

Curriculum Vitae

Personal Information

Amit Kumar
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Sex: Male | Date of birth 26-12-1987 | Nationality India

Research interest

Biodiversity and conservation of marine organisms
Response of marine organisms to abiotic stress and climate change
Adaptation and evolution of marine algae in stressful environment
What kind of organisms exists in extreme environments and how they survive ?

Research Experience

- Nov 2012-Oct 2015 PhD
Integrative Marine Ecology, Stazione Zoologica Anton Dohrn, Naples, Italy
Thesis: *Sargassum vulgare* adaptation under natural acidified conditions
Supervisors: Maria Cristina Buia ; Anna Palumbo
- Sept 2010- Aug 2012 Project Assistant
Department of Biological Sciences, Indian Institute of Science Education and Research-Kolkata, India
I was involved in a project aiming to understand the biodiversity of marine microbes (bacteria, archaea) and nematodes in various coastal sites in India as well as deep sea sediments of southern ocean.

Volunteer

- Sept 2012 Developing with dolphins: ecological and anthropogenic factors affecting estuary use and behaviour of humpback dolphins in the southwest coast of India. (Fund: The Rufford foundation to Divya Panicker)
Responsibilities: Dolphin citing in the estuaries, photo-identification, physico-chemical parameters measurements, and interview surveys in coastal villages.
- Jan 2011-Apr 2012 Survey of Olive Ridley turtle along the coast of east Midnapore, West Bengal, India. (Fund: WWF-India to Dr. Punyasloke Bhadury)
Responsibilities: Observe turtle nest along the 40 km coast line every week for 4 months, measurement of carapace, interviews in coastal villages, spreading awareness about turtle conservation, and report preparation.

Education And Training

- 2012-2015 PhD (Submission - September 2015)
Stazione Zoologica Anton Dohrn, Naples, Italy and Open university, UK
- 2008-2010 M.Sc Sub-Aqua Marine Ecology and Toxicogenomics
Madurai Kamaraj University, Madurai, India
- 2005-2008 B.Sc Botany, Chemistry, Microbiology
Jiwaji University, Gwalior, India
- Dec 2009-Apr 2010 M.Sc Thesis
Title: Effect of lowered pH on calcification of marine shellfish - An understanding towards global warming and ocean acidification
Responsibilities: design the study, collection of organisms, set up and conduct laboratory experiments, analyse results and thesis writing.

May – Aug 2009	Summer training National Institute of Oceanography, RC-Kochi, India (under the supervision of Dr. J. Ravindran) Title: Characterization of Bacteria associated with <i>Porites lutea</i> mucus and their response to temperature Responsibilities: Mucus collection from coral, screening and identification of bacteria through biochemical and molecular methods, perform temperature response experiments and prepare report.
Nov 2009- Apr 2010	Open Source Drug Discovery (CSIR, India) Worked as a part of Interactome /Pathway annotation group in an online project to annotate <i>Mycobacterium tuberculosis</i> genome.

Fellowships/Awards

2012-2015	SZN-OU PhD fellowship
2015	Early career travel award, ASLO to attend ASLO Aquatic Sciences Meeting 2015, Granada, Spain.
2013	SZN travel award to attend CeMEB advance course 2013, Kristineberg, Sweden.
2011	Student travel award to attend workshop on Acidification in Aquatic Environments 2011, Tromso, Norway.
2011	Best poster award, Acidification in Aquatic Environments workshop 2011, Tromso, Norway.
2009	IIIrd prize, State level seminar on evolution of microbial pathogenesis 2009, Madurai, India.
2010 & 2012	Qualified GATE (Graduate Aptitude Test in Engineering), MHRD, Government of India.

Conference/workshop

- 12th Plant oxygen group conference (SFFR) 2015, Verona, Italy. 23-26 June 2015(**Poster presentation**)
- ASLO aquatic science meeting 2015, Granada, Spain. 22-28 February 2015 (**Poster presentation**)
- Scientific meeting of Stazione Zoologica Anton Dohrn (Ischia retreat) 2014, Ischia, Italy. 7-8 July 2014 (**Poster presentation**)
- CeMEB advance course on marine evolution under climate change 2013, Kristineberg, Sweden.17-22 November 2013 (**Poster presentation**)
- Annual scientific reunion of Italian algology society 2013, Venice, Italy. 18-19 October 2013 (**Oral presentation**)
- Young Ecologist Talk and Interact 2011, Guwahati, India. 13-15 December 2011 (**Oral presentation**)
- Workshop on acidification in aquatic environment 2011, Tromso, Norway. 26-28 September 2011 (**Poster presentation**)
- Frontiers in modern Biology, 2011, Kolkata, India. 26-27 February 2011(**Poster presentation**)
- Workshop on animal cell culture techniques 2010, Anamalai, India.13-15 March 2010.
- Workshop BEST entrepreneur training (Government of India) 2010, Bangalore, India. 29 July- 1 Aug 2010 (**oral presentation**)
- Workshop in Bioinformatics 2010, Bhubneshwar, India. 7-8 august 2010.
- Seminar on Standardization of Crude Drugs 2009, Tirunelveli, India. 23 December 2009
- Intercollegiate state level seminar on Evolution of Microbial Pathogens 2009, Madurai, India. February 2009 (**oral presentation**)
- National Science Conference on Organismal and Functional Genomics 2009, Madurai, India. February 2009
- National level Seminar on Current Trends in Marine Science and Techniques 2009, Chennai, India. 22-24 January 2009

Other details

Languages known	English, Hindi (Proficient) Tamil, Bengali, Italian (Novice)
Computer skills	Windows, Mac, MS office, Adobe photoshop, Corel draw, bibliographic and editing tools
Laboratory experience	DNA, RNA and Protein extraction, PCR, cloning, transformation and screening, real time qPCR, next gen Illumina library preparation, transcriptome annotation, phylogeny, several bioinformatics tools, western blotting, microscopy.
Field experience	Snorkel, skin diving, collection of marine planktons, their preservation and identification, coral reef survey using line and chain transects, coastal survey for sea turtles, citing of dolphins.
Contribution	submitted more than 200 gene sequences for bacterial 16S, archae amoA, nematodes 18S and COI in public database
Membership	Society for Free Radical Research-Europe (SFFR-E, ID-629) Association for the Sciences of Limnology and Oceanography (ASLO, ID-P326669)
Hobbies	Travelling, conducting science experiments for school students

Publications

- **Kumar A**, I. Castellano, F.P. Patti, A. Palumbo, M.C. Buia, Nitric oxide in marine photosynthetic organisms, *Nitric Oxide* 47 (2015) 34-39.
- Harvey, B. Al-Janabi, S. Broszeit, R. Cioffi, **A. Kumar**, M. Aranguren-Gassis, A. Bailey, L. Green, C. Gsottbauer, E. Hall, M. Lechler, F. Mancuso, C. Pereira, E. Ricevuto, J. Schram, L. Stapp, S. Stenberg, L. Rosa, Evolution of marine organisms under climate change at different levels of biological organization, *Water* 6 (2014) 3545-3574.
- **Kumar A**, D. Sen, P. Bhadury, Unraveling free-living marine nematode community structure from a biodiversity-rich tropical coastal setting based on molecular approaches, *Marine Biodiversity* (2014) 1-11
- Bhadury P, **A Kumar**, M Maiti, Nesting status of Sea Turtles in West Bengal- The East Midnapore scenario. In *Marine Turtles along the Indian Coast* (Ed Kurian A), WWF-India, (2013) pp 85-91.
- Ravindran J, E. Kannapiran, B. Manikandan, K. Francis, S. Arora, E. Karunya, **A. Kumar**, S.K. Singh, J. Jose, UV-absorbing bacteria in coral mucus and their response to simulated temperature elevations, *Coral Reefs* 32 (2013) 1043-1050S.
- Garrard SL, R.C. Hunter, A.Y. Frommel, A.C. Lane, J.C. Phillips, R. Cooper, R. Dineshram, U. Cardini, S.J. McCoy, M. Arnberg, B.G. Rodrigues Alves, S. Annane, M.R. Orte, **A. Kumar**, G.V. Aguirre-Martínez, R.H. Maneja, M.D. Basallote, F. Ape, A. Torstensson, M.M. Bjoerk, Biological impacts of ocean acidification: a postgraduate perspective on research priorities, *Marine Biology* 160 (2013) 1789-1805.
- Murgan P, **A Kumar**, M. Anand, AKK Kumaraguru, P. Palanikumar, Influence of pH on Calcification and Biomarker enzymes of soft shell wedge clam *Donax faba* (Gmelin). *Proceedings of International conference on Impact of Climate Change on Coastal Ecosystem (ICC – ECO 2011)* Sathyabama University, Jeppiaar Nagar, Chennai, India, 141-145.

Manuscripts in preparation

- **A. Kumar**, I. Castellano, F.P. Patti, M. Delledonne, A. Palumbo, M.C. Buia, Transcriptomic analysis and molecular response of *Sargassum vulgare* to high CO₂ in natural volcanic vents, Ischia Island
- **A. Kumar**, I. Castellano, F.P. Patti, A. Palumbo, M.C. Buia, Oxidative stress response in *Sargassum vulgare* inhabiting acidified waters at natural volcanic vents.
- **A. Kumar**, I. Castellano, F.P. Patti, M. Delledonne, A. Palumbo, M.C. Buia, Genetic adaptation in *Sargassum vulgare* at the most acidified site in natural volcanic vents

References

1. **Dr. Maria Cristina Buia**, Center of Villa Dohrn Ischia-Benthic Ecology, Department of Integrative Marine Ecology, Stazione Zoologica Anton Dohrn, P.ta S. Pietro, Ischia, Naples, Italy
Email: mariacristina.buia@szn.it
2. **Dr. Anna Palumbo**, Department of Biology and Evolution of Marine Organisms, Stazione Zoologica Anton Dohrn Naples, Italy
Email: anna.palumbo@szn.it
3. **Dr. Punyasloke Bhadury**, Department of Biological Sciences, Indian Institute of Science Education and Research- Kolkata, India
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