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PERSONAL INFORMATION

Prof. RNDr. Jiří Masojídek, CSc., DSc.

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Sex Male | Date of birth 1952 | Nationality Czech

CURRENT POSITION

Senior researcher/lecturer

WORK EXPERIENCE

2011–onwards	Senior researcher Laboratory of Algal Biotechnology, Centre Algatech, Institute of Microbiology, Czech Academy of Science, Třeboň, Czech Republic
2021	DSc. (Research Professor) in biological and ecological sciences, Czech Academy of Science
2013	Professor (cellular and molecular biology and genetics), Faculty of Science, University of South Bohemia in České Budějovice, Czech Republic
2006–2011	Head of laboratory, Laboratory of Algal Biotechnology, Institute of Microbiology, Czech Academy of Science, Třeboň, Czech Republic
2000-2011	Researcher and Lecturer, Division of Biotechnology, Institute of Physical Biology, University of South Bohemia, Nové Hrady, Czech Republic
2002-2006	Deputy-director, Institute of Physical Biology, University of South Bohemia, Nové Hrady, Czech Republic
2005	Associate Professor, Faculty of Science, University of South Bohemia, České Budějovice, Czech Republic
1991–2005	Senior researcher, Laboratory of Photosynthesis, Institute of Microbiology, Academy of Science, Třeboň, Czech Republic
1989-1990	Post-doctoral fellow, Biosphere Sciences, King's College London, U.K.
1985-1989	Junior researcher, Laboratory of Photosynthesis, Institute of Microbiology, Academy of Science, Třeboň, Czech Republic

EDUCATION AND TRAINING

1984-1985	International Training Course (topics of modern biology), Biological Research Centre, Szeged, Hungary
1980-1984	CSc. (= PhD) in microbiology, Institute of Microbiology, Czechoslovak Academy of Science, Praha, Czech Republic
1978-1979	Research Assistant, Institute of Microbiology, Czechoslovak Academy of Science of Science, Třeboň, Czech Republic
1972-1977	RNDr. (MSc.) in biochemistry Faculty of Science, Charles University in Prague, MSc in biochemistry

Recent projects

- EU FP5 QLRT-2000-01629: Assembly and Application of Photosystem II-based Biosensors in Large Scale Environmental Screening of Specific Herbicides for Effective Environmental Protection, period 2001-2003 (co-investigator)
- GAČR No. 522/03/0659: Improvement of photosynthetic biosensor for routine detection of herbicide residues and determination of risks for non-target organisms, period 2003-2005 (investigator)
- GAČR No. 525/06/1090 Microalgae enriched with carotenoids as a food supplement in the nutrition of ornamental fish, period 2006-2008 (investigator)
- GAČR 521/09/0656 Algal biomass as a food supplement in fish and crayfish aquacultures (investigator), P.Kozák (VURH Vodňany, co-investigator), period 2008-2011
- Interreg V-A Rakousko-Česká republika, Genetically modified strains of cyanobacteria suitable for the production of valuable substances - starch and bioethanol for biofuels and sources of dietary supplements and raw materials (ALGENETICS) ATCZ17 2017-2019
- EU Horizon 2020 Research and Innovation programme, Sustainable Algae Biorefinery for Agriculture aNd Aquaculture (SABANA) (2016-2021) (co-investigator)
- Interreg V-A Rakousko-Česká republika, projekt Production of biodegradable polymer polyhydroxybutyrate PHB from cyanobacteria by cultivation in wastewater Plastocyan ATCZ260, 2020-2021 (team member and tutor)
- Interreg V-A Rakousko-Česká republika, projekt Recycling of nutrients from agriculture-industrial wastes in the way of cultivation of microalgae as a fish feed (Algae4Fish) ATCZ221 2020-2022 (team member)
- Interreg V-A Rakousko-Česká republika, projekt „The Application of Sustainable Biotechnology in the Agricultural and Food Sector (Bio2AgroFood), ATCCZ00171, 2025-2027

Key Collaborations

- **Giuseppe Torzillo** – Institute of Bioeconomy, CNR, Sesto Fiorentino, Italy; Centro de Investigación en Ciencias del Mar y Limnología, University of Costa Rica
- **Zayadan Bolatkhan** – Department of Biotechnology, Al-Farabi Kazakh National University, Almaty, Kazakhstan
- **Felix Lopez Figueroa** – Institute of Blue Biotechnology and Development, and Experimental Centre Grice Hutchinson, University of Málaga, Spain
- **Gabriel Acién, Francisca Suárez-Estrella, Emilio Molina-Grima** – University of Almería, Almería, Spain
- **Juan Luis Gómez Pinchetti** – University of Las Palmas, Canary Islands
- **Vince Ördög** – Széchenyi István University, Győr, Hungary

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Recent papers (2019-2024)

1. Malapascua JR, Ranglova K, Masojídek J (2019) Photosynthesis and growth kinetics of *Chlorella vulgaris* R-117 cultured in an internally LED-illuminated photobioreactor. Photosynthetica 57, 103-112 DOI: 10.32615/ps.2019.031
2. Ranglová K, Lakatos GE, Câmara Manoel JA, Grivalský T, Masojídek J (2019) Rapid screening test to estimate temperature optima for microalgae growth using photosynthesis activity measurements. Folia Microbiologica 64, 615–625
3. Lakatos GE, Ranglová K & Câmara Manoel JA, Grivalský T, Kopecký J, Masojídek J (2019) Bioethanol production from microalgae polysaccharides. Folia Microbiologica 64, 627–644
4. Grivalský T, Ranglová K, Câmara Manoel JA, Lakatos GE, Lhotský R, Masojídek J (2019) Development of thin-layer cascades for microalgae cultivation: milestones (review) Folia Microbiologica 64, 603–614
5. Mylenko M, Vu DL, Kuta J, Ranglová K, Kubáč D, Lakatos G, Grivalský T, Caporgno M, Câmara Manoel J, Kopecký J, Masojídek J, Hrouzek P (2020) Selenium incorporation to amino acids in *Chlorella* cultures grown in phototrophic and heterotrophic regimes. J Agric Food Chem 68, 1654-1665
6. Babaei A, Ranglová K, Malapascua JR, Torzillo G, Shayegan J, Silva Benavides AM, Masojídek J (2020) Photobiochemical changes in *Chlorella* g120 culture during trophic conversion (metabolic pathway shift) from heterotrophic to phototrophic growth regime. J. Appl. Phycol. 32, 2807-2818
7. Ranglová K, Lakatos GE, Câmara Manoel JA, Grivalský T, Suárez Estrella F, Acién Fernández FG, Molnár Z, Ördög V, Masojídek J (2021) Growth, biostimulant and biopesticide activity of the MACC-1 *Chlorella* strain cultivated outdoors in inorganic medium and wastewater. *Algal Res* 53, 102136
8. Touloupakis E, Faraloni C, Silva Benavides AM, Masojídek J, Torzillo G (2021) Sustained photobiological hydrogen production by *Chlorella vulgaris* without nutrient starvation. *Inter J Hydrog Energy 46*, 3684-3694
9. Rearte TA, Celis-Plá P, Neori A, Masojídek J, Torzillo G, Gómez C, Silva Benavides AM, Álvarez-Gómez F, Abdala Diaz R, Ranglova K, Caporgno M, Favero Massocato T, Caemo da Silva J, Al Mahrouqui H, Atzmüller R, Figueroa F (2021) Photosynthetic performance of *Chlorella vulgaris* R117 mass culture is moderated by diurnal oxygen gradients in an outdoor thin layer cascade. *Algal Res* 54, 102176
10. Bauer L, Karolína Ranglová, Jiří Masojídek, Bernhard Drosg, Katharina Meixner (2021) Digestate as sustainable nutrient source for microalgae - challenges and prospects. *Appl Sci* 11, 1056, 1-21.
11. Torzillo G, Chini Zittelli G, Silva Benavides AM, Ranglova K, Masojidek J (2021) Culturing of microalgae for food applications. In: Lafarga T, Acién Fernandez F G (eds) Cultured Microalgae for the Food Industry, Current and Potential Applications. 1st Edition, Elsevier, 376 p. https://doi.org/…2-2
12. Lakatos G, Ranglová K, Câmara Manoel J, Saurav K, Grivalský T, Masojídek J (2021) Photosynthetic monitoring techniques indicate maximum glycogen accumulation in nitrogen-limited *Synechocystis* sp. PCC 6803 culture. *Algal Res 55,* 102271
13. Carneiro M, Ranglová K, Lakatos GE, Câmara Manoel JA, Grivalský T, Kozhan DM, Toribio A, Moreno J, Otero A, Varela J, Xavier Malcata F, Suárez Estrella F, Acién-Fernández FG, Molnár Z, Ördög V, Masojídek J (2021) Growth and bioactivity of two chlorophyte (*Scenedesmus* and *Chlorella*) strains co-cultured outdoors in two different thin-layer units using municipal wastewater as a nutrient source. *Algal Res* 56,102299
14. Masojídek J, Ranglová K, Torzillo G, Celis Pla P, Rearte TA, Silva Benavides AM, Neori A, Gómez C, Caporgno MP, Alvarez Gómez F, Abdala R, Miazek K, Fávero Massocato T, Carmo da Silva J, Atzmüller R, Al Mahrouqui H, Suarez Estrella F, Lukeš M, Figueroa FL (2021) Changes

in photosynthesis, growth and biomass composition in outdoor *Chlorella* g120 culture during trophic conversion from heterotrophic to phototrophic regime. *Algal Res* 56, 102303
15. Masojídek J, Ranglová K, Lakatos GE, Silva Benavides AM, Torzillo G (2021) Variables Governing Photosynthesis and Growth in Microalgae Mass Cultures (review) Processes 9, 820.
16. Masojídek J (2021) Microalgae Culturing: From Laboratory to Large Scale Units, DSc. Thesis, Czech Academy of Science
17. Celis Plá, P. S.M., Rearte TA, Bonomi J, Álvarez Gómez F., Carmo da Silva J., Abdala R., Gómez C., Ranglová K., Caporgno M., Torzillo G., da Silva Benavides A.M., Miazek K., Ralph P.J., Fávero Massocato T., Arzmüller R., Neori A., Vega J., Chávez P., Masojídek J., Figueroa F.l. (2021) A new approach for cultivating the cyanobacterium *Nostoc calcicola* (MACC-612) to produce biomass and bioactive compounds using a thin-layer raceway pond. Algal Res 59,102421
18. Saha S, Bulzu P-A, Urajová P, Mareš J, Konert G, Câmara Manoel J, Macho M, Ewe D, Hrouzek P, Masojídek J, Ghai R, Saurav K (2021) Quorum-Sensing Signals from Epibiont Mediate the Induction of Novel Microviridins in the Mat-Forming Cyanobacterial Genus *Nostoc*. mSphere 6, 6(4), 1-5
19. Ortiz Tena F, Masojídek J, Ranglová K, Kubač D, Steinweg C, Thomson C, Posten C (2021) Characterization of an aerated submerged hollow fiber ultrafiltration device for efficient microalgae harvesting. Engineering in Life Sciences 21, 607-622
20. Mittermair S, Lakatos G, Nicoletti C, Ranglová K, Câmara Manoel J, Grivalský T, Kozhan DM, Masojídek J, Richter J (2021) Impact of the glgA1, glgA2 or glgC overexpression on growth and glycogen production in Synechocystis PCC 6803 J. Biotechnol 340, 47-56,
21. Ranglová K, Bureš M, Câmara Manoel J, Masojídek J (2022) Efficient microalgae feed production for fish hatcheries using an annular column photobioreactor characterized by a short light path and central LED illumination *J Appl Phycol* 34, 31-41
22. Branyikova I, Lucakova S., Kovacikova S., Masojidek J., Ranglova K., Branyik T., Ruzicka M.C. (2022) Continuous electrocoagulation of *Chlorella* in a novel channel-flow reactor: A pilot-scale harvesting study. Bioresource Technology 351, 126996
23. Masojídek J, K. Ranglová, M. Bečková, A. M. Silva Benavides, F Charvát, G. Torzillo, J. Komenda (2022) Outdoor photoacclimation of two C*hlorella* strains characterized by normal and reduced light-harvesting antennas: photosynthetic activity and chlorophyll-protein organization. J Appl Phycol 34, 2339-2353
24. Grivalský T, Ranglová K, Lakatos GE, Câmara Manoel J, Černá T, Barceló-Villalobos M, Suárez Estrella F, Molnár Z, Ördög V, Masojídek J (2022) Bioactivity assessment, micropollutant and nutrient removal ability of *Tetradesmus obliquus* cultivated outdoors in centrate from municipal wastewater. J Appl Phycol 34, 2955-2970
25. Masojídek J, Gómez-Serrano C, Ranglová K, Cicchi B, Encinas Bogeat A, Câmara Manoel J A, Sanchez Zurano A, Silva Benavides A M, Barceló Villalobos M, Robles Carnero V A, Ördög V, Gómez Pinchetti J L, Vörös L, Arbib Z, Rogalla F, Torzillo G, Figueroa F L, Acién-Fernández F G (2022) Photosynthesis monitoring in microalgae cultures grown on municipal wastewater as a nutrient source in large-scale outdoor bioreactors. Biology 11, 1380.
26. Chini Zittell G, Silva Benavides AM, Silovic T, Ranglová K, Masojídek J, Cicchi B, Faraloni C, Touloupakis E, Torzillo G (2022) Productivity and nutrient removal by the microalga *Chlamydopodium fusiforme* grown outdoors in BG-11 and swine wastewater Front. Mar. Sci. 9:1043123
27. Lakatos GE, Ranglová K, Bárcenas-Pérez D, Grivalský T, Câmara Manoel J, Mylenko M, Cheel J, Nyári J, Wirth R, Kovács KL, Kopecký J, Nedbalová L, Masojídek J (2023) Cold-adapted culturing of the microalga *Monoraphidium* sp. in thin-layer raceway pond for biomass production. Algal Res 102926

28. Štěrbová K, Câmara Manoel JA, Lakatos GE, Grivalský T, Masojídek J (2023) Microalgae as an aquaculture feed produced in short light-path annular column photobioreactor. J. Applied Phycol. 35, 603–611
29. Masojídek J, Ranglová K, Gómez Serrano C, Carmo da Silva J, Grivalský T, Figueroa FL, Acién Fernández FG (2023) Photosynthetic performance of *Chlamydopodium* sp. *(Chlorophyta)* cultures grown in outdoor bioreactors. Appl Microbiol Biotechnol 107, 2249–2262
30. Clagnan E, Dell'Orto M, Štěrbová K, Grivalský T, Câmara Manoel JA, Masojidek J, D'Imporzano G, Acien-Fernandez FG, Adani F (2023) Impact of photobioreactor design on microalgae-bacteria communities grown on wastewater: Differences between thin-layer cascade and thin-layer raceway ponds. Biores Technol 374, 128781
31. Masojídek J, Richard Lhotský, Karolína Štěrbová, Graziella Chini Zittelli, Giuseppe Torzillo (2023) Solar bioreactors used for the industrial production of microalgae (mini-review) Appl Microbiol Biotechnol 107: 6439-6458
32. Miškovičová V, Masojídek J (2023) Algal biotechnology in architecture and design: human and more-than-human perspectives. Sciendo 28, 10-20
33. Torzillo G, Álvarez-Gómez F, Celis-Plá P, Rearte A, Gómez-Serrano C, Silva Benavides AM, Štěrbová K, Caporgno M, Masojídek J, Figueroa FL (2023) Photosynthesis and biochemical characterization of green alga *Chlamydopodium fusiforme* MACC-430 (Chlorophyta) grown in thin layer cascades. Photochemical & Photobiological Sciences 22:2231–2245
34. Grivalský T, Lakatos GE, Štěrbová K, Câmara Manoel JA, Beloša R, Divoká P, Kopp J, Kriechbaum R, Spadiut O, Zwirzitz A, Trenzinger K, Masojídek J (2024) Poly-β-hydroxybutyrate production by *Synechocystis* MT_a24 in a raceway pond using urban wastewater. Applied Microbiology and Biotechnology 108:44
35. Yanes-Roca C, K. Štěrbová, J. Mráz, L.Veselý, O. Malinovskyi, T. Pěnka, J. Masojídek, T. Policar (2024) Live feed enrichments using microalgae for pikeperch (*Sander lucioperca)* larval culture. J. World Aquac Soc. 55:e13059
36. Shamskilani M, Masojídek J, Babaei A, Abbasiniasar M, Ganji A, Shayegan J (2024) Microalgae cultivation trials in membrane bioreactor operated in various growth regimes using ammonium-rich wastewater: the study of fouling. Water Science and Technology 89, 2732-2745
37. Cagla Yarkent, Ceren Gurlek Kliber, Cecilia Faraloni, Graziella Chini Zittelli, Eleftherios Touloupakis, Calegari Moia I., Giuseppe Torzillo, Jiří Masojídek, Karolína Štěrbová, Kumar Saurav, Suphi S. Oncel (2024) Chapter 2. State-of-the-art: Microalgae production systems and microalgae applications. In: Advances in Sustainable Applications of Microalgae Editors: José Carlos Magalhães Pires, Ana Filipa Cruz Esteves, Eva Margarida de Azevedo Campos Salgado, 1st Edition, 2024, Woodhead Publishing, ISBN: 9780443221279
38. Cagla Yarkent, Ceren Gurlek Kliber, Jiří Masojídek, Karolína Štěrbová, Kumar Saurav, Cecilia Faraloni, Graziella Chini Zittelli, Eleftherios Touloupakis, Calegari Moia I., Giuseppe Torzillo, Suphi S. Oncel (2024) Chapter 21. From lab to outdoors: Microalgal process perspective for a step to reality. In: Advances in Sustainable Applications of Microalgae Editors: José Carlos Magalhães Pires, Ana Filipa Cruz Esteves, Eva Margarida de Azevedo Campos Salgado, 1st Edition, 2024, Woodhead Publishing, ISBN: 9780443221279
39. Masojídek J, Štěrbová K, Victor A. Robles Carnero, Giuseppe Torzillo, Cintia Gómez-Serrano, Bernardo Cicchi, João Artur Câmara Manoel, Ana Margarita Silva Benavides, Marta Barceló-Villalobos, Joaquín Pozo Dengra, Vince Ördög, Juan Luis Gómez Pinchetti, Francisco Gabriel Acién Fernándéz, Félix L. Figueroa (2024) Photosynthetic activity measured in-situ in microalgae cultures grown in pilot-scale raceway ponds. Plants 13, 3376.