SINGER David

Date of birth:	26.10.1985	Phone:	+41 79 218 24 26
Nationality:	Swiss	Email:	david.singer.bio@outlook.com
Family status:	Single	Website:	https://www.david-singer-biologist.com/
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Biologist specialised in protistology

Research interests

My research areas are protistology, soil diversity, communities, and ecosystems ecology. On-going projects focus on the application of molecular approaches to microbial-sized eukaryotes to understand their diversity, functions, and interactions.

Education

2020-Now **Postdoc,** UMR CNRS 6112 LPG-BIAF Bio-Indicateurs Actuels et Fossiles, University of Angers, France

2019-2020 **Postdoc**, Laboratory of Evolutionary Protistology, University of São Paulo, Brazil

Postdoc, Patterson Laboratory, University of Carleton, Ottawa, Canada

Postdoc, Real Jardín Botanico de Madrid, Madrid, Spain

2017-2019 **Postdoc**, Laboratory of Soil Biodiversity, University of Neuchâtel, Switzerland

2012-2017 **PhD degree**, Laboratory of Soil Biodiversity, University of Neuchâtel, Switzerland

2009-2011 **Master's degree,** Master in Biogeosciences, University of Neuchâtel, Switzerland

2005-2008 **Bachelor's degree**, Bachelor in Biology, University of Neuchâtel

Teaching experience

University of Neuchâtel: Period 2017-18

BSc courses

- Protists I, course (14h/yr, 1 ECTS) lectures
- Protists and Invertebrates practical course (28h/yr, 2 ECTS)
- Protists II, course (28h/yr, 2 ECTS) lectures
- Protists II, practical course (14h/yr, 1 ECTS)

MSc courses

- Seminar Biodiversity (42h/yr, 3 ECTS)

Mentoring experience

2015 **Clément Duckert**, M Sc. co-advisor (adv. Dr. Enrique Lara), UniNe. Title: Calibration of a molecular clock for genus *Euglypha* (Rhizaria, Cercozoa)

Personal grants

2018 From environmental metabarcoding/metatranscriptomic to a single-cell transcriptomics: evaluation of human impact on the microeukaryotic diversity of the Tietê River, Sao Paulo, Brazil, Swiss National Fund, Early Postdoc Mobility grant (P2NEP3-178543), 18 months of Postdoctoral salary, PI: **David Singer,** Funding: **87'666 CHF**

2015 Swiss Barcoding Of Life initiative "Morphologic and genetic description of new cryptic species in the *Nebela collaris* species complex (Hyalospheniidae, Arcellinida)", PI: **David Singer** Funding: **3'000 CHF**

Awards

12.09.2018 Laureate of the "**Helen Tappan, Early Career Researcher Award 2018**" from the International Society of Testate Amoeba Researchers - ISTAR in recognition of a contribution to fundamental advances in understanding the taxonomy, community structure, and functional ecology of testate amoeba.

01.03.2018 Laureate of the "**Karl Gottlieb Grell Award 2018**" of the German Society of Protozoology in recognition of an outstanding contribution in the field of protistological research.

16.11.2017 Laureate of the "**Prix Jean-Luc Crélerot 2018**" of the University of Neuchâtel, in recognition of the best PhD in the "evolution of the organisms" field of research.

Publication record (01.2021)

H index

- Scopus: 11 (427 citations) *Link*
- Google scholar: 12 (533 citations) *Link*

Quartile ranking

Q1 = 22 publications (88%)

Q2 = 3 publications (12%)

Reviewer for: Land Degradation & Development, Metabarcoding and Metagenomics, Molecular Ecology, Environmental Microbiology, Science of the Total Environment, Soil Biology and Biochemestry, Microbial Ecology, Plos One, FEMS Microbiology Ecology, Protist, Journal of Eukaryotic Microbiology, Environmental Science and Pollution Research, Journal of Limnology

2021

25) Protist taxonomic and functional diversity in soil, freshwater and marine ecosystems

***Singer D**, Seppey CVW, Lentendu G, Dunthorn M, Bass D, Belbahri L, Blandenier Q, Debroas D, de Groot GA, de Varga C, Domaizon I, Duckert C, Izaguirre I, Koenig I, Mataloni G, Schiaffino MR, Mitchell EAD, Geisen S, Lara E.*

Environment International, Q1, IF: 7.5 *Link*

24) Environmental drivers of *Sphagnum* growth in peatlands across the Holarctic region

*Bengtsson F, Rydin H, Baltzer JL, Bragazza L, Bu Z-J, Caporn SJM, Dorrepaal E, Flatberg KI, Galanina O, Gałka M, Ganeva A, Goia I, Goncharova N, Hájek M, Haraguch A, Harris LI, Humphreys E, Jiroušek M, Kajukało K, Karofeld E, Koronatova NG, Kosykh NP, Laine AM, Lamentowicz M, Lapshina E, Limpens J, Linkosalmi M, Ma J-Z, Mauritz M, Mitchell EAD, Munir TM, Natali SM, Natcheva R, Payne RJ, Philippov DA, Rice SK, Robinson S, Robroek BJM, Rochefort L, **Singer D**, Stenøien HK, Tuittila E-S, Vellak K, Waddington JM, Granath G.*

Journal of Ecology, Q1, IF: 5.7 *Link*

2020

23) **High-throughput sequencing of litter and moss eDNA reveals a positive correlation between the diversity of Apicomplexa and their invertebrate hosts across alpine habitats**

***Singer D**, Duckert C, Heděnec P, Lara E, Hiltbrunner E, Mitchell EAD.*

Soil Biology and Biochemistry, Q1, IF: 5.7 *Link*

22) **Greater topoclimatic control of above- versus below-ground communities**

*Mod HK, Scherrer D, Di Cola V, Broennimann O, Blandenier Q, Breiner FT, Buri A, Goudet J, Guex, N, Lara E, Mitchell EAD, Niculita-Hirzel H, Pagni M, Pellissier L, Pinto-Figueroa E, Sanders IR, Schmidt BR, Seppey CVW, **Singer D**, Ursenbacher S, Yashiro E, van der Meer JR, Guisan A.*

Global Change Biology, Q1, IF: 8.5 *Link*

21) **Testate amoeba functional traits and their use in paleoecology**

*Marcisz K, Jassey VEJ, Kosakyan A, Krashevska V, Lahr DJG, Lara E, Lamentowicz Ł, Lamentowicz M, Macumber A, Mazei Y, Mitchell EAD, Nasser NA, Patterson RT, Roe HM, **Singer D**, Tsyganov AN, Fournier B.*

Frontiers in Ecology and Evolution, Q1, IF: 2 *Link*

20) **Soil protist diversity in the Swiss western Alps is better predicted by topo-climatic than by edaphic variables**

*Seppey CVW, Broennimann O, Buri A, Yashiro E, Pinto-Figueroa E, **Singer D**, Blandenier Q, Mitchell EAD, Niculita-Hirzel H, Guisan A, Lara E.*

Journal of Biogeography, Q1, IF: 4 *Link*

2019

19) **Dispersal limitations and historical factors determine the biogeography of specialized terrestrial protists**

***Singer D**, Mitchell EAD, Payne RJ, Blandenier Q, Duckert C, Fernández LD, Fournier B, Hernández CE, Granath G, Rydin H, Bragazza L, Koronatova NG, Goia I, Harris LI, Kajukało K, Kosakyan A, Lamentowicz M, Kosykh NP, Vellak K, Lara E.*

Molecular Ecology, Q1, IF: 5.5 *Link*

18) **Contrasted Micro-Eukaryotic Diversity Associated with Sphagnum Mosses in Tropical, Subtropical and Temperate Climatic Zones**

***Singer, D**, Metz S, Unrein F, Shimano S, Mazei Y, Mitchell EAD, Lara E.*

Microbial Ecology, Q1, IF: 3.6 *Link*

17) **Global distribution of Trebouxiophyceae diversity explored by high-throughput sequencing and phylogenetic approaches**

*Metz S, **Singer D**, Domaizon I, Unrein F, & Lara E.*

Environmental Microbiology, Q1, IF: 4.9 *Link*

16) **Rain-fed granite rock basins accumulate a high diversity of dormant microbial eukaryotes**

*Velasco-González I, Sanchez-Jimenez A, **Singer D**, Murciano A, Díez-Hermano S, Lara E, Martín-Cereceda M. 2019.*

Microbial Ecology, Q1, IF: 3.6 *Link*

2018

15) **Environmental filtering and phylogenetic clustering correlate with the distribution patterns of cryptic microeukaryotic species in peatlands**

***Singer D**, Kosakyan A, Seppey CVW, Pillonel A, Fernández LD, Fontaneto D, Mitchell EAD, Lara E.*

Ecology, Q1, IF: 4.7 *Link*

14) **En garde! Redefinition of Nebela militaris (Arcellinida, Hyalospheniidae) and erection of Alabasta gen. nov.**

Duckert C, Blandenier Q, Kupferschmid FAL, Kosakyan A, Mitchell EAD, Lara E, ***Singer D****.*

European Journal of Protistology, Q2, IF: 2.7 *Link*

13) **Soil protists: a fertile frontier in soil biology research.**

Stefan G, Mitchell EAD, Adl S, Bonkowski M, Dunthorn M, Ekelund F, Fernández L, Jousset A, Krashevska V, ***Singer D****, Spiegel F, Walochnik J, Lara E.*

FEMS Microbiology Reviews, Q1, IF: 9.1 *Link*

12) **Environmental and taxonomic controls of carbon and oxygen stable isotope composition in Sphagnum across broad climatic and geographic ranges.**

Granath G, Rydin H, Baltzer JL, Bengtsson F, Boncek N, Bragazza L, Bu ZJ, Caporn SJM, Dorrepaal E, Galanina O, Gałka M, Ganeva A, Gillikin DP, Goia I, Goncharova N, Hájek M, Haraguchi A, Harris LI, Humphreys E, Jiroušek M, Kajukało K, Karofeld E, Koronatova NG, Kosykh NP, Lamentowicz M, Lapshina E, Limpens J, Linkosalmi M, Ma JZ, Mauritz M, Munir TM, Natali S, Natcheva R, Noskova M, Payne RJ, Pilkington K, Robinson S, Robroek BJM, Rochefort L, ***Singer, D****, Stenøien HK, Tuittila ES, Vellak K, Verheyden A, Waddington JM, Rice SK.*

Biogeosciences, Q1, IF: 3.9 *Link*

11) **Effect of dry-rewetting stress on response pattern of soil prokaryotic communities in alpine meadow soil.**

Hedenec P, ***Singer D****, Li J, Yao M, Lin Q, Li H, Kukla J, Cajthaml T, Frouz J, Rui J, Li X.*

Applied Soil Ecology, Q1, IF: 3.6 *Link*

10) **Comparative analysis of bones, mites, soil chemistry, nematodes and soil micro-eukaryotic communities of a suspected homicide to estimate a long post-mortem interval.**

Szelecz I, Lösch S, Seppey CVW, Lara E, ***Singer D****, Sorge F, Tschui J, Perotti MA, Mitchell EAD.*

Scientific Reports, Q1, IF: 4.1 *Link*

2017

9) **Soil protistology rebooted: 30 fundamental questions to start with.**

Geisen S, Mitchell EAD, Wilkinson DM, Adl S, Bonkowski M, Brown MW, Fiore-Donno AM, Heger TJ, Jassey VEJ, Krashevska V, Lahr DJG, Marcisz K, Mulot M, Payne R, ***Singer D****, Anderson OR, Charman DJ, Ekelund F, Griffiths BS, Rønn R, Smirnov A, Bass D, Belbahri L, Berney C, Blandenier Q, Chatzinotas A, Clarholm M, Dunthorn M, Feest A, Fernandez-Parra LD, Foissner W, Fournier B, Gentekaki E, Hajek M, Helder J, Jousset A, Koller R, Kumar S, La Terza A, Lamentowicz M, Mazei Y, Santos SS, Seppey CVW, Spiegel FW, Walochnik J, Winding A, Lara E. 2017.*

Soil Biology and Biochemistry, Q1, IF: 5.7 *Link*

8) **Distribution patterns of soil microbial eukaryotes suggests widespread algivory by phagotrophic protists as an alternative pathway for nutrient cycling.**

Seppey C, ***Singer D****, Dumack K, Belbahri L, Mitchell EAD, Lara E.*

Soil Biology and Biochemistry, Q1, IF: 5.7 *Link*.

7) **Parasites dominate hyperdiverse soil protist communities in Neotropical rainforests**

Mahé F, de Vargas C, Bass D, Czech L, Stamatakis A, Lara E, ***Singer D****, Mayor J, Bunge J, Sernaker S, Siemensmeyer T, Trautmann I, Romac S, Berney C, Kozlov A, Mitchell EAD, Seppey CVW, Egge E, Lentendu G, Wirth R, Trueba G, Dunthorn M.*

Nature Ecology & Evolution, Q1, IF: 10 *Link*

2016

6) **High-throughput sequencing reveals diverse oomycete communities in oligotrophic peat bog micro-habitat.**

***Singer D**, Lara E, Steciow MM, Seppey CVW, Paredes N, Pillonel A, Oszako T, Belbahri L. 2016.*

Fungal Ecology, Q1, IF: 3.9 *Link*

5) **Microbial eukaryote communities from Patagonian-Antarctic gradient of lakes evidence of a biogeographical pattern.**

*Schiaffino MR, Lara E, Fernández LD, Balagué V, **Singer D**, Seppey CVW, Massana R, Izaguirre I.*

Environmental microbiology, Q1, IF: 4.9 *Link*

4) ***Mycamoeba gemmipara* nov. gen., nov. sp., the First Cultured Member of the Environmental Dermamoebidae Clade LKM74 and its Unusual Life Cycle.**

*Blandenier Q, Seppey CVW, **Singer D**, Vlimant M, Simon A, Duckert C, Lara E.*

Journal of Eukaryotic Microbiology, Q2, IF: 2.3 *Link*

2015

3) **Eight species in the *Nebela collaris* complex: *Nebela gimlii* (Arcellinida, Hyalospheniidae), a new species described from a Swiss raised bog**

***Singer D**, Kosakyan A, Pillonel A, Mitchell EAD, Lara E.*

European Journal of Protistology, Q2, IF: 2.7 *Link*

2) **Planktonic eukaryote molecular diversity: discrimination of minerotrophic and ombrotrophic peatland pools in Tierra del Fuego (Argentina).**

*Lara E, Seppey CVW, Garraza GG, **Singer D**, Quiroga MV, Mataloni G.*

Journal of Plankton Research, Q1, IF: 2.2 *Link*

1) **Response of forest soil euglyphid testate amoebae (Rhizaria: Cercozoa) to pig cadavers assessed by high-throughput sequencing.**

*Seppey CVW, Fournier B, Szelecz I, **Singer D**, Mitchell EAD, Lara E.*

International journal of legal medicine, Q1, IF: 2.2 *Link*

Organisation of meetings

03.07.2019	Mini-Symposium: Microeukaryotes as tools to shed light on environmental questions, São Paulo, Brazil (organising committee)
23-26.02.2016	35th Annual Meeting of the German Society for Protozoology, Saignelegier, Switzerland (Organising committee)

Contributions to international/national meetings

2020

04-06.03.2020 39th Annual Meeting of the German Society for Protozoology, Kaiserslautern, Germany

*Evaluation of parasitic diversity using environmental DNA approach. **Singer D**, Duckert C, Lara E, Mitchell EAD*

2019

02-03.12.2019 Interuniversity Doctoral Program in Organismal Biology: Protists diversity and ecology in aquatic and terrestrial ecosystems - joint with CUSO EE, Neuchâtel, Switzerland

*Environmental DNA to monitor protist diversity. **Singer D***

26.09.2019 OCGC Geoscience Seminars, Carleton University, Ottawa, Canada

Environmental DNA approaches to understand past, present and future ecosystems functioning. ***Singer D***

03.07.2019 Mini-Symposium: Microeukaryotes as tools to shed light on environmental questions, São Paulo, Brazil

"Sphagnosphere": A unique component of earth's Biosphere to assess microeukaryotes diversity, ecology and biogeography. ***Singer D***

20-22.02.2019 38th Annual Meeting of the German Society for Protozoology, Vienna, Austria

Contrasted effects of cadavers, blood, urine and faeces on soil micro-eukaryotic communities – implications for biodiversity exploration and forensic application. ***Singer D****, Heděnec P, Jauslin R, Heger T, Szelecz I, Lara E, Duckert C, Mitchell EAD*

2018

10-14.09.2018 International Symposium on Testate Amoebae (ISTA9), Belfast, Ireland

Testate amoeba taxonomy from morphology to metatranscriptomics. ***Singer D****, Lara E, Mitchell EAD, Lahr DJG*

27.02-02.03.2018 37th Annual Meeting of the German Society for Protozoology, Cologne, Germany

A molecular approach to microeukaryotic diversity, ecology and biogeography associated with Sphagnum mosses. ***Singer D***

27.02-02.03.2018 37th Annual Meeting of the German Society for Protozoology, Cologne, Germany

Temporal patterns of soil micro-eukaryotic diversity beneath pig cadavers decomposing on the ground or suspended. ***Singer D****, Seppey CVW, Szelecz, I, Lara E, Mitchell EAD*

2017

30.07-04.08.2017 15th International Congress of Protistology (ICOP15), Prague, Czech Republic

Temporal patterns of soil micro-eukaryotic diversity beneath decomposing pig cadavers as assessed by high throughput sequencing. Reczuga MK, Seppey CVW, Szelecz I, Fournier B, ***Singer D****, Lara E, Mulot M, Mitchell EAD.*

21-24.02.2017 36th Annual Meeting of the German Society for Protozoology, Meissen, Germany

Born in the USA: a molecular phylogeography of Hyalosphenia papilio. ***Singer D****, Fernandez LD, Blandenier Q, Mitchell EAD, Lara E.*

2016

12-15.09.2016 International Symposium on Testate Amoebae (ISTA8), Ilhabela, Brazil

Born in the USA: a molecular phylogeography of Hyalosphenia papilio. ***Singer D****, Fernandez LD, Blandenier Q, Mitchell EAD, Lara E.*

23-26.02.2016 35th Annual Meeting of the German Society for Protozoology, Saignelegier, Switzerland

Environmental diversity of cryptic species from the Nebela collaris complex is strongly correlated with environmental filters. ***Singer D****, Kosakyan A, Fernandez LD, Seppey CVW, Mitchell EAD, Lara E.*

2015

05-10.11.2015 European Congress of Protistology (ECOP 7), Seville, Spain

Environmental diversity of cryptic species from the Nebela collaris complex is strongly correlated with environmental filters. ***Singer D****, Kosakyan A, Fernandez L, Seppey CVW, Mitchell EAD, Lara E.*

2014

14.11.2014 Swiss Systematics Society, Geneva, Switzerland

Strong niche separation among species of the Nebela collaris complex: a tool for bioindication? ***Singer D****, Kosakyan A, Seppey CVW, Mitchell EAD, Lara E.*

31.10.2014 SwissBOL Conference, Bern, Switzerland

Earthworm diversity in Switzerland: focus on potential cryptic species. ***Singer D****, Luiz L, Al-Dourobi A, Lara E, Le Bayon C.*

08-12.09.2014 International Symposium on Testate Amoebae (ISTA7), Poznan, Poland

Strong niche separation among species of the Nebela collaris complex: a tool for bioindication? ***Singer D****, Kosakyan A, Seppey CVW, Mitchell EAD, Lara E.*

15-16.04.2014 Fundamental and applied protistology, Neuchâtel, Switzerland

Cryptic testate amoeba species occupy different niches in a peatland: the case of the Nebela collaris complex. ***Singer D****, Kosakyan A, Mulot M, Mitchell EAD, Lara E.*

Outreach

01.12.2020	Foraminifère, l'océan à la loupe, exposition, Angers, France link
16.09.2019	Kultur und Politik: 3/2019 Protisten. Urwesen des Bodens Link
20.08.2019	Molecular Ecology Spotlight: Summary from the authors Link
10.01.2018	RTS la 1ère CQFD Interview : Quand la chimie des sols fait de la science médico-légale Link

Activities and Interests

- Biology Youtube Chanel: Link
- Scuba diving
- Volunteering: INSIEME, Responsible of a summer camp with persons with intellectual disabilities
- Music: Guitar (in a band for 10 years)