



11 July 2018

To whom it may concern,

I would like to offer my strongest support for the project proposed by of Dr. Jennie Mallela that aims to assess the impacts of microplastics on coral reefs. My previous and ongoing research programme concerns documenting the response of coral reef ecosystems to past environmental change on timescales of decades to millenia to tens of millions of years in order to constrain potential future response trajectories for reef ecosystems as they respond to accelerating anthropogenic environmental change. Dr. Mallela's proposed project is significant and highly timely as only recently have reef researchers began to consider the unprecedented and potentially critical role of microplastic pollution in determining reef ecosystem function and resilience. I will work together with Dr. Mallela to develop new analytical techniques to characterise and quantify microplastics associated with cored coral skeleton. We will also document the impact of microplastic contamination on coral growth. The Natural History Museum benefits from state-of-the art imaging and analysis facilities that will allow this work, including a high resolution micro computed tomography and laser confocal microscopy. In particular we will develop the workflows and high-throughput data and analysis pipelines required to efficiently process large number of samples available for study. We anticipate that this work will result in new and groundbreaking approaches to assess the impacts of microplastic on coral reefs.

Sincerely,

A handwritten signature in black ink that reads 'Kenneth G. Johnson'. The signature is written in a cursive style with a long, sweeping tail on the 'n'.

Kenneth G. Johnson
Head of Division - Invertebrates and Plants Palaeobiology

20 July 2016

To whom it may concern

Letter in support of Dr Jennie Mallela's Fellowship application which aims to assess the impacts of microplastics on coral reefs.

I am currently collaborating with Prof David Morritt, School of Biology, Royal Holloway, University of London (RHUL), on the pollution of microplastics in the River Thames and on the Ilse of Cumbrae, Scotland.

We jointly supervise 3 graduate students who are registered with RHUL and undertake their laboratory work at the Natural History Museum, London. Alex McGoran is a NERC (DTP) funded student assessing the potential for trophic transfer of microplastics through the Thames food web, Daniella Hodgson is a Sheina Marshall Trust funded PhD student studying the microplastic concentrations between two shores on the Ilse of Cumbrae and Kate Rowley is a Masters student working on the volume of microbeads and glitter in the water column of the River Thames at Putney and Woolwich. At the museum we have set up a clean lab dedicated to these studies and the microplastics are identified by micro-FTIR and micro-Raman analysis instruments situated in the Core Research Laboratories, NHM.

We are willing to collaborate with Dr Mallela and develop robust analytical methods to extract and quantitatively assess microplastics occurring in coral reef organisms (e.g. reef fish and sea urchins) and reef sediments.



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24 July 2018

Re. Fellowship Scheme Application – Dr. J. Mallela

To whom it may concern,

I am delighted to be involved in a project with Dr. J. Mallela on plastic pollution on coral reefs. This exciting research will provide new information on how polluting micro-plastics are distributed in coral reefs and how they may harbour biofilms. I am pleased to provide scientific and technical expertise in the identification of plastics found in samples and the development of biofilm analysis on the plastic particles. We have already started collaborating with Dr. Mallela using Fourier Transform infrared analysis to identify plastics and biofilms, and we are looking forward to future method development, data collection, the development of appropriate laboratory protocols for these analyses. Thus, the proposed research collaboration is critical to the research project and builds on Dr Mallela's coral reef pollution expertise and my expertise in microanalysis and world-class facilities including infrared spectroscopy, Raman spectroscopy and X-ray diffraction analysis. I will provide scientific and technical expertise at collaborator rates of \$60/hr for the duration of the fellowship, which represents a 50% discount.

In closing, I hope that this proposal is successful and I look forward to continued collaboration with Dr. Mallela on this fascinating, and important, project.

Sincerely,

A handwritten signature in black ink that reads 'Penelope L. King'.

Penelope L. King

Associate Professor

Australian Research Council Future Fellow



21 July 2018

Letter of Support for Research Fellowship application of Dr Jennie Mallela

To whom it may concern,

This letter confirms my strong support as a collaborator for the proposed NERC research project "*Plastic Pollution on Coral Reefs*" led by Dr Jennie Mallela. This is a rapidly emerging research field of immense importance for understanding stressors on marine ecosystems, and I am excited to be involved.

I have known and worked with Dr Mallela for seven years at the Australian National University. My research focus is on reconstructing past and recent climate changes using proxy records from the tropics and Antarctica, and I also have wider community links through my leadership in the Past Global Changes (PAGES) 2k network and through my role as a Coordinating Lead Author of the IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. The opportunity to combine my research with Jennie's leadership in coral reef ecology and non-climatic stressors represents an excellent synergy between our research foci. We already co-supervise one PhD student, and I am eager to expand our collaborative research.

Through my collaboration in this project I am able to provide Dr Mallela with access to internal collaborative rates for the world-class laboratory facilities available at the Research School of Earth Sciences. Dr Mallela already has expertise in using these facilities and I would be pleased to host her at the Research School of Earth Sciences as required during her fellowship. The Research School of Earth Sciences at the Australian National University is ranked 9th in the world in the 2018 QS University Rankings for Earth and Marine Sciences.

Please let me know if you have any further questions regarding my support as a collaborator of Dr Jennie Mallela's NERC research proposal.

Sincerely

A handwritten signature in blue ink, appearing to read "Nerilie Abram", with a long horizontal flourish extending to the right.

Nerilie Abram



Research ■ Education ■ Conservation

26 July 2018

Letter of Support provided by: Jennifer Loder, Reef Check Australia for Dr Jennie Mallela
Research Topic: Plastic pollution on coral reefs
Research project duration: 5 years

The nature of the collaboration

Reef Check Australia (Reef Check) coordinates and trains a network of specialist citizen scientists who monitor reefs. Reef Check volunteers have been monitoring Australia's reefs since 2001 and currently monitor reefs in The Great Barrier Reef, Ningaloo Reef and South-East Queensland.

The Reef Check methods are specially designed for long-term monitoring of reefs, enabling us to better assess environmental disturbance on the reef (e.g. sediment runoff, pollution and climate change). Reef Check looks to collaborate with Dr Mallela research proposal in a number of ways:

- Aide site selection based on long-term reef health and reef impacts data (e.g. anthropogenic debris observed on the reef)
- Access to baseline long-term data (including observational data on anthropogenic reef debris),
- Collection of reef sediment for microplastic pollution analysis,
- Disseminate coral reef plastic pollution findings to Reef Check Citizen Scientists and through their education and Reef Ambassadors programme.

How partners will be involved in the project

Partners will collaborate on the best approach for Reef Check to input into the proposed plastic-coral reef pollution research. The approach will complement on-going Reef Check activities building on their ongoing monitoring program and support the philosophy of this innovative environmental charity. Dr Mallela's research will benefit from the unique data-set and high numbers of highly trained citizen science Reef Check members collecting data on coral reefs. Dr Mallela will visit Reef Check Australia headquarters, provide the relevant sample collection permits and provide specialist training information for citizen scientist trainers and keep Reef Check informed of all findings.



The relevance of the proposed work to partners

Both project partners will benefit from this collaboration. Dr Mallela will benefit from the many people hours Reef Check citizen scientists input into coral reef monitoring and their long-term, detailed knowledge on the health and environmental impacts of Australia's coral reefs. Reef Check will benefit from Dr Mallela's pollution and coral reef expertise. Reef Check's profile will be further enhanced across the scientific coral reef community whilst the findings of from Dr Mallela's research will have a wide reaching impact across many stake-holder groups. This is an ideal synergy between a scientist and a citizen science charity.

Reef Check is an environmental charity dedicated to providing ways for the community to better understand, appreciate and protect oceans and marine environments. Reef Check aims to help people help reefs. They believe in empowering people to take positive action for our reefs through engaging in citizen science, connecting people with reef science, and local conservation projects.

Details of partner contributions (in cash and kind)

Reef Check will provide Dr Mallela with access to reef health and pollution data from their long-term monitoring sites. Citizen scientists who are willing, able and appropriately trained will also collect sediment samples from pre-designated sites for subsequent analysis by Dr Mallela.

Dr Mallela will provide Reef Check with appropriate sampling gear and cover the cost of collection permits and associated shipping of samples. Reef Check Australia will be appropriately acknowledged in all resulting publications and outcomes and kept fully informed of how their data is used.

We look forward to supporting this research program.

Sincerely,

A handwritten signature in black ink that reads "Jennifer A. Loder". The signature is written in a cursive, flowing style.

Jennifer Loder
Director of Programs and Partnerships
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UNIVERSITY OF
CANBERRA



INSTITUTE FOR
APPLIED ECOLOGY

24th July 2018

To whom it may concern,

Re: Collaborator Letter in support of Dr Jennie Mallela's Fellowship application

I am writing to confirm my strong support for Dr Mallela's multidisciplinary Fellowship application which focuses on coral reefs, ecosystem connectivity and plastic pollution. The sub-lethal effects of plastic pollution and associated contaminants has largely been ignored.

I am a Professor in Environmental Chemistry based at the University of Canberra, Australia, within the Institute for Applied Ecology. I have been a Professor in Environmental Chemistry since 1984, the Dean of Science from 2008 to 2009 and a recipient of Royal Australian Chemical Institute Environmental Chemistry medal (2004), the Analytical Chemistry medal (2002) and Eureka Prize for water research in 2006. I have expertise in pollution monitoring in marine and freshwater ecosystems and ecotoxicology. I also have dedicated analytical laboratories and experimental marine aquaria that I can contribute to this research programme.

I look forward to collaborating with Dr Mallela on this novel and timely research. Dr Mallela has significant expertise in pollution and climate change impacts on coral reef carbonate budgets and reef health. This proposed research builds naturally on our combined expertise. In particular, the specialist aquarium and analytical facilities at the University of Canberra will enable the organism specific components of this research to be conducted in: 1) controlled marine aquaria and 2) in 'real-world scenarios' in the field. In particular, we aim to focus on eco-toxicological aspects of plastic pollution and associated micropollutants (e.g. exposure-dose-response) with emphasis on sub-lethal and energetic health responses on coral reef organisms.

Both project partners will benefit from this collaboration. Dr Mallela will gain significant hands on experience in ecotoxicological experiments in the laboratory and in the field. I will extend my expertise into plastic pollution impacts on coral reefs, an area that I am very interested in.

I look forward to providing scientific and technical expertise alongside the use of the specialist analytical laboratory and aquaria facilities for the duration of the Fellowship.

We expect that this research will result in significant, high impact research outputs that will have far reaching implications for the future management of plastic pollution and coral reefs.

Yours Faithfully,

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