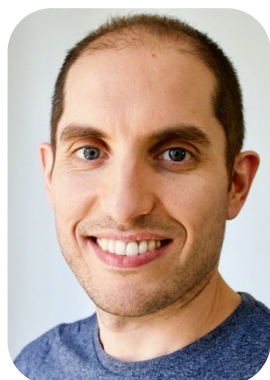


# Dr. David Alexandre Martins Tavares Russo




Nationality: Portuguese

St.-Jakob-Str. 3  
07743 Jena  
Germany

 david.russo@uni-jena.de

 @russo\_DA

 0000-0002-4729-1701

Current Affiliation:

Friedrich Schiller University Jena  
Institute for Inorganic and  
Analytical Chemistry,  
Bioorganic Analytics

Lessingstr. 8  
07743 Jena, Germany

## ▶ Main research interests

- Protein and metabolite secretion in cyanobacteria
- Microbial interactions in photosynthetic communities
- Biotechnological exploitation of cyanobacteria and microalgae

## ▶ Professional experience

July 2019 – Today Postdoc, Georg Pohnert Lab, Institute for Inorganic and Analytical Chemistry, Friedrich Schiller University Jena, Germany.

June 2017 – May 2019 Postdoc, Poul Erik Jensen Lab, Department of Plant and Environmental Sciences, University of Copenhagen, Denmark.

Oct. 2015 – Feb. 2017 Research Biochemist, AlgaeCytes Ltd., Sandwich, UK.

Oct. 2012 – Sept. 2015 PhD scholarship, Department of Chemical and Biological Engineering, University of Sheffield, UK.

2012 Microalgal researcher "EnerBioAlgae" project, Universidade de Aveiro, Portugal.

2010 – 2012 Human Resources Manager, Higelusa Lda., Portugal.

## ▶ Education

2012 – 2016 PhD in Chemical and Biological Engineering, University of Sheffield, UK.  
Date of degree: 11<sup>th</sup> August 2016

2008 – 2011 MSc in Energy and Bioenergy, Universidade Nova de Lisboa, Portugal.

2000 – 2008 BSc in Biology, Universidade de Aveiro, Portugal.

## ▶ Selected publications

1. Russo, D.A. and Zedler, J.A.Z. (2020) Genomic insights into cyanobacterial protein translocation systems. *Biological Chemistry*. DOI: 10.1515/hsz-2020-0247
2. Blossom, B.M., Russo, D.A., Singh, R.K., Oort, B. van, Keller, M.B., Simonsen, T.I., Perzon, A., Gamon, L.F., Davies, M.J., Cannella, D., Croce, R., Jensen, P.E., Bjerrum, M.J., and Felby, C. (2020) Photobiocatalysis by a Lytic Polysaccharide Monooxygenase

- Using Intermittent Illumination. *ACS Sustainable Chemistry and Engineering* **8**: 25. DOI: 10.1021/acssuschemeng.0c00702
3. Russo, D.A., Ferguson, A., Beckerman, A.P., and Pandhal, J. (2019) Structural Equation Modelling Reveals That Nutrients and Physicochemistry Act Additively on the Dynamics of a Microcosm-Based Biotic Community. *Biology* **8**: 87. DOI: 10.3390/biology8040087
  4. Russo, D.A., Couto, N., Beckerman, A.P., and Pandhal, J. (2019) Metaproteomics of Freshwater Microbial Communities. In *Mass Spectrometry of Proteins*. Evans, C.A., Wright, P.C., and Noirel, J. (eds). Springer New York, New York, NY. pp. 145–155. DOI: 10.1007/978-1-4939-9232-4\_10
  5. Russo, D.A., Zedler, J.A.Z., Wittmann, D.N., Möllers, B., Singh, R.K., Batth, T.S., et al. (2019) Expression and secretion of a lytic polysaccharide monoxygenase by a fast-growing cyanobacterium. *Biotechnology for Biofuels* **12**: 74. DOI: 10.1186/s13068-019-1416-9
  6. Russo, D.A., Zedler, J.A.Z., and Jensen, P.E. (2019) A force awakens: exploiting solar energy beyond photosynthesis. *Journal of Experimental Botany* **70**: 1703–1710. DOI: 10.1093/jxb/erz054
  7. Pandhal, J., Choon, W.L., Kapoore, R.V., Russo, D.A., Hanotu, J., Wilson, G., Desai, P., Bailey, M., Zimmerman, W.J. and Ferguson, A. (2018) Harvesting Environmental Microalgal Blooms for Remediation and Resource Recovery: A Laboratory Scale Investigation with Economic and Microbial Community Impact Assessment. *Biology* **7**: 4. DOI: 10.3390/biology7010004
  8. Helliwell, K.E., Pandhal, J., Cooper, M.B., Longworth, J., Kudahl, U.J., Russo, D.A., Tomsett, E.V., Bunbury, F., Salmon, D., Smirnoff, N., Wright, P.C. and Smith, A.G. (2018) Quantitative proteomics of a B12-dependent alga grown in coculture with bacteria reveals metabolic tradeoffs required for mutualism. *New Phytologist* **217**: 599–612. DOI: 10.1111/nph.14832
  9. Russo, D.A., Beckerman, A.P., and Pandhal, J. (2017) Competitive growth experiments with a high-lipid *Chlamydomonas reinhardtii* mutant strain and its wild-type to predict industrial and ecological risks. *AMB Express* **7**: 10. DOI: 10.1186/s13568-016-0305-x
  10. Russo, D.A., Couto, N., Beckerman, A.P., and Pandhal, J. (2016) A Metaproteomic Analysis of the Response of a Freshwater Microbial Community under Nutrient Enrichment. *Frontiers in Microbiology* **7**:1172. DOI: 10.3389/fmicb.2016.01172

#### ► Teaching

##### Invited lectures

2017            **Guest lecturer** “Metaproteomics”, Proteomics Summer Course, University of Copenhagen.

##### Seminars

2020            **Seminar leader** “Chemical Ecology” for MSc Chemical Biology and MSc Biochemistry, Friedrich Schiller University Jena (every summer term since 2020).

2019            **Seminar leader** “Bioorganic and Biochemical Analytics” for MSc Chemical Biology, Friedrich Schiller University Jena (every winter term since 2019).

## Practicals

03/2018, 03/2019	Organisation of one-week practical Light-driven biosynthesis, Synthetic Biology module for MSc students, University of Copenhagen and Copenhagen Business School.
03/2018	Practical supervision Biochemistry II (for BSc Biology, Biotechnology, Chemistry), with Prof. Poul Erik Jensen, University of Copenhagen.
10/2017	Practical supervision thematic course Experimental Molecular Biology I (for BSc Biology, Biotechnology), with Prof. Tom Hamborg Nielsen, University of Copenhagen.
WiSe 2013, 2014	Practical supervision Chemical Engineering Design (Chemical Process Principles 1) (for BSc Chemical Engineering), with Dr. Alan Dunbar, University of Sheffield.

### ▶ Student supervision

MSc Students: 3 completed (co-supervision), 2 in progress (2 co-supervised)  
BSc Thesis and Project Students: 3 completed (3 co-supervision in the lab)

### ▶ Fellowships, Grants and Awards

#### Fellowships and Grants

2020	IMPULSE <sup>project</sup> – Support programme for early and advanced postdocs (16 500€, Friedrich Schiller University Jena)
2020	Postdoctoral Humboldt Research Fellowship “How does secretion shape cyanobacterial ecology? A proteometabolomic approach” (85 000€, Alexander von Humboldt Foundation)
2017	EUopSTART grant for preparation of the Marie Skłodowska-Curie Individual Fellowship “Phytose”, (50 000 DKK (6 720€), Danish Agency for Higher Education and Science)

#### Awards and Prizes

2019	1st place best flash talk, 14th Nordic Photosynthesis Congress, Turku, Finland.
2016	3rd place best flash talk, 6th UK algae conference, Sheffield, UK.
2016	Highly recognised poster presentation, ENCAPP 2016, Qawra, Malta.
2015	3rd place best oral presentation Irene Manton Prize, 6th European Phycological Congress, London, UK.
2013	2nd place best oral presentation, Biochemical Engineering Young Researchers Meeting, University of Birmingham, UK.

### ▶ Recent oral presentations at international conferences

- Deciphering the role of type IV pili in cyanobacterial secretion. 11th European Workshop on the Biology of Cyanobacteria (online). September 2020.
- Efficient secretion of a LPMO in a fast-growing cyanobacterium. 7th European Phycological Congress, Zagreb, Croatia. August 2019.
- Efficient secretion of a LPMO in a fast-growing cyanobacterium. 14th Nordic Photosynthesis Congress, Turku, Finland. May 2019.

- Exploring light-driven biomass degradation systems. Symposium on Biotechnology for Fuels and Chemicals, Clearwater Beach, USA. May 2018.
- Harnessing cyanobacterial photosynthesis for light-driven biomass degradation. 2nd LPMO Symposium, Marseille, France. November 2018.

▶ **Selected workshops and training courses attended**

- 2018 Science education course Introduction to University Pedagogy, University of Copenhagen.
- 2015 Workshop “Introduction to Python programming”, University of York, UK.
- 2012 – 2015 Founding member interdepartmental postgraduate initiative “Algal Biotechnology Sheffield” (<https://www.sheffield.ac.uk/algae>).
- 2013 Workshop “Getting started with R”, University of Sheffield, UK.
- 2012 Workshops “Algaculture for Biotechnology” and “Introduction to Molecular Methods for Algae Research”, Scottish Association for Marine Science, Oban, UK.
- 2009 Workshop “Harvest, isolation and conservation of microalgae”, University of Coimbra, Portugal.

▶ **Peer review**

- ACS Chemical Biology
- Botanica Marina
- Environmental Monitoring and Assessment
- MDPI Forests
- MDPI Sustainability
- Metabolic Engineering Communications

▶ **Society memberships**

- Vereinigung für Allgemeine und Angewandte Mikrobiologie (VAAM) since 2019
- Deutsche Botanische Gesellschaft (DBG) since 2019
- British Phycological Society (BPS) since 2013

▶ **Languages**

- English (Mother tongue)
- Portuguese (Mother tongue)
- Spanish (Level C1)
- German (Level B1)