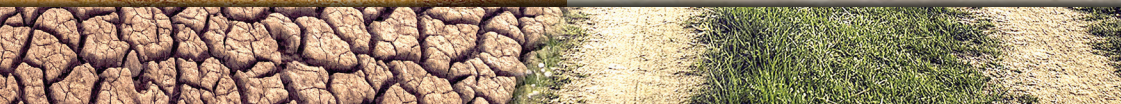




# CLIMATE CHANGE EDUCATION WORKSHOP

22 - 25 November 2022



# CLIMATE CHANGE EDUCATION WORKSHOP

**A Partnership Project between UNESCO, the World Federation of Engineering Organisations (WFEO), The National Environment Agency (NEA), Singapore, the Office for Climate Education (OCE), the Institution of Engineers, Mauritius (IEM) and the Mauritius Institute of Education (MIE).**

This workshop will provide world leading information and training for teachers with practical tools which can be used in primary and secondary schools for climate change education and awareness.



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**To register for this important workshop, please click on the following link:**

<https://forms.monday.com/forms/e05dacd31aaf12e44b-6bcc2a6962facd?r=use1>

***Note: A confirmation email and further workshop information and materials will be provided following confirmation of registration.***

## CLIMATE CHANGE EDUCATION WORKSHOP

### Background

Climate change is a truly global challenge. It will impact all ecosystems and human societies, but in different ways and to different degrees. Addressing climate change requires involvement and action at the local, regional and global levels, and education plays a central role in understanding, mitigating and adapting to climate change.

Climate Change Education brings together these two perspectives. It is about helping learners to understand and address the impacts of global warming, while encouraging positive changes in attitudes and behaviour needed to put our world on a more sustainable path in the future.

The objective of the Climate Change Education Programme is to provide teacher training, and tools which can be deployed in schools for climate change education

and awareness. Such training is expected to increase participants' understanding of climate change. It is expected that the participants will address climate change education confidently in the own practices.

This programme is the outcome of a partnership between UNESCO, the World Federation of Engineering Organisations (WFEO), The National Environment Agency (NEA), Singapore, Office for Climate Education (OCE), Institution of Engineers, Mauritius (IEM) and Mauritius Institute of Education (MIE).

### Initial Virtual Workshop 29-30 June 2021

A virtual workshop was held in June 2021 and was attended by about 70 teachers from Mauritius and Rodrigues. The workshop presented issues relating to challenges and specificities of climate education, the Greenhouse effect on the



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climate system, current curricula and possible local actions. This workshop was enthusiastically received by teachers and there was request for further training.

### **Four-day Workshop 22-25 November 2022**

A four-day training workshop for science educators in Mauritius at the primary and secondary school level is being convened between 22 and 25 November 2022. It will be delivered at the Mauritius Institute of Education campus in Reduit, Moka, Mauritius.

The programme is based on science and adapted to the local environment and culture. The programme will be delivered by the Office for Climate Education. The 4-day training workshop will enhance the understanding of science educators in Mauritius of changes in climate, particularly in the region, and how

climate change education activities can be carried out in schools through Inquiry-based Science Education (IBSE). The educators can use their skills to train other climate change educators. Taking into consideration the issues confronting small island states, the training workshop will focus on:

- Climatic change
- Ocean
- Biodiversity

The workshop will be mainly hands' on activities, using IBSE and will also include experiment, role play, game, group work, etc. The workshop will also consist of the UNESCO SANDWATCH programme and discussions on how Climate Change Education can be incorporated into the school curriculum in Mauritius for ongoing learning.

# CLIMATE CHANGE EDUCATION WORKSHOP

## Tuesday 22 November 2022

09.00 – 10.35	<b>Official Opening Ceremony</b>
10.35 – 10.55	<i>Tea break &amp; group photo</i>
10.55 – 11.05	<b>Climate Change context in Mauritius</b> <i>Ministry of Environment, Solid Waste Management and Climate Change</i>
11.05 – 11.15	<b>Overview of the workshop on CCE</b> <i>OCE</i>
11.15 – 12.45	<b>Greenhouse effect and climate systems (1) *</b> Hands' on session + scientific background <i>OCE</i>
12.45 – 13.30	<i>Lunch</i>
13.30 – 15.00	<b>Greenhouse effect and climate systems (2) *</b> Hands' on session + scientific background <i>OCE</i>
15.00 – 15.15	<i>Tea break</i>
15.15 – 16.00	<b>Conclusion on Day 1</b> <i>OCE</i>

## PROGRAMME | 22 - 25 November 2022

Venue: Frank Richard Lecture Theatre

### Wednesday 23 November 2022

- 09.00 – 10.30     **Ocean and climate change (1) \***  
Hands' on session + scientific background  
**Themes: Sea level rise, corals, carbon cycle, mangroves etc.**  
*OCE*
- 10.30 – 10.45     *Tea break*
- 10.45 – 11.40     **Ocean and climate change (2) \***  
Hands' on session + scientific background  
**Themes: Sea level rise, corals, carbon cycle, mangroves etc.**  
*OCE*
- 11.40 – 12.00     **Introduction to UNESCO Sandwatch: Adopting to climate change and educating for sustainable development**  
Hands' on Programme for Ocean Education  
*Association pour le Développement Durable (ADD)*
- 12.00 – 12.45     *Lunch*
- 12.45 – 13.30     *Trip to Flic en Flac*
- 13.30 – 16.00     **Sandwatch: On-site field activities at Flic en Flac beach**  
*OCE*

## CLIMATE CHANGE EDUCATION WORKSHOP

*Thursday 24 November 2022*

09.00 – 10.30

**Group 1 \***

Critical thinking:

Hands' on session + scientific background

**Group 2 \***

Eco-anxiety:

Hands' on session + scientific background

**OCE**

10.30 – 10.45

*Tea Break*

10.45 – 12.00

Role of engineers in climate adaptation & mitigation experiments, project-based constructions + scientific background

*Example of themes: renewable energies, eco-housing, eco-transportation, hydroponics, etc.*

***IEM (with support of Mauritius Institute of Education and OCE)***

12.00 – 12.45

*Lunch Break*

12.45 – 14.45

**Curriculum design (1) \***

Conceptual scenarios for primary/secondary schools

14.45 – 15.00

*Tea Break*

15.00 – 16.00

**Curriculum design (1) \***

Conceptual scenarios for primary/secondary school





## PROGRAMME | 22 - 25 November 2022

Venue: Frank Richard Lecture Theatre

### Friday 25 November 2022

09.00 – 10.30	<b>Curriculum design (2) *</b> Designing curricula <i>Production by participants, (animation OCE + MIE)</i>
10.30 – 10.45	<i>Tea Break</i>
10.45 – 12.00	<b>Curriculum design (2) *</b> Designing curricula <i>Production by participants, (animation OCE + MIE)</i>
12.00 – 12.45	<i>Lunch Break</i>
12.45 – 15.00	Presentation of the curricula prepared by participants & discussion <i>All participants</i>
15.00 – 15.15	<b>Closing Ceremony</b>

*\* Parallel session*

## CLIMATE CHANGE EDUCATION WORKSHOP - FACILITATORS

### David Wilgenbus

*Executive Officer at the Office for Climate Education*



An astrophysicist by training, I have worked for 17 years (2001-2017) as head of educational resources for the La main à la pâte Foundation. I have coordinated several large-scale educational programs on sustainable development (climate change, housing, mobility, health, natural disasters...) and science (computer sciences, astronomy), which have been implemented in more than 100,000 classes in France and abroad. My expertise lies in science teaching and education for sustainable development; in particular, the design of pedagogical projects and teacher training. In 2017, he coordinated a feasibility study for an international initiative for climate change education, which led to the creation of the Office for Climate Education in 2018.

### Simon Klein

*Science officer at the Office for Climate Education*



Simon Klein is an ecologist studying pollinators ecology. He also has a teaching diploma. He did his PhD in France (CNRS in Toulouse) and in Australia (Macquarie University, Sydney) and studied the impacts of environmental stressors on social bees behaviour. He then taught biology to bachelor students in France and Australia. In 2019, after his PhD, he facilitated science in the Good Planet Foundation for Biodiversity in Paris; and worked as a biology and geology teacher at the Solertia Institut near Paris. Apart from his strong academic and pedagogic engagements, Simon is active in theater making, and is keen on transmitting sciences through comedy.

### Nicolas Vogt

*Education officer at the Office for Climate Education*



Nicolas Vogt is an Education Officer at the OCE. He is in charge of writing resources for teachers as well as providing training - in France and abroad - on the themes of climate change. Nicolas worked for more than 10 years as a biology teacher at middle school and high school level. He worked in France, as well as in Morocco, and Senegal. Nicolas is a productive handbook and pedagogical resources writer.



## Anwar Rumjaun

*Head, Research Unit at the Mauritius Institute of Education*



Anwar Rumjaun is an Associate Professor in the Science Education Department at the Mauritius Institute of Education in Mauritius. His research interests are in Science/Biology Education, Environmental Education/ESD and policy responses to Science Education. He has also been involved in curriculum and textbook development for science in the context of educational reform. He is currently a Senior Honorary Research Associate at the UCL Institute of Education, London, UK. He is also member & Co-Chair of the Scientific and Pedagogical Committee of the Office for Climate Education, Paris, France, and the Royal Society of Biology, UK.

## Sachooda Ragoonaden

*President, Association pour le Développement Durable*



The Association pour le Développement Durable (ADD), a non-profit NGO, promotes sustainable socio-economic development and community well-being. Mr Ragoonaden was a former Deputy Director of the Mauritius Meteorological Services with wide experience on marine issues and climate change. His main achievements and activities include: publications of studies on Accelerated Sea Level Rise in peer-reviewed journals, one of the Lead authors of chapter 17 - Small Island Developing States- and Chapter 6 - Coastal and low-lying areas - of the 3rd and 4th IPCC report respectively, National Project Coordinator for the preparation of the Mauritius Third National Communication for the UNFCCC and, as from 2008, has been very active in the restoration of 10 ha of mangrove plantation on several sites around Mauritius. Since 2018, he has played a major role in initiating and implementing the UNESCO Sandwatch in 3 schools. He was commissioned by UNESCO to prepare the “Assessment of the sandwatch programme in the Caribbean, Atlantic-Indian Ocean-South China Sea and Pacific regions”, the report of which was submitted in June 2022 with several recommendations to reactivate and sustain Sandwatch worldwide. With his team, he is prepared to continue promoting Sandwatch and train Educators to introduce Sandwatch activities in primary and secondary schools to stimulate ocean education.

## Manta Devi Nowbuth

*Associate Professor, University of Mauritius*



Manta Devi Nowbuth Dr. (Ms), completed a first degree in Civil Engineering from the University of Mauritius (UOM), a Masters course in Hydrology for Environmental Management at Imperial College of Science, Technology and Medicine, University of London (IC), a PhD in modelling of groundwater flow through volcanic medium at the UOM and a post doctorate research at the United States Geological Survey Institute in the field of Modelling of Contaminant transport in groundwater. She has more than 25 years work experience as an Academic at the University of Mauritius

and has specialised in the field of Water Resources and Hydroinformatics. She has represented the University of Mauritius in a number of national steering and technical committees. On a regional level, she has been working with WaterNet (a network of African Universities), SANWATCE (a network of African Research Centres) and the Global Water Partnership – Southern Africa.

## Beas Cheekhooree

*Director, Green Agro Farms*



Beas Cheekhooree holds a Master's degree in Strategic Planning from Heriot Watt University - Edinburg Business School - and a Bachelor's degree in Chemical Engineering from UK. He has 35+ years experience in the manufacturing sector – from sugar refining, soaps & detergents, household cleaning products to textiles, fertilizers & chemicals. Beas has served as a council member of the Mauritius Export Association (MEXA) for more than a decade and held the office of Vice Chairman & Chairman from 2015-2017 and 2017-2019 respectively. He also served as a council member of MCCI, the Mauritius Chamber of Commerce & Industry and Business Mauritius. He held senior management positions in the

private sector – the last as Managing Director of MCFI, The Mauritius Chemicals & Fertilizers Industries Ltd. Beas has led several projects to reduce effluent emissions, carbon and water footprints across the textile sector. He spearheaded waterless denim concept in the late 90s and early 2000s. He is the Founder & CEO of Green Agro Farms Ltd – a company pioneering smart agricultural technologies in Mauritius,



Africa and the Indian Ocean. He recently introduced the concept of controlled environment agriculture, CEA, through container farming in Mauritius. Subsequently, he is promoting a shift to soilless agriculture as a means to enhance Mauritius food sovereignty and mitigate the impact of climate change. He is a director of Graphene Technologies – a company working on solutions powered by Artificial Intelligence for various sectors – Hospitality, Banking, Distribution & Retail, Asset Security. Beas is a part-time tutor at Glamis Business School – an approved learning partner (ALP) to Heriot Watt University-Edinburgh Business School, where he is a tutor for MBA courses – such as Strategic Risk Management, Developing & Executing Strategy, Leadership Theory & Practice, M & A. He is currently involved in various mentoring projects to assist SMEs and MMEs enhance their Export capabilities through innovation and use of disruptive technologies.change. Nicolas worked for more than 10 years as a biology teacher at middle school and high school level. He worked in France, as well as in Morocco, and Senegal. Nicolas is a productive handbook and pedagogical resources writer.

## Asish Seeboo

*Head, Civil Engineering Department, University of Mauritius*



Asish Seeboo graduated with a B.Eng. (Hons.) in Civil Engineering in 1998 from the University of Mauritius (UOM). He completed his Master's degree, MSCE in Civil Engineering with specialisation in Construction Engineering and Management under the Fulbright Scholarship from Iowa State University of Science and Technology in 2008. He was conferred a PhD in Construction Engineering and Management from the Open University of Mauritius in 2020. Dr. Seeboo has worked as graduate engineer at Daniel Wong Chung Consulting Engineers from July 1998 to June 2003. During the said period he got his professional registration from the Council of Registered

Professional Engineers Mauritius (RPEM 808). He joined UOM in 2003 where he worked as Lecturer to the Civil Engineering Department from 2003 to 2006. From 2010 to 2011, he joined Gibb (Mauritius) Ltd as the Head of the Structural Engineering department. From 2011 to 2012, he worked as Senior Lecturer at the JSS Academy. In 2013, he joined back UOM. He is now a Senior Lecturer in the Department of Civil Engineering at the University of Mauritius. His field of expertise is structural design, construction engineering and management. He has been involved in numerous prestigious projects in Mauritius, such as the renovation of the Old Parliament building,

Plaza theatre phase III, among others. He has been the lead designer for the Riambel Recreational Centre for the Elderly and Disabled, Mont Ile Luxury RES, and many other industrial buildings such as Lim How Distribution, Princes Tuna, Butter and Diary Ltd, Ramdenee Edible Oil Factory (for extensions, renovation and structural assessment and rehabilitation of part of the buildings). He works frequently with insurance companies for the conditional assessment of existing buildings.

## **Madoo Desha**

*Sustainability Consultant*



Mr Madoo Desha holds a B Tech in Elect Engg, an MBA and a M Sc in Water & Environmental Mgt. He has had a long career in industry – manufacturing LEDs in the late 1970's, the first color TV sets in Mauritius and other consumer appliances, before assuming the role of General Manager, IBL Domestic Appliances in 1997. In 2004 he took over the responsibility to manage the Operations and Maintenance of the St Martin Waste Water Treatment Plant and the Potable Water Treatment Plant, La Marie Phase 2. From then onwards, he focused on environmental projects till his retirement in 2009 and thereafter as a Climate Change and Sustainability Consultant and an Energy Auditor. During the past 13 years, he has carried out numerous consultancies for international agencies such as UNDP, UNEP, PAGE and AFD, as well as for key ministries such as the Ministries of Finance, of Environment and of Energy.

## **Yashwaree Baguant Moonshiram**

*Senior Lecturer, University of Mauritius*



Y. Baguant-Moonshiram Dr. (Ms) is a Senior Lecturer of the Civil Engineering Department, University of Mauritius which she joined in 2000. She has a Master in Urban planning from University de Grenoble, France. She also has a postgraduate certificate Teaching and Learning from the University of Mauritius. Her areas of research are urban planning, sustainable planning spatial planning, environmental planning, environmental management. She recently completed her PhD in Sustainable Communities.



## Anita Kawol

*Divisional Environment Officer, Ministry of Environment, Solid Waste Management & Climate Change*



Mrs. Anita Kawol has a Honours degree in Agriculture, MSc in Environmental Engineering and a Diploma on Multilateral Environmental Law. She has more than 25 years of experience in Environmental matters. She has been closely involved in implementation of the relevant commitments of the United Nations Framework Convention on Climate Change, its Paris Agreement during the past 10 years.



# CLIMATE CHANGE EDUCATION WORKSHOP

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