

FINAL PROGRAMME

Thursday 11th February

1200-1250 Registration

1250-1300 Welcome and Opening Remarks

Session 1: Characterisation. Agronomic and Environmental Benefits of Biochars

1300-1315 **Frank Verheijen** (recorded presentation)
Institute for Environment and Sustainability, JRC
BIOCHAR APPLICATION TO SOILS – (heterogeneity)²

1315-1330 **Hailong Wang**
SCION
ADDITIONAL CARBON SEQUESTRATION IN FOREST PLANTATIONS THROUGH APPLICATION OF BIOCHAR TO SOILS: A CHALLENGING OPPORTUNITY

1330-1345 **Evelyn Krull**
CSIRO Land & Water
BIOCHAR RESEARCH IN AUSTRALIA - AN UPDATE ON THE DAFF AND GRDC PROJECTS

1345-1400 **Stephen Joseph et al.**
University of NSW
DEVELOPMENT OF BIOCHAR MINERAL COMPLEXES: THE NEXT GENERATION OF PLANT EFFECTIVE BIOCHARS

1400-1415 **Yun Lin¹, Paul Munroe¹, Stephen Joseph¹, Chee Chia¹, Lukas Van Zwieten², Stephen Kimber²**
¹*University of NSW*
²*NSW Dept. of Primary Industries*
STRUCTURAL CHARACTERIZATION OF BIOCHARS FOLLOWING AGRONOMIC FIELD TRIALS

- 1415-1430 **Jared Bourke¹, Marilyn Manley-Harris¹, Michael Jerry Antal Jr²**
¹University of Waikato
²University of Hawaii
MALDI-TOF SPECTROMETRY OF BIOCARBONS
- 1430-1445 **Prakash Srinivasan^{1,2}, Ajit K. Sarmah¹, Marilyn Manley-Harris², Ron J. Smernik³, Adriana Downie⁴, Lukas van Zwieten⁵**
¹Landcare Research, Hamilton
²University of Waikato
³University of Adelaide
⁴Pacific Pyrolysis
⁵NSW Department of Primary Industries
EFFECT OF PYROLYSIS TEMPERATURE ON THE RETENTION CAPACITY OF GREENWASTE BIOCHAR TO SORB STEROID HORMONES AND VETERINARY ANTIBIOTICS
- 1445-1515 **Afternoon tea and poster viewing**
- 1515-1530 **Craig Anderson, Leo Condron**
Lincoln University
INFLUENCE OF BIOCHAR AMENDMENTS ON RHIZOSPHERE PROCESSES
- 1530-1545 **Siva Sivakumaran, Samuel Dunlop, Markus Deurer, Robert Simpson, Ian McIvor, P Jeyakumar, Iris Vogeler, Brent Clothier**
Plant & Food Research
THE IMPACT OF CHARCOAL ON BIOPHYSICAL SOIL FUNCTIONS IN AN APPLE ORCHARD IN HAWKE'S BAY
- 1545-1600 **Robert Simpson, Iris Vogeler, Markus Deurer**
Plant & Food Research
THE EFFECT OF BIOCHAR ON METHANE-METABOLISING SOIL MICROBES

- 1600-1615 **Don Graves**
Nelson Bays Mycorrhizas
BIOCHAR AS A CARRIER MEDIUM TO INTRODUCE FRESH MYCORRHIZAL INOCULA INTO PLANT ROOT ZONES
- 1615-1630 **Michael A. Nichols, Nick A. Savidov**
Massey University
BIOCHAR – A NEW HYDROPONIC GROWING MEDIUM
- 1630-1645 **Allister Holmes¹, M. Hasinur Rahman¹, Steven J. Saunders²,
Alistair Mowat²**
¹*Plus Group*
²*ZESPRI International Ltd.*
**BIOCHAR GENERATED FROM KIWIFRUIT VINE PRUNINGS:
SCOPE AND CHARACTERIZATION**
- 1645-1700 **Marta Camps-Arbestain¹, Peter Bishop¹, Erwin I. Wisnubroto¹,
Kiran Hina¹, William Aitkenhead¹, Roberto Calvelo-Pereira²,
Mike Hedley¹**
¹*Massey University*
²*Universidade de Santiago de Compostela*
**BIOCHAR RESEARCH AT THE NZBRC. THE SOIL SCIENCE
STREAM**
- 1700-1730 **Panel Discussion and Closing Remarks of Session**

Friday 12th February

Session 2 - Pyrolysis Engineering, Biochar and Society

- 0830-0835 **Welcome and Opening Remarks**
Jim Jones
Massey University
- 0835-0900 **Michael Burlace, Mark Hetherington, Jim Jones**
Massey University
LIVE DEMONSTRATION of ¼ A SCALE PYROLYSER – STARTUP
(Outside Shelter)
- 0900-0915 **Adriana Downie¹, Chris Pepper²**
¹*Pacific Pyrolysis*
²*Palmerston North City Council*
PALMERSTON NORTH CITY COUNCIL BIOCHAR PROJECT
- 0915-0930 **Dorothy Quade**
Victoria University
**CHALLENGES OF BIOCHAR DEPLOYMENT IN NZ:
STAKEHOLDER PERCEPTIONS AND PUBLIC POLICY
IMPLICATIONS**
- 0930-0945 **Attilio Pigneri**
Massey University
**BIOCHAR SYSTEMS ANALYSIS: CENTRAL NORTH ISLAND CASE
STUDY**
- 0945-1000 **Ruy Anaya de la Rosa**
Massey University
BIOCHAR AND CARBON MARKETS
- 1000-1015 Morning Tea
LIVE DEMONSTRATION of ¼ SCALE PYROLYSER – OPERATION
(Outside Shelter – Tea and Coffee provided)

- 1015-1030 **Stuart McGlashin**
Anthroterra
PYROLYSER SYSTEM DESIGN FOR BIOCHAR AS A SOIL IMPROVER
- 1030-1045 **Adriana Downie, David Lau**
Pacific Pyrolysis, Australia
PACIFIC PYROLYSIS – GREENHOUSE GAS LCA
- 1045-1100 **Greer Tanner-Dempsey**
University of Waikato/University of Hawaii
ELECTRICITY FROM BIOCHAR; DEVELOPMENT OF A SECOND-GENERATION, AQUEOUS-ALKALINE BIOCARBON FUEL CELL
- 1100-1115 **Murray McCurdy¹ and Phil Herrington²**
¹CRL Energy Ltd
²OPUS International Consultants
BIOMASS PYROLYSIS: BIO-BITUMEN AND BEYOND
- 1115-1130 **Shusheng Pang, Jingge Li and Kate Shaw**
University of Canterbury
BIOMASS PYROLYSIS FOR BIOMASS DENSIFICATION
- 1130-1145 **Cory Leatherland, Doug Stewart**
Lakeland Steel Products
PYROLYSIS OF SAWDUST
- 1145-1200 **Jim Jones**
Massey University
BIOCHAR RESEARCH AT THE NZBRC: PYROLYSIS STREAM
- 1200-1230 **Closing Remarks and Panel Discussion**
- 1230-1245 **LIVE DEMONSTRATION of ¼ SCALE PYROLYSER – SHUTDOWN**
(Outside Shelter)
- 1245- **Join us for Lunch at Massey Dining Hall**

POSTERS

- 1 **Lynne M. Macdonald¹, Daniel V. Murphy², Evelyn S Krull¹**
¹CSIRO Land & Water
²University of Western Australia
**A FUNDAMENTAL UNDERSTANDING OF BIOCHAR:
IMPLICATIONS AND OPPORTUNITIES FOR THE GRAINS
INDUSTRY**

- 2 **Todd Maddern, Janine McGowan, Evelyn Krull**
CSIRO Land and Water
**A NEW SET-UP FOR THE ANALYSES OF WATER-BORNE C AND
N COMPONENTS: A COMBINED THERMALOX™ CRYOPREP-
IRMS APPROACH**

- 3 **Kiran Hina¹, Peter Bishop¹, Marta Camps-Arbestain¹, Roberto
Calvelo-Pereira², Juan Antonio Maciá-Agulló³, Jason
Hindmarsh¹, James A. Hanly¹, Felipe Macías², Mike Hedley¹**
¹Massey University
²Universidade de Santiago de Compostela
³INCAR-CSIC
**PRODUCING BIOCHARS WITH GREATER SURFACE ACTIVITY
THROUGH ALKALINE PRETREATMENT OF FEEDSTOCKS**

- 4 **Erwin I. Wisnubroto, Mike Hedley, Kiran Hina, Marta Camps-
Arbestain**
NZBRC, Massey University
**THE USE OF BIOCHAR FROM BIOSOLIDS ON WAITARERE
SANDY SOILS: EFFECT ON THE GROWTH OF RYE GRASS**

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Roberto Calvelo Pereira¹, Rebeca Pardo Lorenzo¹, William Aitkenhead², Felipe Macías¹, Mike Hedley², Juan Antonio Maciá-Agulló³ and Marta Camps-Arbestain²

²Universidade de Santiago de Compostela

¹Massey University

³INCAR-CSIC

**INFLUENCE OF PYROLYSIS TEMPERATURE ON
HETEROTROPHIC BASAL SOIL RESPIRATION IN BIOCHAR/SOIL
MIXTURES**

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D.N. Dickinson¹, J.P. Kim¹, A.R. Hayman¹, W.W. Dickinson²

¹University of Otago

²Antarctic Research Centre, Victoria University

CHAR PRODUCTION BY HYDROTHERMAL CARBONIZATION