

CURRICULUM VITAE

- Personal details:** Surname: **Kosourov**
First name: **Sergey**
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Websites: <https://www.utu.fi/en/people/sergey-kosourov>
<https://www.webofscience.com/wos/author/record/156621>
<https://scholar.google.com/citations?user=CU637VgAAAAJ&hl=en>
- Degrees:** Ph.D. in Plant Physiology, Moscow State University, Russia, awarded on February 10, 2000.
- Other education and expertise:** 1993 - 1995: Graduated with honors, M.Sc. Pushchino State University, Russia;
1988 - 1993: Graduated with honors, Yaroslavl' State University, Russia.
- Language skills:** Russian – native;
English – full professional proficiency.
- Current employment:** 2020 – present: Senior Research Fellow (Erikoistutkija Sr.), Molecular Plant Biology, Department of Life Technologies, University of Turku, Turku, Finland.
- Previous work experience:** 2013 – 2020: Senior Researcher (Erikoistutkija), Molecular Plant Biology, Department of Biochemistry, University of Turku, Turku, Finland.
2012 – 2013: Leading Researcher, Institute of Basic Biological Problems, Pushchino, Russia;
2006 – 2012: Senior Researcher, Institute of Basic Biological Problems, Pushchino, Russia;
2006 – 2009: Research Associate, National Renewable Energy Laboratory, USA;
2003 – 2006: Researcher, Institute of Basic Biological Problems, Pushchino, Russia;
2000 – 2003: Postdoctoral Research Fellow, National Renewable Energy Laboratory, USA;
1999 (5 weeks): Visiting Researcher, King's College London, UK;
1998 – 2000: Junior Researcher, Institute of Basic Biological Problems, Pushchino, Russia.
- Research funding and grants:** 2024 – 2028: Solar2Butanol (PI: Prof. Yagut Allahverdiyeva), co-applicant, WP leader, EU RIA;
2024 – 2028: PhotoFactory, Jane and Aatos Erkko Foundation (PI: Yagut Allahverdiyeva), co-applicant;

2020 – 2023: FuturoLEAF (PI: Prof. Yagut Allahverdiyeva), co-applicant, WP leader, EU FET Open project;
2019 – 2023: AlgaLEAF (PI: Yagut Allahverdiyeva), co-applicant, Academy of Finland;
2017 – 2022: PI, Kone Foundation;
2014 – 2016: PI, Maj and Tor Nessling Foundation;
2010 – 2013: Coordinator from the Russian side (PI: Dr. Anatoly Tsygankov), Mobility program between Russian Academy of Sciences and Academy of Finland;
2009 – 2012: PI, DOE U.S. Subcontract AFA-0-99181-01;
2006 – 2008: PI, Basic Program #7 RAS, Russia.

Research output: Papers in international peer-reviewed journals: 47; book chapters: 6; other publications: 6 (WoS Core (Expanded): h-index 27(29), total citations: 2025(2467); Scopus: h-index 27, total citations: 2720).
Patent: 2010, #7,732,174, Multi-stage microbial system for continuous hydrogen production.
Invention discloser: 2017, Engineered nanocellulose microalgal films as catalysts for bio-based chemical production platform.

Five most prominent publications

1. Kosourov S, Tammelin T, Allahverdiyeva Y (2025) Engineered biocatalytic architecture for enhanced light utilisation in algal H₂ production. *Energy Environ Sci* 18: 937–947.
2. Kosourov S, Böhm M, Senger M, Berggren G, Stensjö K, Mamedov F, Lindblad P, Allahverdiyeva Y (2021) Photosynthetic hydrogen production: Novel protocols, promising engineering approaches and application of semi-synthetic hydrogenases. *Physiol Plant* 173: 555–567.
3. Kosourov S, Nagy V, Shevela D, Jokel M, Messinger J, Allahverdiyeva Y (2020) Water oxidation by photosystem II is the primary source of electrons for sustained H₂ photoproduction in nutrient-replete green algae. *Proc Natl Acad Sci* 117: 29629–29636.
4. Kosourov S, Jokel M, Aro E-M, Allahverdiyeva Y (2018) A new approach for sustained and efficient H₂ photoproduction by *Chlamydomonas reinhardtii*. *Energy Environ Sci* 11: 1431–1436.
5. Kosourov SN, Seibert M (2009) Hydrogen photoproduction by nutrient-deprived *Chlamydomonas reinhardtii* cells immobilized within thin alginate films under aerobic and anaerobic conditions. *Biotechnol Bioeng* 102: 50–58.

Research supervision and leadership experience:

- Co-supervising/co-supervised several doctoral and master theses: Ph.D. student Radin Dabbagh Rezaeiyyeh (current); Ph.D. student Elia Marelli (current); Ph.D. Gabor Toth, University of Turku, defended on June 7, 2024; Ph.D. Gayathri Murukesan, University of Turku, defended on September 14, 2018; Ph.D. Khorcheska Batyrova, IBBP RAS, defended on November 24, 2015; M.Sc. Ujala Yousuf (current); M.Sc. Konstantin Sukholentsev, Rostov State University, defended in May 2006.
- CSI board member (2025–present), Nantes Université, France.
- Member in several PhD follow-up groups at University of Turku, Turku.
- Co-supervised post-doctoral researchers: Vilja Siitonen (2020-present); Guido Durian (2021 - 2022), Sindhujaa Vajravel (2017 - 2021), Valeria Nagy (2017 - 2020), Meilin He (2016 - 2017).

- Co-supervised Erasmus trainee Darius Collarad (2015-2016); Erasmus Mundus Aurora trainee Dr. Zinaida Eltsova (2013); an intern Jessica Jenkins Broglie, National Renewable Energy Laboratory, DOE, U.S. (2011).
- Mentorship of high school student Caroline Lang, U.S. (2008) and several summer students at the University of Turku from 2013.
- Serve as an evaluator of Master's degree theses at UTU.

Teaching experience:

Regularly participate in development and delivery of advanced courses: "Photosynthetic Biotechnologies" (2024, 2025: DIBT0608), "Applied photosynthesis research" (2019-2022, 2024, 2025: KABI4004, KABI4015, KABI4016), "Kestävän Bioenergian Perusteet" (2020-2022: DIBT0078, DIBT0084), "Biotechnological application of microalgae" (2017: KABI5076), "Bioenergy II: Biofuels from photoautotroph" (2015: KABI5010) at the Department of Life Technologies (Department of Biochemistry), University of Turku both as a lecturer and in the development and delivery of laboratory courses, including evaluation of students reports.

Awards and honors:

- 2021: The seventeenth Elias Tillandz prize for the best scientific paper published in Turku 2020;
- 2019: The fifteenth Elias Tillandz prize for the best scientific paper published in Turku 2018;
- 2011: Qualified by the Oak Ridge Institute for Science and Education (DOE U.S.) as an expert in biological hydrogen production.

Other key scientific or academic merits:

- Performed 106 reviews for 19 journals;
- Keynote/invited speaker: FinnCERES Scientific Seminar 2022, Espoo, Finland; SmartBio Annual Meetings 2019 and 2025, Turku, Finland; I-BE-C 2021 International Bioenergy & Environment Congress, France; 13th Nordic Photosynthetic Congress 2016, Copenhagen, Denmark.

Scientific and societal impact:

- Involved in EU-level visibility initiatives for the research field and contributing to the development of field-wide standardization, which includes contribution to the EU SUNER-C Technological Roadmap on Sustainable Fuels and Chemicals Production (2025), specifically to Annex 4: Biologically driven processes, https://sunergy-initiative.eu/wp-content/uploads/2025/06/App.-4-Worksheet_Biological_conversion_submitted-02062025.pdf
- Served as an evaluator for the 2024 BioCity Turku Collaborative Research Funding call;
- Invited reviewer for the DOE U.S. Annual Merit Review and Peer Evaluation Meeting in 2011 and 2014 (Washington DC, U.S.).