

Conference Programme

Wednesday 8th July 2015

7:30 – 8:45	Registration / Refreshments	
8:45 – 9:00	Housekeeping and Introduction: Dr Suzanne Hollins	
9:00 – 9:15	Welcome to Country and Opening Speech: Dr Adi Paterson, CEO ANSTO	
09:15 – 10:00	Plenary address: Dr Kerrylee Rogers – “Integrating Isotopic techniques to understand the response of coastal wetlands to sea-level rise”	
	Session 1 – Natural Resource Management : Chair – Neil Saintilan	
10:05 – 10:25	Tsuyoshi Kobayashi - Stable Isotopes to understand trophic interactions in floodplain wetlands of semi-arid Australia	
10:25 – 10:45	Troy Gaston -The spatial influence of treated effluent in Tilligerry creek, NSW: 15N & 13C stable isotopes in estuarine bioindicators	
10:45– 11:15	MORNING TEA	
	Session 2 – Natural Resource Management (cont.) : Chair – Neil Saintilan	
11:15 – 11:35	Mark Keppel - The use of isotope hydrochemistry in the hydrogeological characterisation of the Arckaringa basin, South Australia	
11:35 – 11:55	Catherine Chagué-Goff - Insights from stable isotopes for evaluating weed invasion in urban bushland	
11:55 – 12:15	Andrew Revill - Short term bottom-up driven trophic variability in fish species within a marine warming hotspot indicated by compound specific amino acid nitrogen isotopes	
12:15 – 12:35	Debashish Mazumder - Isotopic tools for better management of aquatic environment and resources	
12:35 – 12:55	Discussion - “Delivering our research to resource managers.” (Facilitator Neil Saintilan)	
12:55 – 13:55	LUNCH	
13:55 – 14:40	Plenary address: Professor Brian Fry – “Going global with isotopes in the dawning era of big data”	
	Session 3 – Isotopes for Ecological Processes: Chair – Andrew Revill	Session 4 – Isotopes Used to Understand Catchment Processes and Residence Times: Chair – Axel Suckow
14:45 – 15:05	Roxane Francis - Do environmental flows affect turtle condition?	Ursula Salmon - Using 14C reactive transport modelling to investigate causes of uncertainty in groundwater flow model “AGE”
15:05 – 15:25	Mark Farrell - Using radio-isotopes and CE-MS to further unravel the complex world of dissolved organic nitrogen in soils	Sarah Taylor - Stable isotopes in Western Sydney groundwater: what do they tell us?
15:25 – 15:45	Xinhua He - Host-species dependent ecophysiological characteristics and two-way transfer of nitrogen between <i>dalbergia odorifera</i> and its hemiparasite <i>santalum album</i>	Vincent Post - The problem of dating coastal groundwater.
15:45 – 16:15	AFTERNOON TEA	
	Session 5 – Isotopes for Ecological Processes: Chair – Troy Gaston	Session 6 – Isotopes Used to Understand Catchment Processes and Residence Times: Chair – Wendy Timms
16:15 – 16:35	Kate Brandis - Understanding waterbird diets: using stable isotope analysis of feathers and scats	Karina Meredith - Tracing carbon dynamics of groundwater in an evaporative environment.
16:35 – 16:55	Andrew Revill - Key primary producers and trophic position of an elasmobranch in a seagrass dominated system elucidated by compound specific amino acid nitrogen isotopes	Stacey Priestley - Inter-aquifer leakage and groundwater flow inferred from Isotopes and noble gases.
16:55 – 17:15	Tom Cresswell - Radioisotope techniques and aquatic ecotoxicology: importance of understanding kinetics and internal location of metals in organisms	Rob van der Raaij - Variation in groundwater chemistry and age along a transect across the Central Plains, Canterbury, New Zealand.
17:15 – 17:35	Karen Armstrong - Can natal origins of biosecurity pests be determined using natural abundance isotopes?	Megan Hancock – Characterising ephemeral river recharge in arid Australia.
17:35 – 19:35	POSTER SESSION THOMAS KENEALLY ROOM (INCLUDING DRINKS & CANAPES)	

Thursday 9th July 2015

8:45 – 9:00	Housekeeping: Dr Suzanne Hollins	
09:00 – 09:45	Plenary address: Professor Andy Baker – “Caves: Observatories of Australia’s groundwater isotope history”	
	Session 7 – Isotopes Used to Understand Catchment Processes and Residence Times: Chair – Ursula Salmon	Session 8 – Contamination: Environmental Studies: Chair – Mat Johansen
09:50 – 10:10	Eliza Wells - Seasonal change in the groundwater isotopic composition of a freshwater lens, Rottneest Island, Western Australia.	Troy Gaston - Stable isotope evidence of nutrient and energy sources in the Brisbane water estuary, NSW.
10:10 – 10:30	Eddie Banks - Constraining residence times and recharge rates using carbon-14 and helium-4.	Simon Haberle - History of sediment geochemical signals in an area of oil reserve development in Lake Kutubu, PNG.
10:30 – 11:00	MORNING TEA	
	Session 9 – Isotopes Used to Understand Catchment Processes and Residence Times: Chair – Vincent Post	Session 10 – Atmospheric Processes: Chair – Andrew Smith

11:00 – 11:20	Ian Cartwright - Understanding residence times of water contributing to headwater streams using tritium.	Scott Chambers - Benchmarks for chemical transport models based on radon-derived stability assessment of urban air pollution.
11:20 – 11:40	Rory Williams - The geomorphic and hydrological structure and function of a chain-of-ponds river system: A unique Australian river type.	Huade Guan - Rain isotopic composition in Adelaide and Mount Lofty ranges and selected hydrological and ecohydrological applications.
11:40 – 12:00	William Howcroft - Young water and old solutes in rivers and in groundwater.	Alastair Williams - ANSTO radon measurements at Cape Grim and other global atmospheric monitoring sites.
12:00 – 12:20	Cath Hughes - $\delta^2\text{H}$ and $\delta^{18}\text{O}$ used to link flooding to groundwater recharge along the Darling River.	Alan Griffiths - Using radon-222 to distinguish between vertical transport processes affecting trace gas measurements at Jungfrauoch in the Swiss Alps.
12:20 – 13:20	LUNCH	
13:20 – 14:05	Plenary address: Dr Andrew Smith – “Cosmic Secrets in the Ice”	
	Session 11 – Climate Variability: Chair – Stewart Fallon	Session 12 – Isotopes in Aquatic Systems: Chair – Brian Fry
14:10 – 14:30	Henk Heijnis - Bog burst in the Eastern Netherlands triggered by the 2.8 kyr BP climate event.	Michael Corry - To fish or not to fish: stable isotopes uncover the functional role of soft coral in temperate estuaries
14:30 – 14:50	Stephanie Kermode - Debris flow dominated alluvial fans in the Victorian high country indicate that landscape denudation through the Holocene has been dominated by post-bushfire runoff events.	Vincent Raoult - Co-occurring species of sawshark avoid competition through trophic plasticity both within and between species
14:50 – 15:10	Melissa Fedrigo - Tree fern growth rates as drivers of stand dynamics in Southeastern Australian temperate forests	Jialin Lei - An stable isotope approach to determine herbivory diets of wintering geese at Dongting lake, China
15:10 – 15:30	Sonam Tashi - The effect of altitude on C and N dynamics in biomass and soil in the eastern Himalayas.	Philip Riekenberg - Utilizing dual isotope tracers for comparison of uptake and fates of dissolved organic matter and inorganic nitrogen and carbon in mudflat sediments
15:30 – 16:00	AFTERNOON TEA	
	Session 13 – Climate Archives: Chair – Andy Baker	Session 14 – Carbon Sequestration: Chair – Kerry Lee Rogers
16:00 – 16:20	Quan Hua - Reconstruction of reliable radiocarbon chronologies for recent terrestrial archives.	Neil Saintilan - Stable isotopes and blue carbon: Lessons from SE Australia.
16:20 – 16:40	Alison Blyth - Low abundance compound specific radiocarbon dating of particulate organic matter preserved in speleothems.	Damien Maher - Are mangrove carbon exports old or modern? A multiple radio- and stable isotope analysis.
16:40 – 17:00	Monika Markowska - Cave monitoring to constrain the paleoclimate interpretation of $\delta^{18}\text{O}$ proxy in speleothems from semi-arid areas.	Jane Curran - Establishing carbon retention and sequestration in a submerged mangrove using isotopic analysis.
17:00 – 17:20	Bronwyn Dixon - Investigation of controls on daily rainfall event $\delta^{18}\text{O}$ at Kangaroo Island, South Australia.	Eleanor Hobley - Relationship between land-use, soil organic carbon depth distribution and radiocarbon age New South Wales, Australia.
17:20 – 17:40	Matt Fischer - Predictable components in global ^{18}O data.	
18:30 – 22:30	CONFERENCE DINNER @ “Waterfront”, The Rocks	

Friday 10 th July 2015		
8:45 – 9:00	Housekeeping: Dr Suzanne Hollins	
09:00 – 09:45	Plenary address: Dr John Hellstrom – “The environmental isotopic geochemistry of uranium”	
	Session 15 – New Dating Methods/Applications: Chair – Quan Hua	Session 16 – Isotope Chemistry of Pore Waters in Aquitards: Chair – Ian Cartwright
09:50 – 10:10	Ashley Martin - Uranium comminution dating in tropical northern Australia.	Wendy Timms - ^{14}C activity of DIC and DOC within a clayey-silt aquitard
10:10 – 10:30	David Child - Fallout plutonium and uranium isotope ratio signatures using accelerator mass spectrometry for environmental chronometry in eastern Australia.	Stanley Smith - Determining inter-aquifer leakage across a thin aquitard in a metropolitan basin: Adelaide Plains.
10:30 – 10:50	Alex Suckow - New tracers: Noble gases and radioactive noble gas isotopes.	Katarina David - Off-axis ICOS pore water stable isotope analysis of pore water in drill core - characterisation of groundwater processes, Sydney Basin.
10:50 – 11:20	MORNING TEA	
	Session 17 – New Isotopic Methods: Chair – Suzanne Hollins	Session 18 – Environmental Management: Chair – Henk Heijnis
11:20 – 11:40	Mathew Johansen - N and P uptake by plants: overview of isotope ratio mass spectrometry, radioisotopic, and synchrotron methods.	Brett Rowling - Bennelong To Gubba Gubba
11:40 – 12:00	Scott Wilson - You are what you eat. Examination of isotopes in determining plastic ingestion by fish.	Cath Hughes - Environmental isotopes to study radionuclide migration mechanisms at the Little Forest legacy site.
12:00 – 12:20	Kyle Taylor - New advances in IRMS	Richard Cresswell - Isotopes: the keys to understanding

	instrumentation for environmental based applications from Isoprime Ltd.	connectivity above coal seam gas operations.
12:20 – 12:40	Nabil Saad - Carbon isotope analysis of dissolved organic carbon in fresh and saline (NaCl) water via continuous flow cavity ring-down spectroscopy following wet chemical oxidation.	Charlotte Iverach - Detecting hydraulic connection between fresh water aquifers and coal seam gas production using the isotopes of carbon in methane.
12:40 – 13:40	LUNCH	
13:40 – 14:25	Plenary address: Dr Janice Lough – “Perspectives on environmental and growth records from coral skeletons”	
	Session 19 – Isotopes in Marine Environments: Chair – Geraldine Jacobsen	
14:25 – 14:45	Stewart Fallon - Reconstructing seawater pH from radiocarbon measurements in porites corals from a volcanic CO ₂ seep, Papua New Guinea.	
14:45 – 15:05	Pascale Eisenmann - Using radiocarbon to study southern hemisphere humpback whale feeding ecology and migration.	
15:05 – 15:25	Amy Hirons - Paleoceanographic productivity reconstructions using marine mammal bone collagen.	
15:25 – 15:55	AFTERNOON TEA/CLOSING REMARKS AND PRIZES	

POSTER SESSION – THOMAS KENEALLY ROOM

Poster 1	Charlotte M. Allen - Biogeochemical markers for provenance determination of invasive insect pests: the case of fruit flies
Poster 2	Ruth Bajo - Using $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ stable isotopes to determine foraging habitat of insectivorous bats
Poster 3	Dominic Banfield - Using isotopes to better understand dissolved gas hydrogeochemistry and the risk of unconventional gas development in the Gippsland and Otway basins
Poster 4	Kate Brandis - A new frontier in tracking waterbirds and wetland condition
Poster 5	David Child - Uranium and Plutonium profiling at an Australian nuclear test site using Accelerator Mass Spectrometry
Poster 6	Jagoda Crawford - Stable isotopes in precipitation at the Macquarie Marshes
Poster 7	Jagoda Crawford - The use of radon in the analysis of a decade of Asian outflow of PM10 and TSP to Gosan, Korea
Poster 8	Jessica Ernakovich – The role of soil biodiversity in soil carbon stabilization
Poster 9	Georgina Falster - Climate variability in south-eastern Australia during the last glacial-interglacial transition: toward new insights from lake sediments using conventional and clumped isotope geochemistry
Poster 10	Paul Gorjan - Field deployable isotope ratio infrared spectrometer for simultaneous measurements of carbon and oxygen isotopologues of CO_2
Poster 11	Kuan Huang - Continuous water sampler - a cavity ring-down spectroscopy-based system for high-frequency, real-time measurements of water isotopes
Poster 12	Kuan Huang - An ultra-high precision, high-frequency dissolved inorganic carbon analyzer based on dual isotope dilution and cavity ring-down spectroscopy
Poster 13	Tamara Hunjak - Deuterium excess in daily and hourly precipitation samples from Kastav, Croatia
Poster 14	Rachel Murray - Nitrous oxide isotopomers in the water column: A potential window into bacterial processes
Poster 15	Emily Prentice - The use of stable isotope techniques for long-term monitoring of Australian freshwater wetlands
Poster 16	Liqin Wu - The recycling of industrial heavy metal sources during bushfire events around Australia's major cities (Sydney, Adelaide, and Hobart)

