Danny Ionescu

Academic *curriculum vitae*

Current position	Postdoctoral Researcher in Aquatic Microbial Ecology
Webpage	https://www.igb-berlin.de/en/profile/danny-ionescu
ResearchGate	https://www.researchgate.net/profile/Danny_Ionescu
ORCID	https://orcid.org/0000-0002-4658-8597
Scholar	https://scholar.google.com/citations?hl=en&user=bXONRK0AAAAJ
Marital Status	Married, two children: Duan (2012) and Eva-Mai (2015)
Nationality	Israeli, German (permanent residence)
Mailing address	Leibniz Institute for Freshwater Ecology and Inland Fisheries (IGB), Alte Fischerhuette 2, 16775 Nuglobsow, Germany
Office number	+49 (0)33082 69969
Email	ionescu@igb-berlin.de

Education:

2019 - Enrolled for Habilitation at **the University of Potsdam**. Approved by the board of the Institute of Biochemistry and Biology as a qualified candidate.

2005 – 2009 PhD: Microbial Ecology (Environmental studies), **The Hebrew University of Jerusalem**.

Thesis subject: Cyanobacterial Biogeography and Nitrogen Fixation: Lessons from environmental and model organisms. Thesis supervisor: Prof. Aharon Oren

Thesis submitted 1/9/2009. Date of resubmission after international peer review 25/5/2010. Date of PhD award (awarded once per year) 19/11/2011.

2003 – 2005 MSc: Microbial Ecology (Environmental studies), **The Hebrew University of Jerusalem**.

Thesis subject: Characterization of an endoevaporitic microbial community in the Eilat salterns by fatty acid analysis and stable isotope labeling. Thesis supervisor: Prof. Aharon Oren (in collaboration with Dr. Andre Lipski - University of Osnabrück)

2000 – 2003 BSc: Marine sciences and marine environmental sciences, **The Ruppin Academic Center**

Academic Employment

2014 – Pres. Postdoctoral researcher at **the Leibniz Institute for Freshwater Ecology and Inland Fisheries**, Stechlin / Berlin

- Effect of land-use on composition and dispersion of organisms in between kettle-holes over a large area
- Genomics and evolution of polyploid bacteria
- Methane formation in **oxic** water columns
- Analysis of decade long microbial community data from 8 German lakes
- Development of new reactors for the study of particulate organic matter
- Microbial activity on particles, *in-situ* measurements and transcriptomic analysis of individual particles

2009 – 2013 Postdoctoral researcher at **the Max Planck Institute for Marine Microbiology**, Bremen.

- Microbial cell-mineral interaction (iron oxidation, iron reduction, calcification)
- Biogeochemistry of underwater freshwater springs in the Dead Sea
- Particle-associated microorganisms
- Development of new reactors for the study of particulate organic matter

Methodological Experience:

OMICS approaches

- Metagenomics and metatranscriptomics – data generation and analysis using dedicated bioinformatic tools.
- Oxford Nanopore sequencing

Single cell approaches

- Single-cell genomes and transcriptomes
- Method development for single-cell approaches
- Trained nanoSIMS (nanoscale Secondary Ion Mass Spectrometer) operator; Experience in experimental design and analysis of biological and geological samples.

Microbial ecology

- Molecular community analysis: High throughput sequencing; Fluorescence in situ hybridization (FISH, CARD-FISH); Fingerprinting methods (ARISA, DGGE)
- Microscopy (Light and fluorescence)
- Microsensors: manufacturing, measurements and data analysis

Analytical methods

- Multivariate statistics for ecological studies; Genomic and metagenomics analysis (assembly, binning, annotation); Gene expression statistics (differential expression in transcriptomes)

Additional experience

- Stable and radio isotope work for biogeochemistry and molecular biology
- Fatty acid profiling - GC-MS
- Membrane Inlet Mass Spectrometry
- Underwater work: Certified, experienced scientific diver: Advanced European Scientific Diver; American Academy of Underwater Sciences Scientific Diver – certified for mixed gases and depth up to 100 m.
- On-board sampling (marine and limnic)
- Boat driving license (Israeli level 30: motor and sail boats under 24 m and 500 hp)

Awards

2008 Best Poster Award: ISME12, Cairns, Australia
2006 The Alexandra Poljakoff award for exceptional PhD students in the department of Plant and Environmental Sciences
2003 Best Poster Award: The annual meeting of the Israeli Society of Mass Spectometry, Wizmann Institute, Israel

Fellowships

2018 ASLO travel award (750 $)
2008 Hebrew University Short term Fellowship - Work in the lab of Prof. Enrique Flores, Sevilla
2008 Minerva short term fellowship - work in the lab of Wolfgang Hess, Freiburg, Germany
2007 Minerva short term fellowship - work in the lab of Wolfgang Hess, Freiburg, Germany
2006 FEMS conference travel award (400 Euro)
2006 Bridging the Rift foundation program “A month at Stanford” –lab of Prof. Alfred Spormann
2006 NASA Planetary Biology Internship (PBI) – Project with Dr. Jonathan Trent, Ames Research Center, California.

Language skills:

	Academic Level	Non-Academic communication		
		Speak	Read	Write
English	Fluent	Fluent	Fluent	Fluent
Hebrew	Fluent	Fluent	Fluent	Fluent
Romanian	Good	Fluent	Fluent	Fluent
German	Intermediate	Intermediate	Intermediate	Intermediate
Serbian	-	Intermediate	Intermediate	Intermediate

Editorial and reviewer activity

Editor:

Scientific Reports

Reviewer:

ISME J, Microbial Ecology, MBio, Geobiology, Geomicrobiology, Scientific Reports, PLoS One, FEMS Microbiology Ecology, Extremophiles, Limnology and Oceanography, Regional Environmental Change, Microbiology Open, Environmental Science and Pollution Research (and others)

Research grant reviews:

Austrian Science Foundation: 2 (including 1 for the prestigious START program)
Italian National Antarctic Program (CNSA): 1

Organization of workshops and conferences

2021 Member of the scientific committee of the 17th Symposium of Aquatic Microbial Ecology (SAME17), Tartu, Estonia, August 2021.

2019 Member of the organizing committee of the 16th Symposium of Aquatic Microbial Ecology (SAME16), Potsdam, September 2019.

2012 Current research on the Dead Sea – Workshop held at the Max Planck Institute for Marine Microbiology in Bremen.

Media Coverage

Achromatium

Official IGB press releases

https://www.igb-berlin.de/en/news/giant-aquatic-bacterium-master-adaptation
http://www.igb-berlin.de/en/news/giant-bacterium-contains-genomes-entire-population

Post on the ASM blog "Small things considered"

http://schaechter.asmblog.org/schaechter/2017/09/a-lakeside-tale.html
https://schaechter.asmblog.org/schaechter/2017/11/miraculous-microbes.html

Additional media outlets

The studies were further reported by science media outlets some of which are featured in the journals metrics as reported by Altmetric.

Ionescu et al., 2017: https://www.nature.com/articles/s41467-017-00342-9/metrics

Ionescu et al., 2020: https://oxfordjournals.altmetric.com/details/94074279

Oxic Methane production

Official IGB press releases

Bizic et al., 2020 (With equal contribution)
https://www.igb-berlin.de/en/news/cyanobacteria-water-and-land-identified-source-methane

Additional media outlets

The study was further reported by science media outlets some of which are featured in the journals metrics as reported by Altmetric.

https://scienceadvances.altmetric.com/details/74069503/news

The Dead Sea

Official Max Planck Institute press release

https://www.mpi-bremen.de/en/Springs_of_Life_in_the_Dead_Sea.html

Television and Radio coverage and interviews

CNN, Fox, BBC, RAI-TV, Israel Channel 2, Israeli Radio (Galei Zahal, Reshet Bet), National Geographic, and others. Additionally, it was reported in over 50 science media outlets.

Documentary movies resulting from the research

"From deep Valley to Mountain High", Austria, 2010
http://www.amazon.com/Extreme-From-Valley-Deep-Mountain/dp/B00H8UYSL2
(DVD available upon request)

Documentary movie on the Dead Sea rift valley for Japanese TV
Aired on NHK Premium August 2013, Produced by Nihon Denpa News co., LTD
(DVD available upon request)

Third party funds (After PhD)

Project	**Period**	**Source**	**Role**	**Sum**
BIBS (phase I)	2/2016-2/2019	BMBF*	Postdoc	368 K Euro
Springs of life in a Dead Sea	1/2010-12/2013	Max Planck Society** (internal funds)	PI	~400K Euro

*The BMBF-supported BIBS project is a 20 Mil Euro multi-institutional collaborative project mainly financing students and postdocs. To carry out my intended work I applied in 2016 to the BMBF for extra sequencing money for deep eDNA amplicon and large scale metatranscriptomes sequencing. The application was granted and I (WP2- of the BIBS project) received 368 K Euro.

**The money was allocated from the internal funds of the Max Planck Institute of Microbial Ecology to support my own research on the Dead Sea in addition to my work on the parallel DFG sponsored project. The money was used to pay 1 PhD student for 3.5 years, my own salary for 2 years 3 sampling campaigns (30-40K Euro each) as well as materials and analyses costs. This project included the additional supervision of 2 M.Sc. students.

Graduate-Student Supervision

PhD students

2015 – 2019 Mr. Marco Günthel, PhD co-supervisor (Swansea University)
2015 – 2018 Mrs. Therese Kettner, PhD co-supervisor (IGB Berlin)
2014 – 2018 Mrs. Maria Arias, PhD co-supervisor (IGB Berlin)
2010 – 2014 Dr. Stefan Häusler, Main PhD Supervisor (MPI for Marine Microbiology)
2011 – 2015 Dr. Camille Thomas, PhD co-supervisor (University of Geneva)

MSc students

2012 – 2013 Mrs. Lisa Schüller, MSc supervisor (University of Hannover)
2012 – 2013 Mrs. Bettina Buchmann, MSc supervisor (University of Oldenburg)
2012 – 2013 Mrs. Folasade Adeboyejo, MSc supervisor (ZMT)
2012 – 2013 Mrs. Beatriz Noriega, MSc co-supervisor (MPI for Marine Microbiology)
2010 – 2011 Mrs. Svenja Spitzer, MSc co-supervisor (Göttingen University)

Teaching Experience

2020 Invited lecture at DFG Research Training Group Baltic TRANSCOAST, University of Rostock.

2019 General Microbiology Laboratory Course, University of Potsdam

2015 – 2017 Yearly workshop on metagenomic-bioinformatics for students and senior scientists at IGB; from sequencing, through assembly to genome annotation.

2014 – pres. Intensive yearly courses ("Blockkurse") in Aquatic Microbial Ecology for students of Potsdam University, and Osnabrück University.

2013 Lecturer in the biogeochemistry course of the marine microbiology graduate school of the Max Planck Institute for Marine Microbiology (MarMic)

2007 – 2009 Lecturer at the Ruppin Academic Center, Israel (The program for marine sciences and marine environmental sciences)

- Extremophiles – molecular and physiological adaptations of extremophiles and their potential use in biotechnology

2004 – 2009 Teaching assistant at the Ruppin Academic Center, Israel (The program for marine sciences and marine environmental sciences)

- Introductory microbiology (3rd year students)
- Marine microbiology (3rd year students)
- Introduction to the marine environment – research projects (2nd year students)
- From a cell to an organism (1st year students)
- Project leader in year-long core-projects for marine biotechnology students.

2006 – 2009 Project leader in a marine microbiology course in Eilat (Israel) for graduate students from the University of Osnabrück (Germany). Course organizers: Prof. Aharon Oren and Prof. Karlheinz Altendorf

2006 – 2009 Teaching Assistant in the IUI "marine microbiology" course in Eilat. Course organizers: Prof. Anton Post, Prof. Shimshon Belkin and Prof. Aharon Oren

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Academic *curriculum vitae*

Complete Publication List

Total **Citations: 1121; h-index 19; i10-index 32** (Google Scholar 16/12/2020)
* Corresponding author

1. **Ionescu, D*.,** Zoccarato, L., Zaduryan, A., Scorn, S., Bizic M., Pinnow, S., Cypionka, H., Grossart H-P. (2020) Heterozygous, polyploid, giant bacterium, Achromatium, possesses an identical functional inventory worldwide across drastically different ecosystems, *Molecular Biology and Evolution*, doi.org/10.1093/molbev/msaa273

2. Günthel, M., Klawonn, I., Woodhouse, J., Bizic, M., **Ionescu, D.,** Ganzert, L., Kümmel, S., Nijenhuis, I., Zoccarato, L., Grossart, H-P., Tang, K.W. (2020) Photosynthesis-driven methane production in oxic lake water as an important contributor to methane emission, *Limnology and Oceanography*, doi.org/10.1002/lno.11557

3. Bizic, M[#]., Klintzsch, T[#]., **Ionescu, D[#].**, Hindiyeh, M., Y., Günthel, M., Muro-Pastor, A., M., Keppler, F., Grossart, H-P. (2020) Aquatic and terrestrial Cyanobacteria produce methane. *Science Advances*. 6, 3: eaax5343, doi:10.1126/sciadv.aax5343 [#]*Equal Contribution*
The paper received two recommendations on F1000

4. Schorn, S., Salman-Carvalho, V., Littmann, S., **Ionescu, D.**, Grossart, H-P., Cypionka, H. (2019) Cell architecture of the giant sulfur bacterium Achromatium oxaliferum: Extra-cytoplasmic localization of calcium carbonate bodies, *FEMS Microbiology Ecology*, 96:fiz200

5. Munwes, Y.Y., Geyer, S., Katoshevski, D., **Ionescu, D**., Licha, T., Lott, C., Laronne, J.B., Siebert, C. (2019) Discharge estimation of submarine springs in the Dead Sea based on velocity or density measurements in proximity to the water surface. *Hydrological. Processes,* DOI: 10.1002/hyp.13598

6. Günthel, M., Donis, D., Kirillin, G., **Ionescu, D**., Bizic-Ionescu, M., McGinnis, D., F., Grossart, H-P., Tang, K. Contribution of oxic methane production to surface methane emission in lakes – local and global importance *Nature Communications,* 10, 5497 (2019) doi:10.1038/s41467-019-13320-0

7. Fasching, C., Akotoye, C., Bižić, M**.**, Fonvielle, J., **Ionescu, D.,** Mathavarajah, S., Zoccarato, L., Walsh, D. A., Grossart, H-P., Xenopoulos, M. A. (2020) Linking stream microbial community function to dissolved organic matter and inorganic. *Limnology and Oceanography* 65, 2020, S71–S87. **https://doi.org/10.1002/lno.11356**

8. Bizic-Ionescu, M., **Ionescu, D.,** Grossart, H-P. (2018) Organic particles: heterogeneous hubs for microbial interactions in aquatic ecosystems. *Frontiers in Microbiology*, 2018; 9: 2569. doi.org/10.3389/fmicb.2018.02569

9. Hartmann, J.F., Gentz, T., Schiller, A., Greule, M., Grossart, H-P., **Ionescu, D.,** Keppler, F., Martinez-Cruz, K., Sepulveda-Jauregui, A., Isenbeck-Schröter, M. (2018) A fast and sensitive method for the continuous in-situ determination of dissolved methane and its δ13C-isotope ratio in surface waters. *Limnology and Oceanography Methods*, 16: 273-285

10. Cuadrat, R.C.R., **Ionescu, D.,** Davila, A.M.R., Grossart, H-P. (2018) Recovering genomics clusters of secondary metabolites from lakes using genome-resolved metagenomics. Frontiers in Microbiology, 9, 251 doi: 10.3389/fmicb.2018.00251

11. **Ionescu, D*.,** Bizic-Ionescu, M., De Maio, N., Cypionka, H., Grossart, H-P. (2017) Community-like genome in single cells of the sulfur bacterium Achromatium oxaliferum. *Nature Communications* 8, 455, doi.org/10.1038/s41467-017-00342-9

12. Hartmann, J.F., Schiller, A., Gentz, T., Greule, M., Grossart, H-P., **Ionescu, D.**, Keppler, F., Martinez-Cruz, K., Sepulveda-Jauregui, A., Isenbeck-Schröter, M. (2017) Real Time Measurement of Concentration and δ 13 C-CH_4 in Water, *Procedia Earth and Planetary Science* 17:460-463

13. Heim, C., Quéric, N-V., **Ionescu, D.,** Schäfer, N., Reitner, J., (2017) Frutexites-like structures formed by iron oxidizing biofilms in the continental subsurface of the Äspö Hard Rock Laboratory, Sweden, *PLoS ONE*, 12 (5), e0177542

14. Tang, K.W., McGinnis, D., F., **Ionescu, D.**, Grossart H-P., (2016) Methane Production in Oxic Lake Waters Potentially Increases Aquatic Methane Flux to Air. *Environmental Science and Technology Letters*, 3:227–233 (**Awarded of ESTL best papers for 2016**)

15. Hubalek, V., Wu, X., Eiler, A., Buck, M., Heim,C., Dopson, M., Bertilsson, S., **Ionescu, D*.** (2016) Connectivity to the surface determines diversity patterns in subsurface aquifers of the Fennoscandian shield. *ISMEJ*, 10:2447-2458. doi:10.1038/ismej.2016.36

16. Duda, J-P., Van Kranendonk, M.J., Thiel, V., **Ionescu, D.**, Strauss, H., Schäfer, N., Reitner, J. (2016) A Rare Glimpse of Paleoarchean Life: Geobiology of an Exceptionally Preserved Microbial Mat Facies from the 3.4 Ga Strelley Pool Formation, Western Australia. PLoS ONE 11(1): e0147629. doi:10.1371/journal.pone.0147629

17. **Ionescu, D*.,** Bizic-Ionescu, M., Khalili, A, Malekmohammadi, R., Morad M., R., de Beer, D., Grossart, H-P. (2015) A new tool for long-term studies of POM-bacteria interactions: overcoming the century-old Bottle Effect. *Scientific Reports*, 5: Article 14706. doi:10.1038/srep14706

18. Thomas, C., **Ionescu, D.,** Ariztegui, D., and the DSDDP Scientific Team. (2015) Impact of paleoclimate on the distribution of microbial communities in the subsurface sediment of the Dead Sea. *Geobiology*, 13:546-561. doi: 10.1111/gbi.12151

19. Raanan, H., Felde, J. M. N. L. V., Peth**, S.,** Drahorad, S., **Ionescu, D.**, Eshkol, G., Treves, H., Felix-Henningsen, P., Berkowicz, S. M, Keren, N., Horn, R., Hagemann, M., Kaplan, A. (2015) 3D structure and cyanobacterial activity within a desert biological soil crust, *Environmental Microbiology*, 18:372-383

20. Heim, C., Simon, K., **Ionescu, D.**, Reimer, A., De Beer, D., Quéric, N.V., Reitner, J., Thiel. V. (2015) Assessing the utility of trace and rare earth elements as biosignatures in microbial iron oxyhydroxides. *Frontiers in Earth Sciences*, 3:6. doi: 10.3389/feart.2015.00006

21. **Ionescu, D*.,** Reimer, A., Zippel, B., Spring, S., Schneider, D., Spitzer, S., Brinkmann, N., de Beer, D., Reitner, J., Arp, G (2015). Calcium dynamics in microbialite-forming exopolymer-rich mats on the atoll of Kiritimati, Republic of Kiribati, Central Pacific. *Geobiology*, 13:170-180

22. Leefmann, T., Heim, C., Lausmaa, J., Sjövall, P., **Ionescu, D.**, Reitner, J., Thiel, V. (2015) An imaging mass spectrometry study on the formation of conditioning films and biofilms in the subsurface (Äspö Hard Rock Laboratory, SE Sweden). *Geomicrobiology*, 32:197-206

23. **Ionescu, D*.,** Heim, C., Polerecky, L., Ramette, A., Haeusler, S., Bizic-Ionescu, M., Thiel, V., de Beer, D. (2015) Diversity of iron oxidizing and reducing bacteria in bioreactors set in the Äspö Hard Rock Laboratory, *Geomicrobiology*, 32:207-220

24. **Ionescu, D*.**, Polerecky, L., Heim, C., Thiel, V., Reitner, J., de Beer, D. (2015) Biotic and abiotic iron precipitation in iron mineralization using the Äspö HRL as a model system. *Geomicrobiology*, 32:221-230

25. Spitzer, S., Brinkmann, N., Reimer, A., **Ionescu, D.**, Friedl, T., de Beer, D., Arp, G. (2015) Effect of variable PCO2 on Ca^{2+} removal and potential calcification of cyanobacterial biofilms - an experimental microsensor study. *Geomicrobiology*, 32:304-315

26. Bizic-Ionescu, M., Zeder, M., **Ionescu, D.**, Orlic, S., Fuchs B., M., Grossart H-P., Amann R. (2015) Comparison of bacterial communities on limnic versus coastal marine particles reveals profound differences in colonization. *Environ Microbiol*, 17:3500-3514. doi: 10.1111/1462-2920.12466

27. Häusler, S., Holtappel, M., de Beer, D., **Ionescu, D*.** (2014) Activity of sulfur reducing and sulfide oxidizing bacteria in underwater freshwater springs in the Dead Sea and surrounding sediments. *FEMS Microbiology Ecology*, 90: 956-969.

28. Thomas, C., **Ionescu, D.**, Ariztegui, D., and the DSDDP Scientific Team. (2014) Archaeal populations in two distinct sedimentary facies of the subsurface of the Dead Sea. *Marine Genomics*, 17:53-62. doi: 10.1016/j.margen.2014.09.001

29. **Ionescu, D*.**, Buchmann B, Heim C, Häusler S, de Beer D and Polerecky L (2014) Oxygenic photosynthesis as a protection mechanism for cyanobacteria against iron-encrustation in environments with high Fe^{2+} concentrations. *Frontiers in Microbiology*, 5:459. doi: 10.3389/fmicb.2014.00459

30. Häusler, S., Noriega, B., Polerecky, L., Meyer, V., de Beer, D., **Ionescu, D***. (2014) Microenvironemts of reduced salinity allow for the formation of biofilms on the Dead Sea sediment. *Environmental Microbiology Reports*, 6:152-158. doi:10.1111/1758-2229.12140

31. Häusler, S., Weber, M., de Beer, D., **Ionescu, D*.** (2014) Salinity adaptation of oxygenic phototrophs to salinity gradients formed by underwater freshwater springs in the Dead Sea. Extremophiles, 18:1085-1094 DOI :10.1007/s00792-014-0686-1

32. Siebert, C., Rödiger, T., Mallast, U., Gräbe, A., Guttman, J., Laronne, J.B., Storz-Peretz, Y., Greenman, A., Salameh, E., Al-Raggad, M., Vachtman, D., Ben Zvi, A., **Ionescu, D.**, Brenner, A., Merz, R., Geyer, S. (2014) Challenges to estimate surface- and groundwater flow in arid regions: The Dead Sea catchment, *Science of the Total Environment*, 485–486: 828–841, http://dx.doi.org/10.1016/j.scitotenv.2014.04.010

33. Heim, C., Quéric, N. V., **Ionescu, D.,** Simon, K., Thiel, V. (2013) Chemolithotrophic microbial mats in an open pond in the continental subsurface – implications for microbial biosignatures. *Göttingen Contributions to Geosceicnes*, 77:175-188

34. **Ionescu, D.**, Siebert, C., Polerecky, L., Munwes,Y.Y., Lott, C., Häusler S., Bizic-Ionescu, M., Quast, C., Jörg Peplies, J., Glöckner, FO., Ramette, A., Rödiger, T., Dittmar, T., Oren, A., Geyer, S., Stärk, HS., Sauter, M., Licha, T., Laronne, B. J., de Beer, D. (2012) Microbial and chemical characterization of underwater fresh water springs in the Dead Sea. *PloS One*, 7: e38319. https://doi.org/10.1371/journal.pone.0038319

35. Rao, A. M. F., Polerecky, L., **Ionescu, D.**, Meysman, F.J.R., de Beer, D (2012) The influence of porewater advection, benthic photosynthesis, and respiration on calcium carbonate dynamics in reef sand. *Limnology and Oceanography*, 57:809-825

36. **Ionescu, D.**, Voss, B., Oren, A., Hess, W.R., Muro-Pastor, A. M. (2010) Heterocyst-Specific Transcription of NsiR1, a Non-Coding RNA Encoded in a Tandem Array of Direct Repeats in Cyanobacteria. *Journal of Molecular Biology*, 398:177–188

37. **Ionescu, D.**, Malkawi, H., Hindiyeh, M., Oren, A. (2010) Biogeography of thermophilic cyanobacteria - insights from the Zerka Ma'in hot springs (Jordan). *FEMS Microbiology Ecology* 72:103-113

38. **Ionescu, D.**, Oren, A., Levitan, O., Hindiyeh, M., Malkawi, H., and Berman-Frank, I. (2009) The cyanobacterial community of the Zerka Ma'in hot springs, Jordan: morphological and molecular diversity and nitrogen fixation. *Algological Studies*, 130:129-144

39. **Ionescu, D.**, Penno, S., Haimovich, M., Rihtman, B., Goodwin, A., Schwartz, D., Hazanov, L., Chernihovsky, M., Post, A.F., Oren, A. (2009) Archaea in the Gulf of Aqaba. *FEMS Microbiology Ecology*, 69:425-38

40. Oren, A., **Ionescu, D.**, and Hindiyeh M. 2008. Microalgae and cyanobacteria of the Dead Sea and its surrounding springs. *Israeli Journal of Plant Science*, 56:1-13

41. Elevi Bardavid, R., **Ionescu, D.**, Oren, A., Rainey, F.A., Hollen, B.J., Bagaley, D.R., Small, A.M., and McKay, C.M. (2007) Selective enrichment, isolation and molecular detection of Salinibacter and related extremely halophilic Bacteria from hypersaline environments. *Hydrobiologia*, 576:3-13

42. **Ionescu, D.**, Lipski, A., Altendorf, K., and Oren, A. (2007) Characterization of the endoevaporitic microbial communities in a hypersaline gypsum crust by fatty acid analysis. *Hydrobiologia*, 576:15-26

43. Oren, A., **Ionescu, D.**, Lipski, A., and Altendorf, K. (2005) Fatty acid analysis of a layered community of cyanobacteria developing in a hypersaline gypsum crust. *Algological Studies*, 117:339-347

Book Chapters

44. Bižić, M., Grossart, H-P., **Ionescu, D** (2020) Methane Paradox, Bacteria In eLS, John Wiley & Sons, Ltd (Ed.), doi:10.1002/9780470015902.a0028892

45. **Ionescu, D.** Bižić, M (2019) Giant Bacteria, In eLS, John Wiley & Sons, Ltd (Ed.), doi: 10.1002/9780470015902.a0020371.pub2

46. Bizic-Ionescu, M., **Ionescu, D.** Günthel, M., Tang, K., Grossart, H-P. (2018) Oxic methane cycling - new Evidence for methane formation in oxic lake water. In: Stams, M.J.A., Sousa, D.Z. (ed), Handbook of Hydrocarbon and Lipid Microbiology Series. Biogenesis of Hydrocarbons. Springer International. *In press*

47. Bizic-Ionescu, M., **Ionescu D.** (2015) Crossing the border - The freshwater/salt saline barrier: A phylogenetic analysis of bacteria inhabiting both freshwater and marine ecosystems. In: Glibert, P.M., Kanna, T.M. (ed), Aquatic Nutrient Biogeochemistry and Microbial Ecology: A Dual Perspective. Springer International, pp:35-44.

48. **Ionescu D,** Overholt W, Lynch M, Neufeld J, Naqib A, Green S. 2015. Microbial Community Analysis Using High-Throughput Amplicon Sequencing, p 2.4.2-1-2.4.2-26. In Yates M, Nakatsu C, Miller R, Pillai S (ed), Manual of Environmental Microbiology, 4th Edition. ASM Press, Washington, DC. doi: 10.1128/9781555818821.ch2.4.2.

49. **Ionescu, D.**, Oren, A., Hindiyeh, M.Y., and Malkawi, H.I. (2007) The thermophilic cyanobacteria of the Zerka Ma'in thermal springs in Jordan. In: Seckbach, J. (ed.), Algae in extreme environments. Springer, Dordrecht, pp: 411-424.

Proceedings papers

50. Heim, C., Beimforde, C., Ionescu, D., Ivarsson M., Thiel, V., (2019) Unconventional biosignatures of fungi in frutexites-like microbial mats in the subsurface, Proceedings of the 29th International Meeting on Organic Geochemistry, Volume 2019, p.1 – 2

51. Siebert, C., Mallast, U., Rödiger, T., Strey, M., Ionescu, D., Häusler, S., Noriega, B., Pohl, T., Merkel, B. (2014) Submarine groundwater discharge at the Dead Sea. Proceedings of the 23rd Salt-Water Intrusion Meeting, Husum, Germany

52. Häusler, S., Siebert, C., Dittmar, T., L., Munwes, Y.Y., Lott, C., Weber, M., Bizic-Ionescu, M., Quast, C., Oren, A., Geyer, S., Laronne, J.B., de Beer, D., **Ionescu, D***. (2013) Springs of Life in a Dead Sea - Investigating a newly discovered shallow freshwater spring system in the Dead Sea. Proceedings of the 3rd International Workshop "Research in Shallow Marine and Fresh Water Systems", Bremen, Germany

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56. Bizic, M., Brad, T*., Barbu-Tudoran, L., Aerts, J., **Ionescu, D.**, Popa, R., Ody, J., Flot, J-F., Tighe, S., Vellone, D., Sarbu, S.M., Genomic and morphologic characterization of a planktonic

Thiovulum (*Campylobacterota*) dominating the surface waters of the sulfidic Movile Cave, Romania, bioRxiv 2020.11.04.367730; doi.org/10.1101/2020.11.04.367730

57. **Ionescu, D**[#*]., Bizic, M[#]., Karnatak, R., Musseau, L.C., Onandia, G., Berger, S., Nejstgaard, J., Lischeid, D., Gessner., M, Wolrab, S., Grossart, H-P. From microbes to mammals: pond biodiversity homogenization across different land-use types in an agricultural landscape, *submitted*

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58. **Ionescu, D*.,** Haeusler, S., Siebert, C., Noriega-Ortega, B., (2013) Springs of life in the Dead Sea (in Hebrew), in Starinsky A., Melach Ha'aretz 7 – A series on Dead Sea research, Magnes, Jerusalem, Israel. pp 15-35.

Cover Images

Environmental Microbiology Reports: Cover of 2015

Geobiology: Volume 13, Issue 2

Oral Contribution to conferences (in addition > 40 poster presentations)

Invited speaker

1. **Ionescu, D.,** Häusler, S., Siebert, C., Polerecky, L., Munwes,Y.Y., Quast, C., Ramette, A., Dittmar, T., Oren, A., Laronne, B. J., de Beer, D. (2011) Springs of life in a "Dead Sea". The Third Annual Cooperation Conference – Dead Sea, Jordan. **(Invited keynote speaker)**

Submitted abstracts

2. **Ionescu, D**., Bizic-Ionescu, M., Karnatak, R., Musseau, C., Onandia, G., Berger, S., Nejstgaard, J., Jeschke, J., Lischeid, G., Gessner, M., Wollrab, S., Grossart, H. Kettle holes as model meta-ecosystems to study land-use effects on aquatic biodiversity, ASLO summer meeting, 2018, Victoria, Canada.
3. **Ionescu, D.,** Bizic-Ionescu, M., De Maio, N., Cypionka, H. & Grossart, H.-P. Community-like genome in single cells of the sulfur bacterium *Achromatium oxaliferum*. SAME15, 2017, Zagreb Croatia.
4. **Ionescu, D.,** Bizic-Ionescu, M., Malik, R., Khalil., A., Grossart, H-P., (2015) Particle associated communities are regulated by antagonistic reactions rather than carbon quality as shown using a new flow-through rolling-tank, ASLO (Aquatic Sciences Meeting) 2015, Granada, Spain.
5. **Ionescu, D.,** Haeusler, S.,Siebert, C., Dittmar, T., Polerecky, L., Bižić-Ionescu, M., Quast, C., Oren, A., Laronne, J. B., de Beer, D., (2013) Oases of life in a "Dead Sea", SAME13, Stresa, Italy.
6. **Ionescu D**., Heim, C., Polerecky L., Bizic-Ionescu, M., Quast, C., Thiel, V., Reitner, J., de Beer, D. (2012) Insights into the community structure and activity of the iron oxidizing bacteria in the Äspö - Hard Rock Laboratory. Microbial Ecology Workshop of the Israeli Society of Microbiology, Ein Gedi, Israel
7. **Ionescu, D.,** Spitzer, S., Schneider, D., Spring, S., Zippel, B., Brinkmann, N., de Beer, D., Reitner, J., Arp, G. (2012) Calcification in hypersaline, EPS rich, microbial mats: a model system from the Atoll Kiritimati, ISME-14, Copenhagen, Denmark.

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9. **Ionescu, D**., Heim, C., Bizic-Ionescu, M., Thiel, V., Reitner, J., Polerecky L., de Beer, D. (2011) Insights into the community structure and activity of the iron oxidizing bacteria in the Äspö -Hard Rock Laboratory. VAAM, Karlsruhe, Germany
10. **Ionescu, D**., Heim, C., Valérie Quéric, N., Lee, N., Liebl, W., Thiel, V., Reitner, J., de Beer, D. (2010) Iron oxides mediated by phototrophic versus chemolithotrophic microorganisms: their potential implications in the formation of banded iron formations. 13th International Symposium on Microbial Ecology, Seattle.
11. **Ionescu, D**., Voss, B., Oren, A., Hess, W.R., Muro-Pastor, A. M. (2009) NsiR1 – A nitrogen stress induced Non Coding RNA. Annual Meeting of the Israel Society for Microbiology, Ramat-Gan, Israel.
12. **Ionescu**, D., Voss, B., Oren, A., and Hess, W. (2008) Small Non Coding RNAs are involved in the response to nitrogen depletion in the filamentous cyanobacterium *Anabaena* PCC 7120. 7th European Workshop on the Molecular Biology of Cyanobacteria, Ceske Budejovice.
13. **Ionescu, D.**, Tchernichovsky, M., Hazanov, L., Dorot, A., Vaisman, N., Thiele, S., Oesterwind, K., and Oren, A. (2007) Archaeal communities of the Gulf of Aqaba. Annual meeting of the Israel Society for Oceanography and Marine Sciences, Haifa.
14. **Ionescu, D.**, Oren, A., Levitan, O., Hindiyeh, M., Malkawi, H., and Berman-Frank, I. (2007) The cyanobacterial community of the Zerka Ma'in hot springs, Jordan: morphological and molecular diversity and nitrogen fixation. 17th Symposium of the International Association for Cyanophyte Research, Merida, Yucatan, Mexico.

Public communication talks

Ionescu, D., eDNA – Was man daraus für den Naturschutz lernen kann, 2019, 13. Kleiner Naturschutztag der Naturpark Stechlin-Ruppiner Land