

Перечень публикаций
Аллахвердиева Сулеймана Ифхан оглы
(2020-2021)

2020

- 1 . Borisova-Mubarakshina M, Tsygankov AA, Tomo T, **Allakhverdiev SI**, Eaton-Rye JJ, Govindjee. (2020) International conference on “Photosynthesis and Hydrogen Energy Research for Sustainability-2019”: in honor of Tingyun Kuang, Anthony Larkum, Cesare Marchetti, and Kimiyuki Satoh. *Photosynthesis Research.* v. 146, p. 5-15
- 2 . Landi M, Zivcak M, Oksana Sytar O, Brešić M, **Allakhverdiev SI** (2020) Plasticity of photosynthetic processes and the accumulation of secondary metabolites in plants in response to monochromatic light environments: A review. *BBA - Bioenergetics* 1861, 148131
- 3 . Kossalbayev BD, Tomo T, Bolatkhan K. Zayadan BK, Sadvakasova AK, Bolatkhan K, Alwasel S, **Allakhverdiev SI** (2020) Determination of the potential of cyanobacterial strains for hydrogen production. *Int J Hydrogen Energy*, v. 45, p. 2627-2639
- 4 . Kato K, Shinoda T, Nagao R, Akimoto S, Suzuki T, Dohmae N, Chen M, **Allakhverdiev SI**, Shen JR, Akita F, Miyazaki N, Tomo T (2020) Structural basis for the adaptation and function of chlorophyll f in photosystem I. *Nature Comm.* v. 11, p. 238-248
- 5 . Safdari T, Akbari N, Valizadeh A, Bagheri R, Song Z, **Allakhverdiev SI**, Najafpour MM (2020) Iron–nickel oxide: a promising strategy for water-oxidation. *New J Chem.* 44, p. 1517 -1523
- 6 . Khosravi M, Feizi H, Haghghi B, **Allakhverdiev SI**, Najafpour MM (2020) Photoelectrochemistry of manganese oxide/mixed phase titanium oxide heterojunction. *New J Chem.* 44: 3514-3523
- 7 . Najafpour MM, Zaharieva I, Zand Z, Hosseini SM, Kouzmanova M, Hołyska M, Tranca I, Larkum AW, Shen JR, **Allakhverdiev SI** (2020) Water-oxidizing complex in Photosystem II: Its structure and relation to manganese-oxide based catalysts. *Coordination Chemistry Reviews* 409: 213183
- 8 . Hussain S, Liu T, Iqbal N, Brešić M, Pang T, Mumtaz M, Shafiq I, Li S, Wang L, Gao Y, Khan A, Ahmad I, **Allakhverdiev SI**, Liu W, Yang W (2020) Effects of lignin, cellulose, hemicellulose, sucrose and monosaccharide carbohydrates on soybean physical stem strength and yield in intercropping. *Photochem Photobiol Sci.* 19: 462-472
- 9 . Kolomeichuk LV, Efimova MV, Zlobin IE, Kreslavski VD, Murgan OK, Kovtun IS, Khripach VA, Kuznetsov VIV, **Allakhverdiev SI** (2020) 24-Epibrassinolide alleviates the toxic effects of NaCl on photosynthetic processes in potato plants. *Photosynthesis Research.* v.146, p. 151-163
- 10 . Kreslavski VD, Huang X, Semenova G, Khudyakova A, Shirshikova G, Hummatov N, Zharmukhamedov SK, Li X, **Allakhverdiev SI**, Nie C, Shabala S (2020) Linking sensitivity of photosystem II to UV-B with chloroplast ultrastructure and UV-B absorbing pigments contents in *A. thaliana L. phyAphyB* double mutants. *Plant Growth Regulation.* 91: 13-21
- 11 . Hussain S, Pang T, Iqbal N, Shafiq I, Skalicky M, Brešić M, Safdar ME, Mumtaz M, Ahmad A, Asghar MA, Raza A, **Allakhverdiev SI**, Wang Y, Wang XC, Yang F, Yong T, Liu W, Yang W (2020) Acclimation strategy and plasticity of different soybean genotypes in intercropping. *Functional Plant Biology*, 47: 592-610
- 12 . Pan T, Liu M, Kreslavski VD, Zharmukhamedov SK, Nie C, Yu M, Kuznetsov VV, **Allakhverdiev SI**, Shabala S (2020) Understanding non-stomatal limitation of photosynthesis by soil salinity. *Critical Reviews in Environmental Science and Technology* <https://doi.org/10.1080/10643389.2020.1735231>
- 13 . Mehrabani S, Bikas R, Zand Z, Mousazade Y, **Allakhverdiev SI**, Najafpour MM (2020) Water splitting by a pentanuclear iron complex. *Int J Hydrogen Energy*, 45: 17434-17443

- 14 . Poudyal SR, Rodionova MV, Kim H, Lee S, Do E, Allakhverdiev SI, Nam HG, Hwang D, Kim Y (2020) Combinatory actions of CP29 phosphorylation by STN7 and stability regulate leaf age-dependent disassembly of photosynthetic complexes. *Scientific Reports* **10**:10267
- 15 . Liu M, Pan T, Allakhverdiev SI, Yu M, Shabala S (2020) Crop Halophytism: An Environmentally Sustainable Solution for Global Food Security. *Trends in Plant Science*, **25**: 630-634
- 16 . Allakhverdiev SI (2020) Editorial for the special issue on photosynthesis and hydrogen energy research for sustainability-2019. *Photosynthesis Research*. v. 146, p. 1-3
- 17 . Stetsenko LA, Pashkovsky PP, Voloshin RA, Kreslavski VD, Kuznetsov VV, Allakhverdiev SI (2020) Role of anthocyanin and carotenoids in the adaptation of the photosynthetic apparatus of purple- and green-leaved cultivars of sweet basil (*Ocimum basilicum*) to high-intensity light. *Photosynthetica*, **58**: 890-901
- 18 . Kreslavski VD, Strokina VV, Pashkovskiy PP, Balakhnina TI, Voloshin RA, Alwasel S, Kosobryukhov AA, Allakhverdiev SI (2020) Deficiencies in phytochromes A and B and cryptochrome 1 affect the resistance of the photosynthetic apparatus to high-intensity light in *Solanum lycopersicum*. *J Photochem. Photobiol. B: Biology* **210**: 111976
- 19 . Sadvakasova AK, Kossalbayev BD, Zayadan BK, Bolatkhan K, Alwasel S, Najafpour MM, Tomo T, Allakhverdiev SI (2020) Bioprocesses of hydrogen production by cyanobacteria cells and possible ways to increase their productivity. *Renewable and Sustainable Energy Reviews*, **133**: 110054
- 20 . Zayadan BK, Kossalbayev BD, Tomo T, Allakhverdiev SI, Sadvakasova AK, Bolatkhan K, Kakimova A (2020) Study of promising heterocystic Cyanobacterial strains for biohydrogen production. *News of the National Academy of Sciences of the Republic of Kazakhstan*, **3(339)**: 41-48
- 21 . Khalilova L, Rodionova MV, Karacan MS, Karacan N, Alwasel S, Kreslavski VD, Zharmukhamedov SK, Allakhverdiev SI (2020) The Inhibitory Effect of New Antimony (III)-Based Organometallic Complexes on the Photochemical Activity of Photosystem II and the Activity of Chloroplast Carbonic Anhydrase and Glutathione Reductase. *Nanotechnologies in Russia*, **15**: 90-95
- 22 . Халилова Л, Родионова МВ, Каракан МС, Каракан Н, Алвасел С, Креславский ВД, Жармухамедов СК, Аллахвердиев СИ (2020) Ингибирующее действие новых металлоорганических комплексов на основе сурьмы (III) на фотохимическую активность фотосистемы II и активность хлоропластных карбоангидразы и глутатионредуктазы. *Российские нанотехнологии*, **15(1)**: 98-104
- 23 . Madadkhani S, Allakhverdiev SI, Najafpour MM (2020) Iridium-based nanocomposite prepared from an iridium complex with a hydrocarbon-based ligand. *New J Chem.* **44**: 15636-15645
- 24 . Bolatkhan K, Sadvakasova AK, Zayadan BK, Kakimova AB, Sarsekeyeva FK, Kossalbayev BD, Bozieva AM, Alwasel S, Allakhverdiev SI (2020) Prospects for the creation of a waste-free technology for wastewater treatment and utilization of carbon dioxide based on cyanobacteria for biodiesel production. *Journal of Biotechnology* **324**: 162-170.
- 25 . Allakhverdiev SI (2020) Optimising photosynthesis for environmental fitness. *Functional Plant Biology*, **47**: 3-7
- 26 . Kalantarifard S, Allakhverdiev SI, Najafpour MM (2020) Water oxidation by a nickel complex: New challenges and an alternative mechanism. *Int J Hydrogen Energy*, **45**: 33563-33573
- 27 . Stirbet A, Bjorn LO, Shevela D, Allakhverdiev SI, Nonomura A, Zhu XG, Lazar D, Pareek A , Gyozo Garab, Eaton-Rye JJ (2020) Celebrating the contributions of Govindjee after his retirement: 1999–2020. *New Zealand Journal of Botany*. v. 58, no. 4, p.422–460
- 28 . Allakhverdiev SI (2020) Chemical Fuel of Sunlight. *Global Energy: 10 breakthroughs ideas in energy for the next 10 years*. No 1, p. 77-89
- 29 . Allakhverdiev SI (2020) Artificial Photosynthesis. *Global Energy: 10 breakthroughs ideas in energy for the next 10 years*. No 1, p. 90-104

2021

30. Pashkovskiy P, Ryazansky S, Kartashov A, Voloshin R, Khudyakova A, Kosobryukhov AA, Kreslavski VD, Kuznetsov VIV, Allakhverdiev SI (2021) Effect of red light on photosynthetic acclimation and the gene expression of certain light signalling components involved in the microRNA biogenesis in the extremophile *Eutrema salsugineum*. J Biotechnology, **325**: 35-42
31. Доронин ИА, Гаева ТН, Аллахвердиев СИ, Василов РГ (2021) Фотоэлектрические ячейки на основе Фотосистемы II для продукции водорода. Вестник биотехнологии и физико-химической биологии имени Ю.А. Овчинникова, т. 17, № 3, ст. 46-59
32. Hussain S, Mumtaz M, Manzoor S, Shuxian L, Ahmed I, Skalicky M, Breistic M, Rastogi A, Ulhassan Z, Shafiq I, Allakhverdiev SI, Khurshid H, Yang W, Liu W (2021) Foliar application of silicon improves growth of soybean by enhancing carbon metabolism under shading conditions. Plant Physiology and Biochemistry 159: 43-52
33. Zharmukhamedov SK, Allakhverdiev SI (2021) Chemical Inhibitors of Photosystem II (2021) Russian J Plant Physiology, **68** (2), 212-227
34. Khosravi M, Feizi H, Haghghi B, Allakhverdiev SI, Najafpour MM (2021) Investigation of photo-electrochemical response of iron oxide/mixed-phase titanium oxide heterojunction toward possible solar energy conversion. Int J Hydrogen Energy, **46**: 7241-7253
35. Sinetova MA, Sidorov RA, Medvedeva AA, Starikov AY, Markelova AG, Allakhverdiev SI, Los DA (2021) Effect of salt stress on physiological parameters of microalgae *Vischeria punctata* strain IPPAS H-242, a superproducer of eicosapentaenoic acid. J Biotechnology 331: 63-73
36. Hussain S, Shafiq I, Chattha MS, Mumtaz M, Breistic M, Rastogi A, Chen G, Allakhverdiev SI, Weiguo Liu W, Yang W (2021) Effect of Ti treatments on growth, photosynthesis, phosphorus uptake and yield of soybean (*Glycine max* L.) in maize-soybean relay strip intercropping. Environ Exper Bot v. 187: 104476
37. Kreslavski VD, Strokina VV, Khudyakova AY, Shirshikova GN, Kosobryukhov AA, Pashkovskiy PP, Alwasel S, Allakhverdiev SI (2021) Effect of high-intensity light and UV-B on photosynthetic activity and the expression of certain light-responsive genes in *A. thaliana phyA* and *phyB* mutants. Biochim Biophys Acta Bioenerg 1862(8):148445.
38. Amouzad S, Khosravi M, Monadi N, Haghghi B, Allakhverdiev SI, Najafpour MM (2021) Photo-electrochemistry of metallic titanium/mixed phase titanium oxide. Int J Hydrogen Energy, **46**: 19433-19445
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40. Sadvakasova AK, Kossalbayev BD, Zayadan BK, Kirbayeva DK, Alwasel S, Allakhverdiev SI (2021) Potential of cyanobacteria in the conversion of wastewater to biofuels. World J Microbiol Biotechnol. v. **37(8)**: Article 140. doi: 10.1007/s11274-021-03107-1
41. Abdi Z, Balaghi SE, Sologubenko AS, Willinger MG, Vandichel M, Shen JR, Allakhverdiev SI, Patzke GR, Najafpour MM (2021) Understanding the Dynamics of Molecular Water Oxidation Catalysts with Liquid-Phase Transmission Electron Microscopy: The Case of Vitamin B12. ACS Sustainable Chem. Eng., v.9: 9494–9505
42. Pashkovskiy P, Kreslavski V, Khudyakova A, Ashikhmin A, Bolshakov M, Kozhevnikova A, Kosobryukhov A, Kuznetsov VV, Allakhverdiev SI (2021) Effect of high-intensity light on the photosynthetic activity, pigment content and expression of light-dependent genes of photomorphogenetic *Solanum lycopersicum* hp mutants. Plant Physiology and Biochemistry, v.167, p. 91-100.
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46. Bauanova MO, Sadvakasova AK, Mustapayeva ZO, Kokocinski M, Zayadan BK, Wojciechowicz MK, Balouch H, Akmukhanova NR, Alwasel S, **Allakhverdiev SI** (2021) Potential of microalgae Parachlorella kessleri Bh-2 as bioremediation agent of heavy metals cadmium and chromium. *Algal Research*, v. 59, Article 102463
47. Abdi Z, Vandichel M, Sologubenko AS, Willinger M-G, Shen J-R, **Allakhverdiev SI**, Najafpour MM (2021) The importance of identifying the true catalyst when using Randles-Sevcik equation to calculate turnover frequency. *Int J Hydrogen Energy*, v.46, p. 37774-37781.
48. Todorenko DA, Hao J, Slatinskaya OV, Allakhverdiev ES, Khabatova VV, Ivanov AD, Radenovic CN, Matorin DN, Alwasel S, Maksimov GV, **Allakhverdiev SI** (2021) Effect of thiamethoxam on photosynthetic pigments and primary photosynthetic reactions in two maize genotypes (*Zea mays L.*). *Functional Plant Biology*, v. 48, p. 994-1004
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50. Hussain S, Ulhassan Z, Brešić M, Zivcak M, Zhou W, **Allakhverdiev SI**, Yang X, Safdar ME, Yang W, Liu W (2021) Photosynthesis research under climate change. *Photosynth Res.*, v. 150, p. 5-19
51. Chovancek E, Zivcak M, Brešić M, Hussain S, **Allakhverdiev SI** (2021) The different patterns of post-heat stress responses in wheat genotypes: the role of the transthalakoid proton gradient in efficient recovery of leaf photosynthetic capacity. *Photosynth Res.*, v. 150, p. 179-193
52. Ibrahimova U, Zivcak M, Gasparovic K, Rastogi A, **Allakhverdiev SI**, Yang X, Brešić M (2021) Electron and proton transport in wheat exposed to salt stress: is the increase of the thylakoid membrane proton conductivity responsible for decreasing the photosynthetic activity in sensitive genotypes? *Photosynth Res.*, v. 150, p. 195-211
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- Книги:**
1. *Photosynthesis: Molecular Approaches to Solar Energy Conversion* (Eds: Shen J-R, Satoh K, **Allakhverdiev SI**) (ISSN 1572-0233; ISBN 978-3-030-67406-9) Springer (2021), 622 p. <https://doi.org/10.1007/978-3-030-67407-6>
- ГЛАВЫ В КНИГАХ:**
1. Sytar O, Zivcak M, Toutounchi PM, Brešić M, **Allakhverdiev SI** (2021) Plasticity of the Photosynthetic Energy Conversion and Accumulation of Metabolites in Plants in Response to Light Quality. In: *Photosynthesis: Molecular Approaches to Solar Energy Conversion* (Eds: Shen J-R, Satoh K, **Allakhverdiev SI**) Springer, p. 533-563.
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