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Staff Research Scientist
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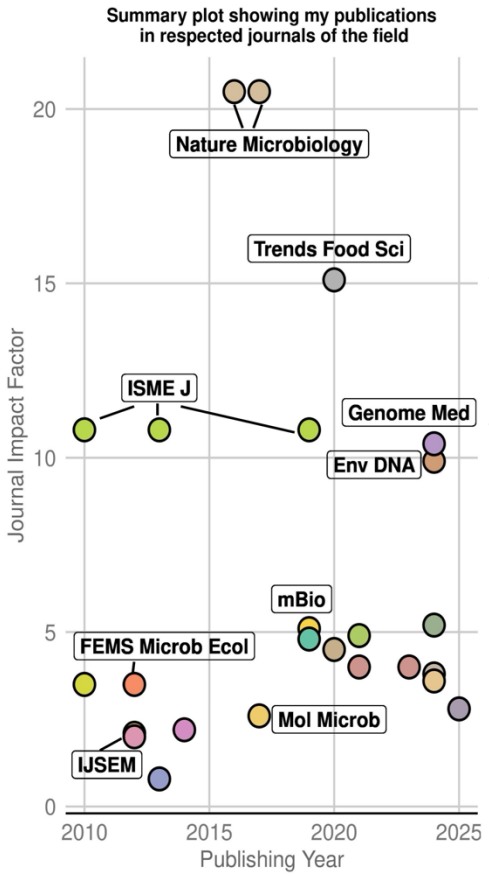
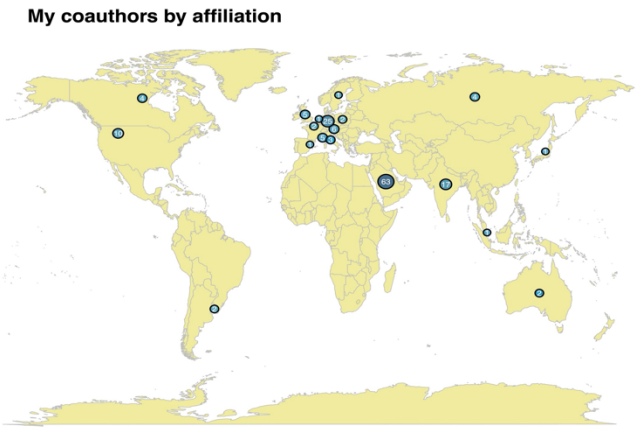
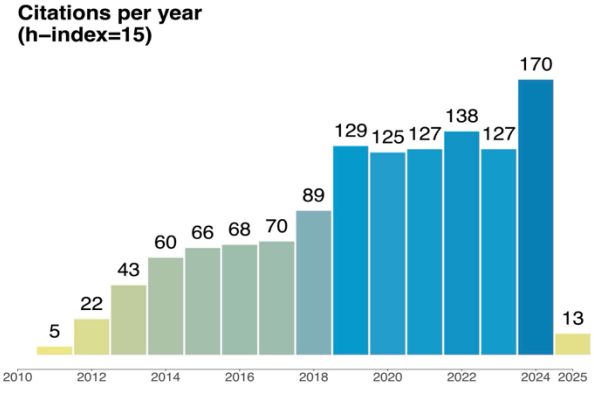
Education

2013 Ph. D. Biotechnology- National Centre for Cell Science (NCCS), University of Pune, India
2005-2007 M. Sc. Biotechnology- Cochin University of Science & Technology, India (First class with distinction)
2002-2005 B. Sc. Biotechnology- Periyar University, India (First class)
1989-2002 Indian School Salalah, Sultanate of Oman

Publications Graphical Overview







Publications List (https://orcid.org/0000-0003-1462-7413)

Escobar-Prieto, J.D., Van Goethem, M.W.V., Vernooij, B., **Antony, C.P.**, Cheng, L., Mishra, H., Marasco, R., Daffonchio, D. (2025) Microbial diversity and functional potential of the *Halobates melleus* (Heteroptera:Gerridae) microbiome from the Red Sea coastline. ***Environ Microb*** 20:103

Roasado, J.G.G., Delgadillo-Ordonez, N., Monti, M., Peinemann, V.N., **Antony, C.P.**, …, Berumen, M.L. (2025) Coral probiotics induce tissue-specific and putative beneficial microbiome restructuring in a coral-dwelling fish. ***ISME Comm*** 5, 1:ycaf052

Gopi, J., Kachiprath, B., **Antony, C.P.**, Mohandas, S., Solomon, S., Raju, S., Joydas, T., Philip, R. (2025) Identification of halophilic phage genomes from a solar saltern through shotgun sequencing: a metagenomic study. ***New Biot*** 85, 144-145

Sempere-Valverde, J., Aylagas, E., …, **Antony, C.P.**, …, Carvalho, S. (2025) First assessment of biofouling assemblages in the northern Red Sea, an important region for marine non-indigenous species transfer. ***Front Mar Sci*** 12, 1522723

Terraneo, T.I., Benzoni, F., Arrigoni, R., Berumen, M.L., Mariappan, K.G., **Antony, C.P.**, Harrison, H.B., Payri, C., Huang, D., Baird, A.H. (2024) A genomic approach to Porites (Anthozoa: Scleractinia) megadiversity from the Indo-Pacific. ***Mol Phyl Evol*** 203, 108238

Raimundo, I., Rosado, P.M., Barno, A.R., **Antony, C.P.**, Peixoto, R.S. (2024) Unlocking the genomic potential of Red Sea coral probiotics. ***Sci Rep*** 14 (1), 14514

Hala, S., Malaikah, M., Huang, J., Bahitham, W., Fallatah, O., Zakri, S., **Antony, C.P.**, …, Pain, A. (2024) The emergence of highly resistant and hypervirulent *Klebsiella pneumoniae* CC14 clone in a tertiary hospital over 8 years. ***Genome Med*** 16 (1), 58

Delgadillo-Ordonez, N., Garcias-Bonet, N., …, **Antony, C.P.**, …, Peixoto, R.S. (2024) Probiotics reshape the coral microbiome in situ without detectable off-target effects in the surrounding environment. ***Commun Biol*** 7 (1), 434

Palacios-Narvaez, S., Coker, D.J., Aylagas, E., Justo, M.S., Nunes-Peinemann, V., Tietbohl, M.D., Bocanegra, C., **Antony, C.P.**, Berumen, M.L. (2024) Dietary partitioning among three cryptobenthic reef fish mesopredators revealed by visual analysis, metabarcoding of gut content, and stable isotope analysis. ***Environ DNA*** 6: e541

Marasco, R., Michoud, G., Sefrji, F.O., Fusi, M., **Antony, C.P.**, Merlino, G., Barozzi, A., Daffonchio, D. (2023) The identification of the new species *Nitratireductor thuwali* sp. nov. reveals the untapped diversity of hydrocarbon-degrading culturable bacteria from the arid mangrove sediments of the Red Sea. ***Frontiers Microbiol*** 14: 1285

Barreto, M.M., Ziegler, M., Venn, A., Tambutte, E., Zoccola, D., Tambutte, S., Allemand, D., **Antony, C.P.**, Voolstra, C.R., Aranda, M. (2021) Effects of ocean acidification on resident and active microbial communities of *Stylophora pistillata*. ***Frontiers Microbiol*** 12: 707674

Hala, S., **Antony, C.P.**, Momin, A.A., Alshehri, M., Ben-Rached, F., Al-Ahmadi, G., Zakri, S., Baadhaim, M., Alsaedi, A., Thaqafi, O.A.A., Arold, S.T., Al-Amri, A., Pain, A. (2021) Co-occurrence of *mcr-1* and *mcr-8* genes in multi-drug-resistant *Klebsiella pneumoniae* from a 2015 clinical isolate. ***Int J Antimicrob Agents*** 57: 106303

Singh, B., Mal, G., Sharma, D., Sharma, R., **Antony, C.P.**, Kalra, R.S. (2020) Gastrointestinal biotransformation of phytochemicals: Towards futuristic dietary therapeutics and functional foods. ***Trends Food Sci & Technol*** 106: 64-77

Hala, S.†, **Antony, C.P.†**, Guan, Q., Alshehri, M., Alsaedi, A., Alsharief, A., Al-Amri, A., Pain, A. (2020) Crohn's disease patient infected with multiple co-occurring nontuberculous mycobacteria. ***Inflamm Bowel Dis*** e65–e67 (†Equal first authorship)

Hala, S., **Antony, C.P.**, Alshehri, M., Althaqafi, A.O., Alsaedi, A., Mufti, A., Kaaki, M., Alhaj-Hussein, B.T., Zowawi, H.M., Al-Amri, A., Pain, A. (2019) First report of *Klebsiella quasipneumoniae* harboring blaKPC-2 in Saudi Arabia. ***Antimicrob Resist & Infect Cont*** 8: 203

Rubin-Blum, M., **Antony, C.P.**, Sayavedra, L., Martinez-Perez, L., Birgel, D., Peckmann, J., Wu, Y-C, Cardenas, P., MacDonald, I., Marcon, Y., Sahling, H., Hentschel, U., Dubilier, N. (2019) Fueled by methane: Deep-sea sponges from asphalt seeps gain their nutrition from methane-oxidizing symbionts. ***ISME J*** 13: 1209-1225.

Seah, B.K.B., **Antony, C.P.**, Huettel, B., Zarzycki, J., von Borzyskowski, L.S., Erb, T., Liebeke, M., Dubilier, N., Gruber-Vodicka, H.R. (2019) Sulfur-oxidizing symbionts of Kentrophoros lack canonical genes for autotrophic CO2 fixation. ***mBio*** 10: e01112-19.

Rubin-Blum, M., **Antony, C.P.**, Borowski, C., Sayavedra, L., Pape, T., Sahling, H., Bohrmann, G., Dubilier, N. (2017) Short-chain alkanes fuel the metabolism of mussel and sponge *Cycloclasticus* symbionts from deep-sea gas and oil seeps. ***Nature Microbiol*** 2: 17093.

Petersen, J.M., Kemper, A., Gruber-Vodicka, Cardini, U.H., Van der Geest, M., Bulgheresi, S., Mussmann, M., Seah, B.K., **Antony, C.P.**, Herbold, C., Belitz, A., Weber, M. (2016) Chemosynthetic sulphur-oxidizing symbionts of marine invertebrate animals are capable of nitrogen fixation. ***Nature Microbiol*** 2: 16195.

Tavormina, P.L., Kellermann, M.Y., **Antony, C.P.**, Tocheva, E., Dalleska, N., Chen, S., Magyar, P., Valentine, D.L., Hinrichs,K-U., Jensen, G., Dubilier, N., Orphan, V.J. (2017) Starvation and recovery in the deep-sea methanotroph *Methyloprofundus sedimenti*. ***Mol Microbiol*** 103: 242-252.

Antony, C.P.†, Shimpi,G.G.†,Cockell,C.S., Patole,M.S., Shouche,Y.S. (2014) Molecular characterization of prokaryotic diversity associated with Lonar crater basalts. ***Geomicrobiol J*** 31: 519-528. (†Equal first authorship)

Antony, C.P., Kumaresan, D., Hunger, S., Drake, H.L., Murrell, J.C., Shouche, Y.S. (2013) Microbiology of Lonar Lake and other soda lakes. ***ISME J*** 7: 468-476.

Shetty, S.†, Marathe, N.†, Munot, H.†, **Antony, C.P.**†, Dhotre, D.P., Murrell, J.C., Shouche, Y.S.

(2013) Draft genome sequence of *Methylophaga lonarensis* MPL, a haloalkaliphilic (nonmethane-utilizing) methylotroph. ***Genome Ann*** 1(3): e202-13. (†Equal first authorship)

Antony, C.P., Murrell, J.C., Shouche, Y.S. (2012) Molecular diversity of methanogens and identification of *Methanolobus* sp. as active methylotrophic *Archaea* in Lonar crater lake sediments. ***FEMS Microbiol Ecol*** 81: 43-51.

Antony, C.P.†, Doronina, N.V.†, Boden, R., Trotsenko, Y.A., Shouche, Y.S., Murrell, J.C. (2012) *Methylophaga lonarensis* sp. nov., a moderately haloalkaliphilic methylotroph isolated from the soda lake sediments of a meteorite impact crater. ***Int J Syst Evol Microbiol*** 62: 1613-1618. (†Equal first authorship)

Antony, C.P., Cockell, C.S., Shouche, Y.S. (2012) Life in (and on) the rocks. ***J Biosci*** 37: 1-9.

Antony, C.P., Kumaresan, D., Ferrando, L., Boden, R., Moussard, H., Scavino, A.F., Shouche, Y.S., Murrell, J.C. (2010) Active methylotrophs in the sediments of Lonar Lake, a saline and alkaline ecosystem formed by meteor impact. ***ISME J*** 4: 1470-1480.

Surakasi, V.P.†, **Antony, C.P.**†, Sharma, S., Patole, M.S., Shouche, Y.S. (2010) Temporal bacterial diversity and detection of putative methanotrophs in surface mats of Lonar crater lake. ***J Basic Microbiol*** 50: 465-474. (†Equal first authorship)

Honors, Awards & Achievements

- ISME Early-Mid Career Ambassadorship (2019-present)
- NASA Postdoctoral Program (NPP) Reviewer (2017-2022)
- Max Planck Society (MPG) Postdoctoral Fellowship, MPIMM (2015-2016)
- Alexander von Humboldt Postdoctoral Fellowship, Humboldt Foundation (2013-2015)
- Visiting Researcher, California Institute of Technology (CALTECH), July, 2015
- Max Planck Society (MPG) Visiting Research Fellowship, MPIMM (2013)
- Junior & Senior Research Fellowships, Indian Council of Medical Research (ICMR), Government of India (2008, 2010)
- UKIERI Research Fellowship, British Council (during visits to the UK between 2008-2010)
- Visiting Research Fellowship, National Centre for Biological Sciences-Tata Institute for Fundamental Research (2007)
- 7th rank holder in National-level Post Graduate Entrance Examination, Cochin University of Science & Technology (2005)
- 'Best Personality of the College' Award (during B.Sc.), Muthayammal College of Arts & Science (2002-2005)
- Academic Topper Award (during B. Sc.), Muthayammal College of Arts & Science (2002-2004)
- High school subject topper awards in Biology & English, Indian School Salalah (2002)

Impact

International Policy: My research findings have directly informed international policy, having been cited in key documents including the European Commission's '*Methane as greenhouse gas report (2020)*' and the United Nations Food and Agriculture Organization (FAO)'s '*Economic valuation of ecosystem services provided by deep-sea sponges report (2020)*'.

Regional Policy: My PhD research has influenced regional policy for the conservation and management of Lonar Lake in Maharashtra, India. This work, which identified methylotrophic bacteria in the crater lake, helped secure attention of the state lawmakers towards the protection of the lake water and was featured in news articles in Indian media outlets such as The Indian Express and DNA. My ongoing research projects with colleagues at KAUST and (industry) partners at the National Center for Wildlife (NCW), NEOM and Red Sea Global involve generating biodiversity baseline surveys and implementing an eDNA-based monitoring system for invasive marine species. This work is a crucial part of protecting Saudi Arabia's marine biodiversity and supporting the nation's growing blue economy and resulted in the creation of the important survey document entitled '*A status report on wildlife & ecosystems of the Red Sea Project Area 2022*' and also featured in news articles from Saudi media such as the Saudi Gazette.

Research Experience

Staff Research Scientist, Red Sea Research Center, BESE Division, KAUST, Thuwal, Saudi Arabia (2019-present)

Postdoctoral Research, Pathogen Genomics Laboratory, BESE Division, KAUST, Thuwal, Saudi Arabia (2017-2018)
Project: Diagnostic meta'omics' and use of 'omics' approaches for pathogen discovery
Supervisor: Prof. Dr. Arnab Pain

Postdoctoral Research, Department of Symbiosis, Max Planck Institute for Marine Microbiology, Bremen, Germany (2013-2016)
Project: 'Omics' analyses of endosymbionts of invertebrates at hydrocarbon seeps and hydrothermal vents
Supervisor: Prof. Dr. Nicole Dubilier

Ph.D. Research, National Centre for Cell Science (NCCS), Pune, India & University of Warwick, Coventry, UK (2008-2013)
Project: Methanotrophy and associated microflora in Lonar Lake, a meteor impact crater
Supervisor: Dr. Milind S. Patole; *UKIERI collaborator/co-PI*: Prof. Dr. J. Colin Murrell

Visiting Researcher Scheme, National Centre for Biological Sciences (NCBS), Bangalore, India (2007)
Project: Understanding the neural correlates of olfactory behavior in *Drosophila*
Supervisor: Prof. Dr. Obaid Siddiqi, FRS

M.Sc. Research, National Institute for Cholera & Enteric Diseases (NICED), Kolkata, India (2006-2007)
Project: Characterization of antimicrobial resistance genes among non-typhoidal *Salmonella* strains
Supervisor: Dr. T. Ramamurthy

B.Sc. Research, Muthayammal College of Arts & Sciences, Rasipuram, India (2005)
Project: Analysis of *Agrobacterium* biodiversity in South India
Supervisor: Multiple faculties at college

Personal profile

Gender: Male

Nationality: Indian

Marital status: Married

Languages known: English, Malayalam, Hindi, Tamil (only speak), Arabic & German (basic)

References

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Prof. Dr. Charles S. Cockell
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Dr. Milind S. Patole (Ph.D. Supervisor)
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