CURRICULUM VITAE

DR. S. VENKATACHALAM
Date of Birth : 14.06.1987
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Project Scientist -II
Arctic Ecology and Biogeochemistry Division
National Centre for Polar and Ocean Research
Headland Sada
Vasco-da-gama
Goa, India

Research interest: **Microbial Ecology and Genomics; Alpine and Polar ecosystems, Ecology and Evolution of Candidate Phyla Radiation groups; NGS instrumentation; Meta-pangenomics.**

Academic Qualification

Degree	Subject	Year	University / Institution
B.Sc.	Biotechnology	2004-2007	Periyar University, Salem
M. Sc.	Biotechnology	2007-2009	Bharathidasan University, Trichy
PG Diploma	Bioinformatics	2008-2009	Bishop Heber College, Trichy
Ph.D	Biotechnology	2010-2014	Bharathiar University, Coimbatore

Research Experience, Awards and Fellowships:

Duration		Position	Fellowships
April 2022 – to date	:	Project Scientist-II, National Centre for Polar and Ocean Research, Goa, India	NA
April 2019 – September 2021	:	Post-Doctoral Fellow, National Centre for Polar and Ocean Research, Goa, India	DST-SERB National Post-Doctoral Fellowship (NPDF), India
January 2015-February 2019	:	• Post-Doctoral Fellow, Department of Biochemistry and Microbiology, Rhodes University, South Africa. • Honorary Research Associate, The South African Institute for Aquatic Biodiversity, South Africa	• Rhodes University Post-Doctoral fellowship, South Africa • NRF-SARChi Post-Doctoral fellowship, National Research Foundation, South Africa.
July 2014 – December 2014	:	Senior Research Fellow, Microbiology Division, Indian Agricultural Research Institute (IARI, New Delhi, India).	Fellowship from ICAR-AMAAS funded project, India
January 2010 – March 2014	:	Junior and Senior Research Fellow, Department of Biotechnology, Bharathiar University, Coimbatore.	Fellowship from Department of Science and Technology (DST), New Delhi.
June 2009 - December 2009	:	Research Intern, Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow.	NA

Job Offers:

- **2022:** Project Scientist – III, CSIR- Centre for Cellular & Molecular Biology (CCMB), Hyderabad. (Declined).
- **2022:** Scientist – C (Project), National Centre for Cell Science, Pune. (Declined).

Scientific expeditions, other awards and extracurricular membership:

- Central Arctic Ocean expedition (July 19th- August 23rd 2022) on-board RV Kronprins Haakon, Norway.
- Team leader: Arctic Svalbard Coastal Cruise (July 2-14th 2019), on-board RV CLIONE.
- Agulhas System Climate Array Expedition (July 1st –July 18th, 2016) On board RV SA Agulhas II, South Africa.
- Himalayan Expedition (June 2010).
- Team leader: Sub-Antarctic research group, Marine Natural Products Research Lab at Rhodes University (2015-2018), South Africa.
- Rhodes University Council research grant for ZAR 15000, Rhodes University, South Africa (2017).
- Travel grant from Water Research Commission, South Africa to present my research work at a conference in Zagreb, Croatia (2017).
- Travel grant from the Department of Biotechnology, India to present my research work at a conference in Frankfurt, Germany (2010).
- Chair: Post-doctoral Liaison sub-committee, Rhodes University (2015-2017).
- Member: The Association for the Sciences of Limnology and Oceanography.

Journal Citation index: Cumulative impact factor: **79.328;** Total citations: **473;** H-index: **11**

Selective important publications:

1. **S. Venkatachalam,** A.Gopinath and K.P. Krishnan (2023). Fjords of the western and northern regions of Svalbard harbour distinct bacterioplankton community structures. **World Journal of Microbiology and Biotechnology.** 39(57):1-13. **(IF: 4.253)**
2. PV Vipindas, **S.Venkatachalam**, T. Jabir, EJ Yang, K Cho, J Jung, Y Lee, K.P. Krishnan. (2022). Water mass controlled vertical stratification of prokaroytic communities in the Western Arctic Ocean during summer sea-ice melting. **Microbial Ecology**. https://doi.org/10.1007/s00248-022-01992-z **(IF: 4.192).**
3. S.L. Dinesh, **S. Venkatachalam,** T. Jabir, P.V. Vipindas. K.P. Krishnan (2022). Total nitrogen influence bacterial community structure of active layer permafrost across summer and winter seasons in Ny-Ålesund, Svalbard. **World Journal of Microbiology and Biotechnology.** 38(2):1-13. **(IF: 4.253)**
4. M. Rathore, R. K. Sinha†, **S. Venkatachalam†**, K.P. Krishnan (2021). Microbial diversity and associated metabolic potential in the supraglacial habitat of a fast-retreating glacier: A case study of Patsio glacier, North-western Himalaya. **Environmental Microbiology Reports**. 14(3):443-452. **(IF: 4.006).** Equally contributed to this work†
5. **S.Venkatachalam,** V.M. Kannan, V.N.Saritha, D.S. Loganathachetti, M. Mohan, K.P. Krishnan. (2021). Bacterial diversity and community structure along the glacier foreland of Midtre Lovénbreen, Svalbard, Arctic. **Ecological Indicators**.126: 107704. **(IF:6.263).**
6. **S. Venkatachalam,** G.F. Matcher, T. Lamont, M.V. Berg, I.J. Ansorge, R.A. Dorrington (2019). Influence of oceanographic variability on nearshore microbial communities of the sub-Antarctic Prince Edward Islands. **Limnology and Oceanography** 64:258-271. (Doi: 10.1002/lno.11035; **IF : 5.019).**
7. T. Sibanda, R. Selvarajan, T. Msagati, **S. Venkatachalam**, S. Meddows-Taylor (2019). Defunct gold mine tailings are natural reservoir for unique bacterial communities revealed by

high-throughput sequencing analysis. **Science of the Total Environment.** 650 (2), 2199-2209. **(IF: 10.753)**

8. R. Selvarajan, T. Sibanda, **S. Venkatachalam,** H. Ogola, C. Obieze, T. A. Msagati (2019). Distribution, interaction and Functional Profiles of Epiphytic Bacterial Communities from the Rocky Intertidal Seaweeds, South Africa. **Scientific Reports** 9(1): 1-13 **(IF 4.996)**
9. **S. Venkatachalam,** I.J. Ansorge, A. Mendes, L.I. Melato, G.F. Matcher, R.A. Dorrington (2017). A pivotal role for ocean eddies in the distribution of microbial communities across the Antarctic Circumpolar Current. **Plose one.** 12 (8): e0183400. **(IF : 3.752).**
10. **S. Venkatachalam,** V. Gowdaman, S.R. Prabagaran (2015). Culturable and culture-independent bacterial diversity and the prevalence of cold-adapted enzymes from the Himalayan Mountain ranges of India and Nepal. **Microbial Ecology** 69 (3): 472-491. **(IF : 4.192)**
11. **S. Venkatachalam,** K. Ranjan, R. Prasanna, B. Ramakrishnan, S. Thapa, A. Kanchan (2016). Diversity and functional traits of culturable microbiome members, including cyanobacteria in the rice phyllosphere. **Plant Biology**. 18 (4), 627-637. **(IF : 3.877)**
12. K. Ranjan, H. Priya, B. Ramakrishnan, R. Prasanna, **S. Venkatachalam**, S. Thapa, R. Tiwari, L. Nain, R. Singh and Y.S. Shivay (2016). Cyanobacterial inoculation modifies the rhizosphere microbiome of rice planted to a tropical alluvial soil. **Applied Soil Ecology** 108:195-203 **(IF : 5.509)**

Other publications

13. K. P. Krishnan and **S. Venkatachalam**. (2021). India's scientific endeavors in the Arctic with special reference to climate change: the past decade and future perspectives. In. Understanding Present and Past Arctic Environments (Ed. Neloy Khare). P.No. 15-29. Elsevier. ISBN 9780128228692.
14. R. Mohan, S.K. Roy, T. Meloth, N. Anilkumar, K. P. Krishnan, P. Sabu, A. Kumar, B.S. Mahesh, S. M. Patil**, S. Venkatachalam** and N. C. Pant (2020). Recent Indian contributions from the polar realm**. Proc Indian Natn Sci Acad**. 86(20), 569-583.
15. G.C. Bate, G.F. Matcher, **S. Venkatachalam**, I. Meiklejohn and R.A. Dorrington. (2019). Microalgae in two freshwater lakes and an estuary as a result of groundwater contamination from households. **Transactions of the Royal Society of South Africa.** 74 (2), 115-125.
16. R. Selvarajan, T.Sibanda, **S. Venkatachalam,** I. Kamika, W.A. Nel (2018). Industrial wastewaters harbor a unique diversity of bacterial communities revealed by high-throughput amplicon analysis. **Annals of Microbiology.** 68 (7), 445-458 (**IF: 3.168**).
17. M. Manjunath, A. Kanchan, K. Ranjan, **S. Venkatachalam**, R. Prasanna, B.Ramakrishnan, F. Hossain, L. Nain, Y.S. Shivay, A.B. Rai, B. Singh (2016). Beneficial cyanobacteria and eubacteria synergistically enhance bioavailability of soil nutrients and yield of okra. **Heliyon.** http://dx.doi.org/10.1016/j.heliyon.2016.e00066 (**IF: 3.776**).
18. R. Prasanna, A. Kanchan, B. Ramakrishnan, K. Ranjan, **S. Venkatachalam**, F. Hossain, Y S. Shivay, P. Krishnan, L. Nain (2016) Cyanobacteria-based bioinoculants influence growth and yields by modulating the microbial communities favourably in the rhizospheres of maize hybrids. **European Journal of Soil Biology** 75:15-23 **(IF : 3.232)**
19. Uddin, **S. Venkatachalam**, A. Mukhopadhyay, M.A. Usmani (2016). Nanomaterials in the pharmaceutical: Occurrence, behaviour and applications. **Current Pharmaceutical Design** 22: 1472-1484**. (IF : 3.116)**
20. V. Gowdaman, **S. Venkatachalam,** S.R. Prabagaran (2015). Predominance of *Bacillus* sp. in soil samples of Southern regions of Western Ghats, India. **Annals of Microbiology** 65 (1):431-441. **(IF: 3.168)**
21. **S. Venkatachalam** and S.R. Prabagaran (2015) Comparative assessment of bacterial communities from Himalayan Mountains of Nepal and India. **ENVIS bulletin** 23:9-14.

22. R. Prasanna, B. Ramakrishnan, K. Ranjan, **S. Venkatachalam**, A. Kanchan, P. Solanki, D. Monga, Y. S. Shivay, S. Kranthi (2016). Microbial Inoculants with Multifaceted Traits Suppress Rhizoctonia Populations and Promote Plant Growth in Cotton. **Journal of Phytopathology** 164 (11-12):1030-1042 **(IF : 1.826)**

23. **S. Venkatachalam,** G.F. Matcher and R.A. Dorrington (2016). Lake Mgobezeleni Cyanobacterium Project, Assessment of cyanobacterial diversity in the fresh water lakes of Northern Maputoland region. Water Research Commission report, South Africa. Mgobezeleni: The linkages between hydrological and ecological drivers.

24. **S. Venkatachalam**, M. Sivaprakash, V. Gowdaman and S.R. Prabagaran (2014). Bioprospecting of Cellulase Producing Extremophilic Bacterial Isolates from India. **Microbiology Research Journal** 4(2): 138-150.

25. V. Gowdaman, R. MathanKumar, **S. Venkatachalam** and S.R. Prabagaran (2014). Comparison of DNA Fingerprinting Analysis for Identification of *Bacillus* Species. **International Journal of Research in Advent Technology** 2(1): 278-288.

26. R. Prasanna, **S. Venkatachalam**, A. Sood, S. Thapa, A. Kanchan and B. Ramakrishnan (2014). Significance of cyanobacteria and their associations with crop plants in agriculture; in Plant-Microbe Interactions (ed. K. Ramasamy and K. Kumar; NIPA; 319-345).

27. B. Cibichakravarthy, **S. Venkatachalam** and S.R. Prabagaran (2019). Unleashing Extremophilic metabolites and its industrial perspectives. In. New and Future Developments in Microbial Biotechnology and Bioengineering (ed. by V.K. Gupta and Anita Pandey; Elsevier; 119-130).

Manuscripts in Review

1. RD Pienaar; **S. Venkatachalam,** PC le Roux, S Sekar, B Jansen van Vuuren and RA Dorrington, Matcher, GF, (2022). Below-ground influence of indigenous *Azorella selago* and invasive *Sagina procumbens* on sub-Antarctic Marion Island. **Biological Invasions**. EMID:3bcfa637c0935838. **(IF : 3.605).**
2. E.W. Isemonger, R.E. Sipler, S.C. Waterworth, T.G. Bornman, R.Gibbs, X.S. Siwe-Noundou, **S. Venkatachalam** and R.A. Dorrington (2022). Carbon assimilation by living stromatolites reveals the importance of ancient metabolic pathways in contemporary systems. **Nature Communications. (IF : 17.69).**

Manuscripts to be submitted

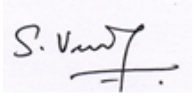
1. **S. Venkatachalam,** P.V. Vipindas, T. Jabir, K.P. Krishnan (2022). Glacier foreland ecosystem harbours novel microbial lineages for distinct microbial community structure and ecological functions. **Nature Communications. (IF : 17.69).**
2. Gibb, R-LA, de Vos, DKL, **S. Venkatachalam**, Bizani, M, Bornman, TG and RA Dorrington. Mapping the Agulhas System microbial communities in time and space. **Frontiers in Marine Science (IF: 5.247).**

Conference and invited talks

- **S. Venkatachalam** (2022). A tale of two polar islands: Microbial community structure and its functions from the terrestrial ecosystem. ASM seminar on Microbial Diversity & Ecology – Tropics to the Polar Regions, 9th November 2022 at National Centre for Polar and Ocean Research. Invited talk.
- **S. Venkatachalam** (2022). Microbial colonization in the rapidly retreating glaciers and its forelands" at St Xavier's College, Mapusa, Goa on 17th October 2022. Invited talk.
- **S. Venkatachalam** (2022). Ecology of extremophilic microorganisms and their role in the functioning of ecosystems. 18th April, at Indian Institute of Science and Education Research, Thiruvananthapuram (Online mode).
- **S. Venkatachalam** and K.P. Krishnan (2021). Rare bacterial taxa shape the bacterioplankton community structure in the fjords of the west and northern Svalbard, Arctic. Arctic Science Summit Week Conference, 19th – 26th March, Portugal. Oral presentation (Online mode).

- **S. Venkatachalam** (2021). Microbial Ecology of Arctic fjords and associated glacier foreland ecosystems in the changing climatic era. Microbes in sustainable Development conference, 15th – 18th November, India. Invited talk (Online mode).
- **S. Venkatachalam**, R.A. Dorrington, I.J. Ansorge, G.F. Matcher (2019). Southern Ocean to Sub Antarctic Islands: Significance of oceanographic perturbations in shaping the marine microbial ecosystems. National Conference on Polar Sciences. National Centre for Polar and Ocean Research, India. 20 – 22nd August, Invited talk.
- Isemonger, E., R.E. Sipler, S.Waterworth, T.Bornmand, **S.Venkatachalam,** X. SiweNoundoua, R.Dorrington (2019). Living fossils: extant stromatolites provides insight into the carbon cycling of Archaean microbial communities. Applied & Environmental Microbiology Gordon Research Conference. South Hadley, MA, USA. Poster.
- Sipler, R.E., E.W. Isemonger, T.G. Bornman, S.C. Waterworth, **S.Venkatachalam,** X. SiweNoundoub, R.A. Dorrington (2019). Uptake of organic and inorganic nitrogen by South African peritidal Stromatolite microbial communities. Aquatic Sciences Meeting. San Juan, PR, USA. Talk
- **S. Venkatachalam,** R. Pienaar, GF. Matcher, N. Mtsi, Pl. Roux, M. Greve, B J. Vuuren, S. Sekar, RA. Dorrington (2018). Foundational Biodiversity Information Programme: A foundational biodiversity map of the terrestrial microbiome of a sub-Antarctic island. BIMF_FBIP symposium. 13–16 August 2018, Cape St Francis, Eastern Cape, South Africa. Page no-17.
- N. Mtsi, **S. Venkatachalam,** GF. Matcher, RA. Dorrington (2018). Marine microbial community dynamics as a tool for measuring the response of sub-Antarctic ecosystems to climate change. BIMF_FBIP symposium. 13–16 August 2018, Cape St Francis, Eastern Cape, South Africa. Page no-20.
- R.D. Pienaar, RA. Dorrington, GF. Matcher, **S. Venkatachalam**, S. Sekar (2018). Characterising soil microbiomes associated with cushion plant species *Azorella* selago and *Sagina procumbens* on Marion Island. SANAP symposium. 13–16 August 2018, Hermanus, South Africa. Page no-68.
- R.A. Dorrington, T. Bornman, D. De Vos, G. F. Matcher, **S. Venkatachalam,** R. Weston (2018)**.** Microbial community dynamics: a sensitive tool for assessing marine ecosystem health and the response to environmental change. 5th International Marine Conservation Congress. Kuching, Sarawak, Malaysia, 24-29, June.
- RL. Weston, **S. Venkatachalam,** RA. Dorrington, T. Bornman (2018). Phytoplankton community dynamics as a tool to map responses of marine ecosystems to environmental change. 4th National Conference on Global Change. Polokwane, South Africa
- **S. Venkatachalam,** S. Waterworth, G.F Matcher, G. Bate and R.A. Dorrington (2017). A metagenomic approach to predicting harmful cyanobacterial blooms in freshwater aquatic systems. 15th Symposium on Aquatic Microbial Ecology (SAME15). Zagreb, Croatia, 3rd – 8th September.
- **S. Venkatachalam,** M. Nunes, T. Nqowana, A. Balfour, S. Hilliar, G. Bate and R.A. Dorrington. (2016) Molecular analysis of cyanobacterial diversity in Northern Maputoland: Assessing the potential for the production of harmful cyanotoxins. South African Society For Aquatic Sciences Congress. Skukuza, South Africa. June 2016. Oral Presentation.
- **S. Venkatachalam** and S.R. Prabagaran (2010). Exploring the bacterial diversity of microbes in search of novel psychrophiles from Himalayas and North Eastern Hills in India. International conference on "Biodiversity and the UN Millennium Development Goals: Challenges for Research and Action", Frankfurt, Germany. Poster presentation

I declare that the foregoing information is correct and complete to the best of my knowledge and belief and nothing has been concealed or distorted.



(S. VENKATACHALAM)