MATURE ADULTS LEARNING ASSOCIATION Peel Branch

7th Annual Summer School

Patron: Professor Lyn Beazley, AO, FAA, FTSE

Mandurah Performing Arts Centre

Monday 9th January - Friday 13th January 2023

09.15 OPENING CEREMONY

Professor Lyn Beazley, AO, FAA, FTSE

PROGRAMME

Monday 9th January

09.30 - 11.30 am

Dr. Max Ong. PhD, Certified Prince 2 Management Professional, Leader of Murray Engineering Innovation & Technology.

BATTERY ELECTRIC VEHICLES - THE FUTURE OF TRANSPORT?

The era of Battery Electric Vehicles (BEVs) has already begun in Australia. From innovative nil-emission Electric 4WD mining utilities to similar trucks and heavy machines, robust mine-specific battery technology and dependable recharging infrastructure are leading the race in this electric revolution to achieve greater safety, productivity and efficiency in our increasingly energy-aware future.
Murray Engineering is a Western Australian innovator that has pioneered a ruggedized BEV, safe Battery Technology and Ultrafast-Recharging solutions for the incredibly tough underground mining environment. Sharing their decarbonisation journey in partnership with global mining corporations, these learnings are applied in overcoming renewable energy challenges across the wider Australian industry.

1.00 - 3.00 pm

Sebastian "Base" Jones. BSc. Geology, Curtin University.

WORKING IN THE COLD - EXPEDITION GUIDING IN ANTARCTICA.

Hear about the experience of Sebastian guiding as a naturalist in Antarctica over 4 seasons. Also learn about the magic of this remote icy continent. Life as an expedition guide includes driving Zodiacs amongst icebergs, avoiding leopard seals and trying to get penguins to behave. Sebastian is a Geologist and naturalist guide who has worked on expedition ships around the world. Join Sebastian before he heads down to the Ross Sea at the end of January 2023.

Tuesday 10th January

09.30 - 11.30 am

Christian Prokscha - Founder and Director of Eden Towers.

VERTICAL FARMING

This novel farming method is a basis for developing sustainable farm production ecosystems with new agriculture technologies for food and non-food crops.
In this lecture Christian will discuss the utilisation of new controlled environment agriculture (CEA) technologies, the implementation options for each and provide an example of the type of technology and how it fits into the Western Australian environment.
Eden Towers specialises in building vertical farms using 'Cloud' and 'Internet of Things' technology. Its production system allows plants to grow year-round without soil. The company claims this process uses 98 per cent less water and achieves up to 15 times the yield of a greenhouse or open field.

1.00 - 3.00 pm

Dr Susan Boyd. BA, Dip Ed, DLIT, FAICD, FAIIA

NOT ALWAYS DIPLOMATIC - AN AUSTRALIAN WOMAN'S JOURNEY THROUGH INTERNATIONAL AFFAIRS

Sue Boyd is a retired Australian diplomat, with 34 years in the Australian Foreign Service behind her (1970–2003). She was Head of Diplomatic Missions in Bangladesh, Vietnam, Hong Kong and Fiji and also served at the UN in New York, Portugal and East Berlin.

Wednesday 11th January

09.30 - 11.30 am

Mick O'Leary, Marine Biologist. PhD James Cook University, Currently at UWA School of Earth Sciences

SALTWATER SONG LINES AND THE DEEP HISTORY OF SEA COUNTRY

If we want to find the earliest evidence of human occupation in Australia, we need to look in our oceans. This is because when those early seafarers first stepped foot on the Australian continent some 65,000 years ago, sea levels were almost 100 m lower than they are today. Following the termination of the last ice age around 18,000 years ago, the ice sheets retreated, and sea levels rose by 130 m. The generations of people living though this time would have only known retreat, inland and to higher ground. The rising seas inundated their homelands, cutting off spiritually significant sites and places whose cultural connections had spanned countless thousands of generations of people. By the time sea levels stabilised around 7,000 years ago, over 2 million square km of land was inundated. What now exists under the sea is a lost archive of one of humanity's earliest and most enduring cultures. Here I will present on recent discoveries of submerged stone tool scatters on the seafloor around Murujuga (Dampier Archipelago), as well as the development of novel scientific and ethnographic approaches, in collaboration with Murujuga's Traditional Owners, to better locate and identify submerged rock art and other Indigenous cultural heritage sites.

Wednesday 11th January

1.00 - 3.00 pm

Dr Michelle Olaithe. B.A. (Hons. Psychology), PhD, M Clinical Psychology.

SLEEP.

Sleep is acknowledged as one of the three pillars of good health, alongside exercise and a good diet. Good sleep is necessary for productivity, attention, memory, and flexible thinking, and for the active clearance of brain metabolites, including those associated with cognitive decline. As such, sleep should be your personal concern for your every day productivity and health.

This talk will discuss the neurobiology of healthy sleep and sleep loss in the context of ageing, and what this means for your health. You will walk away with an understanding of how to simply modify your sleep, and the motivation to do so.

Thursday 12th January

09.30 - 11.30 am

Professor Peter Davies. Pro-vice Chancellor, Food Futures Institute, Murdoch University.

GLOBAL RIVERS IN CRISIS.

The world is experiencing an increasing water crisis and protecting freshwater resources urgently requires identifying and managing threats over broad areas, from both local to global. We conducted a worldwide synthesis where we jointly considered water from both human needs and a biodiversity perspective. This showed nearly 80% of the world's population is exposed to a threat to water security. Significant investment in water technology and infrastructure (dams etc) has enabled developed nations to offset high water stressor levels whereas less wealthy nations remain extremely vulnerable. In converse, a lack of associated global investment jeopardizes biodiversity, with 65% of global water flows now considered moderately to highly threatened. Due to limited resourcing, remediating this threat to freshwater biodiversity is often conducted at a local to catchment scale. Over-clearing stream and riverside vegetation is considered one of the overriding threats to freshwater biodiversity. Consequently, we developed a spatial model to show where to target revegetation activities to optimise biodiversity benefits at a catchment scale. We applied this across a broad range of river systems in Australia These river restoration activities were aimed at reducing the current and the predicted impacts of climate change on Australian freshwater biodiversity.

1.00 - 3.00 pm

Dr Laura Skates. BSc, PhD (Botany & Conservation).

HIDDEN STORIES: PIONEERING WOMEN IN SCIENCE.

The history of science is filled with women who made incredible, world-changing contributions. While some are now well known for their scientific endeavours, like Rosalind Franklin and Marie Curie, many others have gone largely unnoticed or underappreciated for far too long. In this presentation, Dr Laura Skates and (soon to be Dr) Kat Ross will share some of the key women in science throughout history who have inspired them in their own research endeavours. Laura will share hidden stories of women in botany and other natural sciences, and Kat will share women in astrophysics and other physical sciences. Kat will also share her campaign, "Include Her", which aims to see more women included in school science curriculums nationally.

Friday 13th January

09.30 - 11.30 am

Assoc Professor Alexey Muraviev. BA, PhD.

THE WAR IN UKRAINE: THE MILITARY-POLITICAL ANALYSIS OF THE CONFLICT AND ITS IMPLICATIONS FOR THE WORLD

Russia's aggression against Ukraine, which was launched on 24 February, accelerated debates ranging from the renewed role of conventional military power in contemporary and future conflicts, the nature of near future warfare, to the transformation of the world order triggered by the crisis of the established international rules based order. In times when the prolonged Russia-west rivalry has now transformed into a quasi-open war *over* Ukraine understanding adversarial failures and successes is essential, also to ensure a risk of making a strategic error of judgment in times of conflict. This reality check has become even more relevant now since this quasi-open war bares the marks of an escalating nuclear confrontation, which is limited for now to an overt nuclear blackmail of the west by the Kremlin.

This presentation will provide an overview of the war in Ukraine, discuss the current state of play on the battlefield and beyond, consider possible future course of action by major actors involved in this conflict, and draw on some preliminary conclusions on what key take away lessons can be learned from the unfolding tragedy in eastern Europe.

1.00 - 3.00 pm

Emeritus Professor Robert Mead. BSc (Hons), PhD.

THE SOMERTON MAN MYSTERY - SPIES, INTRIGUE AND AFFAIRS OF THE HEART OR WAS IT SOMETHING ELSE?

On the morning of December 1st 1948, the body of a middle-aged man, dressed smartly in a suit and tie was found lying against a retaining wall on Somerton Beach near Glenelg in Adelaide. It seemed to be a sad but routine affair for the South Australian police to identify him and to inform his family of his passing. Nothing could have been further from the truth. He carried no identification and all of the labels on his clothes had been meticulously removed. The more the matter was investigated, the more the mystery deepened. In the 74 years since this event and with advancements in policing and forensic techniques, some intriguing information has emerged. Was his death a homicide, a suicide or death by natural causes? Was he part of an international spy ring associated with the height of the cold war, or was this just the sad outcome of an affair of the heart? Investigations over the years have drawn links to the Australian Ballet; the east coast of America; Thomas Jefferson; a mysterious seaman; a wartime nurse and remarkably, the ancient Persian poet Omar Khayyam. More recently, modern anthropology has added further information and in August 2022, the latest DNA-based technique, forensic genetic genealogy finally provided his name. This is indeed Australia's greatest ever "body mystery" and the tale has more twists and turns than a mountain road. In this presentation we will explore each of these twists and turns from 1948 to the present. The process of forensic genetic genealogy will be explained; we will build his family tree, identify him and gain an insight into the personal circumstances that may have led to his death.

3.00 pm - Close - followed by refreshments at Brewvino overlooking the beautiful Mandurah Estuary.

BOOK AT MANPAC BOOKING OFFICE PHONE: 95503900

COST: $12.50 EACH LECTURE or $100.00 FOR ALL 10 LECTURES

Peel MALA wishes to acknowledge the generous support of our sponsors

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MANDURAH PERFORMING ARTS CENTRE