acids in membrane lipids alters the tolerance of *Synechocystis* to salt stress"
7. **The 38th NIBB Conference: "Stress Responses, Sensing, Signal Transduction and Gene Expression"** Okazaki, Japan, March 29-31, 1998; "Low-temperature perception system which regulates induction of fatty acid desaturases in the cyanobacterium *synechocystis* sp. PCC 6803"
8. **The M BIO Conference "Marino Biotechnology"**, Kamaishi, Japan August, 1999 "Structure and function of photosystem II"

9. ***The 14th International Workshop of Plant Lipids, Okazaki, Japan, November-December, 2001;*** "Unsaturated fatty acids in membrane lipids protect the photosynthetic machinery against salt-induced damage in cyanobacteria"
10. **"Light Stress and Photosynthesis", Satellite Meeting of 12th International Congress on Photosynthesis, Heron Island, Australia, August 2001;** "The repair of photosystem II is the site of regulation by environmental stresses"
11. ***The 12th International Congress on Photosynthesis, Brisbane, Australia, August 2001;*** "Light and salt stress act synergistically to impair photosystem II by inhibition of the transcription and translation of *psbA* genes"
12. ***The International Symposium on Photosystem II, Pushchino, Russia, July 8-12, 2002*** "Salt stress inhibits the repair of photodamaged photosystem II by suppressing the transcription and translation of *psbA* genes in *Synechocystis*"
13. ***The International Satellite Meeting "Photosynthesis and Post-Genomic Era: From Biophysics to Molecular Biology a Path in the Research of Photosystem II"- in honour of Professor Norio Murata, August 25-28, 2004 Trois-Rivières, Québec, Canada, in Conjunction with the XIIIth International Congress on Photosynthesis, Montreal, Canada*** "Environmental stress inhibits the synthesis *de novo* of proteins involved in the photodamage-repair cycle of photosystem II in *Synechocystis*"
14. ***The 18th Pushchino Conference on Photosynthesis, Pushchino, Russia, June 19-23, 2005*** "Cellular energization protects the photosynthetic machinery against salt-induced inactivation in *Synechococcus*"
15. ***NIBB Conference in 2006.*** "Temperature Regulation of Photodamage to Photosystem II in *Synechocystis*"
16. ***The International Meeting "Photosynthesis and Post-Genomic Era: Structure and Function of Photosystems"-in honour of Prof. Jim Barber, August 20-26, 2006, Pushchino, Russia*** "A new Paradigm for Photodamage and Repair in Photoinhibition of Photosystem II"
17. ***Kanasawa University, Kanasawa, Japan, February 14, 2007*** "Temperature regulation of photodamage to photosystem II in *Synechocystis*"
18. ***Institute for Molecular Science (IMS), National Institutes for Natural Science (NINS), Myodaiji, Okazaki, Japan, June 20, 2007,*** "Photosystem II: X-ray analysis and Temperature regulation of photodamage to photosystem II in *Synechocystis*"
19. ***The 14th International Congress on Photosynthesis, Glasgow, July, 2007;*** "Action of reactive oxygen species in the photoinhibition of photosystem II"- Y.Nishiyama, K.Kojima, H.Hayashi, **S.I.Allakhverdiev**, N. Murata
20. ***International Conference "Photosynthesis in the Global Perspective" DAVV, Indore, India (27-29 November) 2008*** "Single-molecular quinine pools: an approach toward photosynthetic energy conversion from organic chemistry"- T. Nagata, Y. Kikuzawa, T. Nagasawa and **S.I.Allakhverdiev**
21. **RIKEN Plant Science Center, Yokohama, Japan. February 4, Monday, 2008 (at 14:30).** (*Host researcher: Prof. K. Shinozaki. Director of RIKEN Plant Science Center*) "Glycinebetaine alleviates the inhibitory effect of moderate heat stress on the repair of photosystem II during photoinhibition"
22. **Okayama University, Okayama, Japan, February 18, Monday, 2008 (at 15:00).** (*Host researcher: Prof. J.-R. Shen. Department of Biology*). "From natural photosynthesis to artificial

photosynthesis: Reconstitution of water-oxidizing complex in Mn-depleted photosystem II preparations using synthetic binuclear Mn(II) and Mn(IV) complexes: production of hydrogen peroxide”

23. **Osaka Prefecture University, Osaka, Japan, February 20, Wednesday, 2008 (at 15:00).** (*Host researcher: Prof. M. Sigiura. Department of Plant Biosciences*), “Structure and Function of Photosystem II”
24. **The University of Tokyo, Tokyo, Japan. March 3, Monday, 2008 (at 16:00).** (*Host researcher: Prof. H. Nishihara. Department of Chemistry*), “Structure and Function of Photosystem II: Reconstitution of water-oxidizing complex in Mn-depleted photosystem II preparations using synthetic binuclear Mn complexes”
25. **Nagoya Institute of Technology, Nagoya, Japan. March 12, Monday, 2008 (at 15:40).** (*Host researcher: Prof. Y. Funahashi. Department of Applied Chemistry*) “Structure and Function of Photosystem II: Reconstitution of water-oxidizing complex in Mn-depleted photosystem II preparations using synthetic binuclear Mn complexes” at Public Symposium “Carbon Cycle and Light Energy”
26. **Tokyo Institute of Technology, Chemical Resources Laboratory, Yokohama, Japan. January 28, Thursday, 2010, (at 16:00).** (*Host researcher: Prof. M. Fujii*): “Structure and Function of Photosystem II: Reconstitution of the Water-Oxidizing Complex in Mn-depleted Photosystem II Preparations using Synthetic Mn complexes”
27. **The Tokyo University of Sciences, Department of Applied Biological Science, Noda, Japan. January 29, Friday, 2010, (at 16:00).** (*Host researcher: Prof. Y. Inoue*): “Structure and Function of Photosystem II: Reconstitution of the Water-Oxidizing Complex in Mn-depleted Photosystem II Preparations using Synthetic Mn complexes”.
28. **National Institute of Advanced Industrial Science and Technology (AIST) Tsukuba, Japan. February 4, Thursday, 2010, at 14:00,** (*Host researcher: Prof. T. Hiraga*): “Structure and Function of Photosystem II: Reconstitution of the Water-Oxidizing Complex in Mn-depleted Photosystem II Preparations using Synthetic Mn complexes”.
29. **Institute for Molecular Science, Research Center for Molecular Scale Nanoscience, Okazaki, Japan. February 16, (Tuesday, 2010 (at 16:00),** (*Host researcher: Prof. T. Nagata*): “Structure and Function of Photosystem II: Reconstitution of the Water-Oxidizing Complex in Mn-depleted Photosystem II Preparations using Synthetic Mn complexes”.
30. **Nagoya University, Department of Electrical Engineering, Electronics and Information Electronics, Nagoya, Japan. February 17, (Wednesday, 2010 (at 12:30).** (*Host researcher: Prof. K. Nakazato*): “Structure and Function of Photosystem II: Reconstitution of the Water-Oxidizing Complex in Mn-depleted Photosystem II Preparations using Synthetic Mn complexes”.
31. **The University of Tokyo, Department of Chemistry, Tokyo, Japan. March 1, Monday, 2010 (at 16:00).** (*Host researcher: Prof. H. Nishihara*): “Structure and Function of Photosystem II: Reconstitution of the Water-Oxidizing Complex in Mn-depleted Photosystem II Preparations using Synthetic Mn complexes”.
32. **International Conference “Photosynthesis Research for Sustainability”, Baku, Azerbaijan, (July 24-30, 2011)-**“Opening ceremony” and lecture “From natural to artificial photosynthesis” July 24, at 15:30.
33. **Korean Society of Plant Biology (KSPB) and Global Plant Council (GPC) workshop,** Jeju island, South Korea, October 28, Saturday, (at 10 a.m.), 2012. **Title: “Initiative for Plant Research on Energy and Biomaterials: Solar Energy Conversion using photosynthetic Systems”**

34. Pusan National University, Department of Plant Molecular Biology, Pusan, South Korea, October 12, Friday (at 5 p.m.), 2012. (Host researcher: Prof. Choon-Hwan Lee, President of KSPB, Head of Department of Plant Molecular Biology). Title: “Solar Energy Conversion using Photosynthetic Systems”
35. Daegu Gyrongbuk Institute of Science and Technology, Dalseong-Gun, Daegu, South Korea, September 20, Thursday (at 3 p.m.), 2012. (Host researcher: Prof. Hong Gil Nam, Head, School of New Biology). Title: “From Natural to Artificial Photosynthesis: Structure and Function of Photosystem II, Reconstitution of the Water-Oxidizing Complex in Mn-depleted Photosystem II Preparations using Synthetic Mn complexes”.
36. International Conference “Photosynthesis Research for Sustainability: in honor of J.A. Aliyev”, Baku, Azerbaijan, (June 5-9, 2013)-“Proposed mechanism for water oxidation: From natural Mn-Ca cluster to nano-sized Mn oxides” July 24, at 17:50.
37. Okayama University, Okayama, Japan. “Comparison of nano-sized Mn-Ca oxides with Mn-Ca cluster of photosystem II in water oxidation”
38. Photosynthesis Research Center, Okayama University, Japan: “Nano-Sized Manganese-Calcium Cluster in Photosystem II: From Natural to Artificial”, September 6, 2014
39. International Conference “Photosynthesis Research for Sustainability in honor of Vladimir Shuvalov” June 1-8, 2014, Pushchino, Moscow Region, Russia: “Diversity of chlorophylls in photosynthesis”, June 3th, Lecture (11:00-11:30)
40. Opening ceremony at International Conference “Photosynthesis Research for Sustainability in honor of Vladimir Shuvalov”, June 1-8, 2014, Pushchino, Moscow Region, Russia
41. “Excitation energy transfer in thylakoid membranes from the chlorophyll f-containing cyanobacterium” Meeting of the Japanese Society of Plant Physiologists (16-18 March, 2015). Tokyo, Japan.
42. “Nanostructured manganese oxide on silica aerogel toward water oxidation” International Conference Photosynthesis Research for Sustainability in honor of Dr. George C. Papageorgiou. (21-26 September 2015) Crete, Greece.
43. “Characterization of unique photosystem I complexes and its application” International Conference Photosynthesis Research for Sustainability in honor of Dr. George C. Papageorgiou. (21-26 September 2015) Crete, Greece.
44. “Physiological significance of photosystem I photoinhibition in wheat leaves” International Conference Photosynthesis Research for Sustainability in honor of Dr. George C. Papageorgiou. (21-26 September 2015) Crete, Greece.
45. “Which technique is better for studying photosynthetic apparatus? Modulated, prompt or delayed chlorophyll fluorescence?” International Conference Photosynthesis Research for Sustainability in honor of Dr. George C. Papageorgiou. (21-26 September 2015) Crete, Greece.
46. “Хлорофиллы d и f и их роль в первичных процессах фотосинтеза цианобактерий”. Симпозиальный доклад: (7 Октября, 16:20), V Съезде биохимиков России, 4–8 октября 2016, Сочи - Дагомыс, Россия.
47. “A set-up for studying effects of environmental factors on a photocurrent generated by a solar cell based on titanium dioxide and plant photosensitizers”. Invited Lecture (November 1

at 10:00) International Conference “Photosynthesis and Hydrogen Energy Research for Sustainability-2017” in honor of Agepati S. Raghavendra, William A. Cramer, and Govindjee” October 30 – November 4, 2017 Hyderabad, India

48. “Альтернативная энергетика с точки зрения физиолога растений”- 79-го Тимирязевского чтения (ИФР РАН, 5 Июня, 2018 г.).
49. I gave series of lectures on a new direction of research in the field of nanobiotechnology, in particular the system of artificial photosynthesis using protein structures to produce molecular hydrogen as an alternative source of energy and the use of photosynthetic crops for biofuel production at the Department of Biology and Biotechnology, Al-Farabi KazNU (from 16.11.2018 to 06.12.2018), Almaty, Kazakhstan (<https://www.kaznu.kz/en/3/news/one/14713/>)
50. “Alternative energy based on photosynthesis”. Invited lecture (23 November 2018), International scientific seminar "Bioenergetics on the basis of phototrophic microorganisms". At the faculty of biology and biotechnology, Al-Farabi Kazakh National University, Almaty, Kazakhstan (<https://www.kaznu.kz/en/3/news/one/14982/>)
51. “Альтернативная энергетика на основе фотосинтеза”. Приглашенный доклад на междисциплинарном мероприятии "Биофизика-Фотоника" из серии "Технологии нового хозяйственного уклада". Мероприятие состоялось в "Точке кипения" (форумная площадка Агентства стратегических инициатив), 14 декабря 2018 г. (15:00). Малый Конюшковский переулок, д.2 (возле "высотки" на Кудринской площади, м. Баррикадная, м.Краснопресненская). Отв: Шарипов О.В., советник администрации РФФИ (E-mail: sharipov@rfbr.ru)
52. “Alternative energy based on photosynthesis”. Invited lecture (4 March 2019), Azerbaijan Diplomatic Academy (ADA) University, Baku, Azerbaijan
53. “Alternative energy based on photosynthesis”. Invited lecture. “The Belt and Road” 1st Forum of Plant Membrane Biology (8-10 April, 2019). Foshan, Guangdong, China.

VI. Авторское свидетельство- Patents (6)

1. Шутилова Н.И., Климов В.В., **Аллахвердиев С.И.** (1987) Способ получения кислородвыделяющих субхлоропластных фрагментов фотосистемы 2 растений. **Авторское свидетельство** № 1330769, от 1987 г.
2. Климов В.В., **Аллахвердиев С.И.**, Жармухамедов С.К., Шувалов В.А., (1989) Способ определения количества реакционных центров фотосистемы 2 растений. **Авторское свидетельство** № 1494880, от 1989 г.
3. Баскаков Ю.А., Колобанова Л.П., Константинова Н.В., **Аллахвердиев С.И.**, Жармухамедов С.К., Ананьев Г.М., Климов В.В. (1990) 4-(2'-оксиперфторизопропил)-2,6-динитроанилина в качестве ингибиторов реакционного центра фотосистемы 2 растений. **Авторское свидетельство** № 1573798, от 1990.г.
4. **Аллахвердиев С.И.**, Жармухамедов С.К., Климов В.В., Колобанова Л.П., Константинова Н.В., Баскаков Ю.А. (1990) Производные гидроксиперфторизопропилдинитро-фенилгидразина, ингибирующие реакционные центры фотосистемы 2 растений. **Авторское свидетельство** № 1617892, от 1990 г.

5. **Аллахвердиев С.И.** (1991) Способ определения количества реакционных центров фотосистемы 2 растений. Авторское свидетельство № 1664176, от 1991 г.
6. Христин М.С., Жармухамедов С.К., **Аллахвердиев С.И.**, Климов В.В. (1991) Способ выделения реакционных центров фотосистемы 2 растений. Авторское свидетельство № 1718754, от 1991 г.

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Scientific Secretary of the Institute**

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The list of publications are categorised by significance/importanc, and abstracts are not included*