CONVENTION HANDBOOK

COATINGS VISION 2022

21 - 23 SEPTEMBER | HAMILTON

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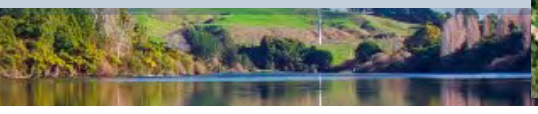

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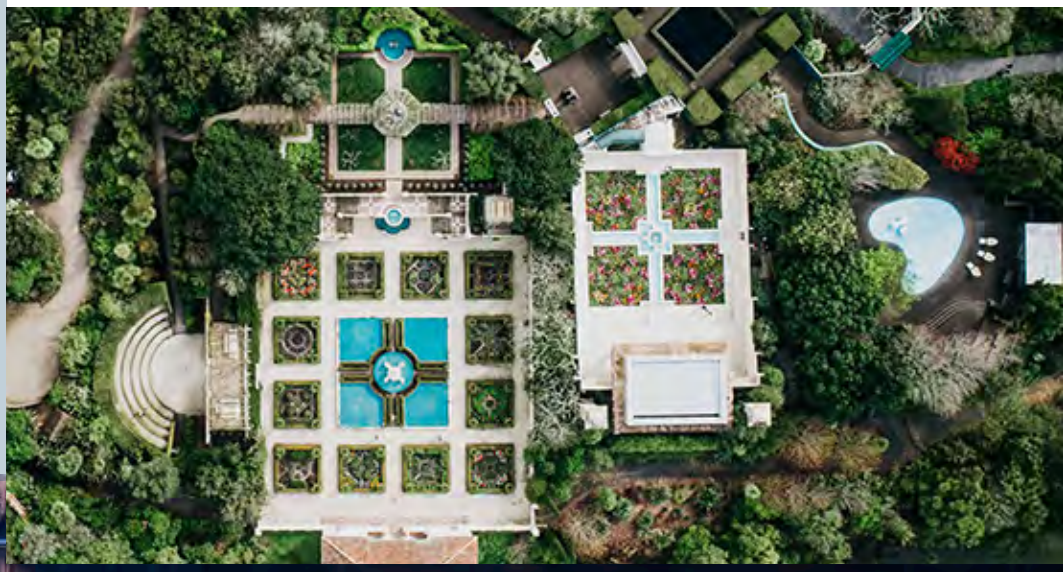

WELCOME

Welcome to the 58th SCANZ Convention "Coating VISION".

After having to postpone this convention multiple times, we are so excited to be meeting in person again after three years!

Welcome to all our speakers, sponsors, delegates and members.

Our theme is Coatings Vision - a play on words for 2020 - and now it is more about keeping an eye on the constant changes we are all facing.

Our convention has 16 speakers this year, with a fantastic array of technical papers and some fascinating generic topics thrown in. We also have one speaker virtually linking in from Europe.

The excellent social programme allows networking opportunities right from the start with the Welcome Function and Quiz Night.

We must thank everyone for supporting us through 2020 to now:

- Our wonderful sponsors help make this an incredible event.
- Our speakers have worked hard to prepare papers for you to learn from and enjoy.
- You, our delegates, for attending our convention in Hamilton.

We are confident that you will enjoy the friendly and personal nature of the SCANZ 2023 convention.

Penny Meads, Eric Baggen, Shaun de Baugh, Georgia Eyre & Donna Vincent
SCANZ Convention Committee

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GENERAL INFORMATION

Registration & Satchels - *sponsored by*

The registration desk opens at 4pm on Wednesday afternoon.
Please go to the desk on arrival to pick up your name badges and satchels.

Contact During the Conference

As a courtesy to speakers, delegates are requested to switch mobile phones to silent during sessions. Messages can be left at the registration desk. Delegates will need to check with the registration desk if they are expecting any messages.

Name Badges & Lanyards - *sponsored by*

All delegates will be given a name badge upon registration. This name badge is your official pass to all sessions, catering areas, the exhibition hall and any social functions. It is necessary for delegates to wear their name badge at all time when on-site.

No Smoking Policy

Smoking is banned in public buildings and many hotels and restaurants in New Zealand, including the conference venue.

Health & Safety

SCANZ and Novotel Tainui follow works diligently to provide a safe and secure environment at its conference and events by working with venue staff to make sure conference participants are safe. We ask that all attendees report any questionable or concerning activity to SCANZ staff so that they can take immediate action. No concern is too small, if you see something, say something.

- If you have any Covid-19 symptoms, please take a RAT test, available at the Reception Desk
- Masks will be available, and we encourage you to use them if you want
- First aid supplies will be available at the Novotel Reception area
- The nearest Chemist is at Centre Place, 501 Victoria Street, Hamilton (250 metres)
- The nearest Urgent Care Clinic is at Victoria Clinic, 173 Anglesea Street, Hamilton (900 metres)

Sustainability - *sponsored by*

100 native trees will be planted by Trees that Count / Te Rahi O Tane in the Waikato Region. According to the Tane's Tree Trust National Carbon Calculator, these trees will remove 43.55 tonnes of CO2 from the atmostphere after 50 years.

Liability Disclaimer

The Organising Committee, including the Conference Manager, will not accept liability for damages of any nature sustained by participants or their accompanying persons or loss or damage to their personal property as a result of the meeting or related events. In the event of industrial disruption or other unforeseen circumstances, the Conference Organisers accept no responsibility for loss of monies.

PROGRAMME

WEDNESDAY 21ST SEPTEMBER

12.00pm NZPMA AGM & GENERAL MEETING
Starts with lunch at Novotel Tainui

4.00pm REGISTRATION OPENS
Registration opens at Novotel Tainui from 4pm onwards.

5.30pm WELCOME COCKTAILS - sponsored by
The convention starts with a Welcome Function in Novotel Tainui for all delegates and partners. This is an excellent opportunity to catch up with old friends as well as network with those we may only meet once a year.

Drinks and Nibbles will be served, and our President will welcome everyone before we head off to the Quiz Night.

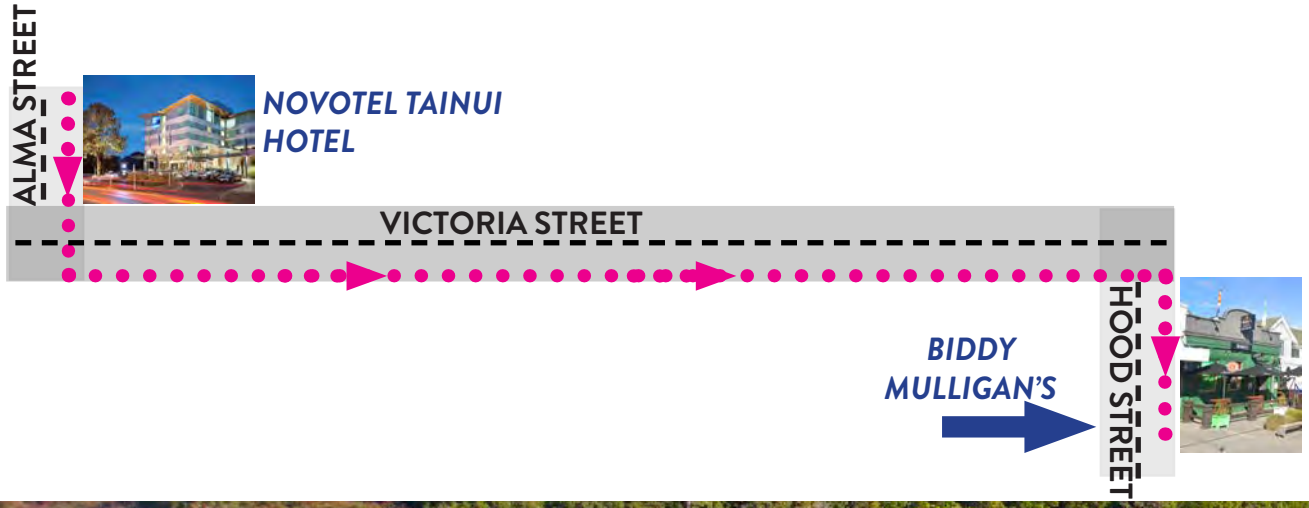
Special thanks to Dow for sponsoring this event.

7.00pm THE BRENNTAG QUIZ NIGHT - sponsored by
Held at Biddy Mulligans, 17B Hood Street, Hamilton, 550m walk from Novotel Hotel.

The Quiz Night has now become one of the most enjoyable aspects of the convention, with people forming their teams well before they arrive in Hamilton. This is a hotly competitive and fun night, and the questions ensure that no-one has an advantage!

Brenntag has been running this event since 2013 and it just keeps getting better! The Quiz starts at 7pm and will run for around 2 hours. Food is provided to keep the brain cells working.

Special thanks to Brenntag for sponsoring, organising and running this fantastic event!



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SURFACE COATINGS ASSOCIATION AUSTRALIA

THURSDAY 22ND SEPTEMBER

8.30am **SESSION ONE** – *Chairperson: Eric Baggen*

8.30am Official President's Welcome and Introduction
Eric Baggen, SCANZ

8.50am Spin Coating Curved Surfaces
Professor Mathieu Sellier, Head of Department, Mechanical Engineering, University of Canterbury

9.30am Extracting Silica from Geothermal-Electricity Fluids
Campbell McNicoll, Head of R & D, Geo40

10.10am MORNING TEA - sponsored by CHEMIPLAS

10.40am **SESSION TWO** – *Chairperson: Paul Armistead*

10.40am Arxada Troy: making great chemistry TOGETHER
Daniel Palm, Technical Services Lead Oceania, Arxada

11.20am Changing Regulations: Effect on Formulating for Success
Kevin Roden, Technical Sales Support Specialist, Troy

12.00pm LUNCH - sponsored by DKSH

12.50am **SESSION THREE** – *Chairperson: John Keramidas*

12.50pm APAS & PCCP
Sue Bartlett, SCAA

1.30pm Novel Antimicrobial Coatings Using Silver Nanoparticles
Eldon Tate, CEO & Founder, Inhibit Coatings

2.10pm Predicting Durability in the Future
Jack Hayden, R & D Team Leader, Resene

2.50pm AFTERNOON TEA - sponsored by IXOM

3.20pm **SESSION FOUR** – *Chairperson: David Hadfield*

3.20pm Synergies between Micro and Macro Additives in Mill Base – Simple Laboratory Screen Test
Joe Lombardo, CEO, Chemadd

4.00pm Urea and Polyurethane Thickener Technology – A Modern Way to Control Rheology
Mr Detlef van Pey, Technical Director, CliQ Swisstech

4.40pm DAY ONE CLOSE

6.30pm CONFERENCE DINNER - KIWIANA THEMED

We have a break to catch up with emails, relax and get ready for the Convention dinner, held in the same room as the sessions. The dinner theme of "Kiwiana" should showcase some interesting outfits, and we look forward to seeing what our Australian neighbours come as.

There will, of course, be the yearly update by our President, Eric Baggen, along with any official presentations and awards given out at that time.

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FRIDAY 23RD SEPTEMBER

9.00am SESSION ONE – *Chairperson: Jacqueline Hickman*

9.00am Water-borne Dispersion Developments for Architectural Coatings Solutions for Interior Premium and Sustainable Paints
Shehani Nanayakkara, Technical Services & Account Manager, Dispersions & Resins, BASF

9.40am The Importance of Manufacturing Support Programs for Ensuring Product Integrity
Dr Tass Karalis, Technical Manager, Thor Specialities

10.20am Sustainability in Packaging
Deanne Holdsworth, Manager, Pact Group

11.00am MORNING TEA - sponsored by

11.30am SESSION TWO – *Chairperson: Peter Walters*

11.30am Rheology and Dispersion Stability of Latexes Thickened with HEUR
Prof Ray Fernando, California Polytechnic State University

12.10pm Managing the Complexities of Next-Gen VOC-free Colorants
Tun Aung Hlaing– Regional Sales Manager, Fast & Fluid Management

12.50pm LUNCH

1.30pm SESSION THREE – *Chairperson: Eric Baggen*

1.30pm A Coating with a Difference
Steve Broderick, Chemiplas

2.10pm Update on NZ Business Environment
Kirk Hope, CEO, Business NZ

2.50pm Final Thank You and Invite to 2023 SCANZ Convention
Eric Baggen, President, SCANZ

3.00pm AFTERNOON TEA

STAYING FRIDAY AFTERNOON

There are so many things to do in Hamilton, if its a fine day, head to Hamilton Gardens, walk along the river, check out Zealong Tea, the Waikato Museum or even the Zoo, or experience one of the many fine restaurants just minutes away from the hotel.

STAYING SATURDAY

Now the choices are even better! Including the ideas above, what about heading to Hobbiton for a tour, or go to Waitomo for the glowworms, high tea at Zealong, or visit Sanctuary Mountain in Maungatautari.

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SPEAKERS

THURSDAY 22ND SEPTEMBER

SESSION ONE – 8.50am

PROFESSOR MATHIEU SELLIER

Head of Department, Mechanical Engineering, University of Canterbury

Since 2018, Mathieu Sellier is Professor of Fluid Mechanics in the Department of Mechanical Engineering at the University of Canterbury (New Zealand). He is also Head of that Department since 2019. Prof Sellier graduated with a Master in "Modelling and Simulation in Mechanics" from Université Grenoble Alpes (France) in 2000, then got his PhD from the University of Leeds (UK) in 2003 working on the development of numerical methods to better understand the flow of thin liquid films and droplets on complex textured surfaces for coating applications. From 2003 to 2006, he was a PostDoc at the Fraunhofer Institute for Industrial Mathematics (Kaiserslautern, Germany) in the Marie-Curie Research Training Network MAGICAL (Mathematics for the Glass Industry Computations and Analysis).

Prof Sellier started at the University of Canterbury as a lecturer in Theoretical Fluid Mechanics in 2006 and now leads the Interfaces and Inverse Problems lab (I&IP) — see link here. His research interests are broad but typically revolve around modelling free surface or multiphase flow phenomena at small scales for which capillary and wetting phenomena dominate (droplets and thin film flows) or at large geophysical scales (river or glacier flows). Prof Sellier's other area of research expertise is related to inverse problems for which one tries to infer the unknown causes of observed phenomena.

SPIN COATING CURVED SURFACES

Authors: Mathieu Sellier, Volker Nock, Edouard Boujo, Shayne Gooch, Selin Duruk, Ross Shepherd, Finn McIntyre

What do smartphone displays, solar cells, electronic circuit boards, and CDs have in common? They all tend to be flat, rigid structures. The reason for this feature relates to the fact that most of the manufacturing processes involved in the production of these objects have been optimized for flat, rigid substrates. The corner stone of these processes involves coating the substrate with a thin coating layer and a common technique, known for its effectiveness and low-cost, is spin-coating. To this day, spin-coating is only effective for flat substrates because it leads to non-uniformities on curved ones. In this research, we aim to extend the applicability of spin-coating to curved substrates. The hypothesis at the centre of the research project is that it is possible to distribute the coating uniformly on the substrate by imposing the correct motion kinematics to the substrate.

This presentation will summarize some of the accomplishments to date and the challenges ahead.

THURSDAY 22ND SEPTEMBER

SESSION ONE – 9.30am

DR CAMPBELL McNICOLL

Product Development Manager, GEO40

Dr Campbell McNicoll, graduate Canterbury University with a PhD in chemistry focusing on titanium dioxide nanoparticles. He then worked with an NZ based startup company developing a method to refine steelmaking slag into titanium dioxide pigment. He was the lead scientist and saw the development of the chemical process from lab to pilot to demonstration scale. He then joined Geo40 where He developed colloidal silica products to meet market demands. Finally, while at Geo40, He designed and build the lithium extraction process/pilot plant, being one of the first to producing battery-grade lithium carbonate from geothermal brines.

EXTRACTING SILICA FROM GEOTHERMAL ELECTRICITY FLUIDS

Geothermal aquifers are found all over the world and many are rich in dissolved silica and other valuable minerals. In the geothermal energy world, silica scaling in reinjection pipes and wells is a significant problem for the geothermal power plant operators. Geo40 has found a way to harvest the silica, turning a problem into a valuable product.

The Geo40's process for making colloidal silica mimics what nature has been doing all along. Steam is separated from hot geothermal water and used to generate renewable power. The separated water is cooled in Geo40's process and the dissolved silica becomes supersaturated forming colloidal silica nanoparticles. The colloidal silica nanoparticles are filtered out of the water, washed of trace minerals and then grown using geothermal heat into final products.

The colloidal silica harvested from the geothermal water can be directly substituted in many processes for colloidal silica made using the incumbent process. However, as Geo40 silica is derived from the waste of renewable power generation, it is near carbon neutral. Furthermore, Geo40 can use post-processing methods to produce tailored speciality products such as string sols, alumina modified silicas, surface modified silicas and deionized acidic sols, depending on the customers' needs.

Finally, by removing silica from geothermal water clears up pathways for harvesting other valuable minerals such as lithium, boron, caesium, and antimony. Geo40 is in the process of developing new technologies to harness these potential resources.

THURSDAY 22ND SEPTEMBER

SESSION TWO – 10.40am

DANIEL PALM

Technical Services Lead Oceania, Arxada

Daniel Palm is the Technical Lead - Oceania with the Arxada (formerly Lonza Specialty Ingredients). Daniel has a long history in providing technical advice and support to the Coatings Industry in Australia & New Zealand in the area of biocide use and associated strategies.

In his role Daniel is responsible for managing the Regional R&D/Tech Support Team along with Arxada's Local Technical/R&D Laboratory based in Brooklyn, Victoria and providing support to Arxada customers. This support includes the use of biocides, microbial control strategies in both products & formulations, R&D for the local market, and supporting development strategies of our customers to meet consumer, regulatory and sustainability goals and demands.

Daniel graduated from Monash University with a Bachelor of Science majoring in Biotechnology in 2004. He specialised in Microbiology and, during his career, has, utilising his microbiology expertise, run a number of QA/QC and R&D laboratories in a wide range of industries.

ARXADA TROY: MAKING GREAT CHEMISTRY TOGETHER

Who is Arxada Troy? What do they do? Where do they come from? In this presentation Daniel will introduce you to the new Arxada Troy... the coming together of two global market leaders in materials protection. We will also look at some snapshots of the R&D pipeline, the local R&D and Technical Support footprint and understand how Arxada Troy may be a new name... but is built on a solid foundation.

THURSDAY 22ND SEPTEMBER

SESSION TWO – 11.20am

KEVIN RODEN

Technical Sales Support, Troy Siam

Kevin Roden graduated from the University of Sydney with a degree in Microbiology and Pharmacology.

He has had extensive experience in microbiological testing and prior to employment for a biocide producer had been employed as Manager for two consultant Microbiological Testing Laboratories and Quality Assurance Manager for a vaccine manufacturer.

Kevin has been involved in the coatings industry for 30 years while working for biocide manufacturers, recommending biocides for varying applications and evaluating their performance in industrial and personal care products. Kevin is currently employed by Troy Siam in the position of Technical Sales Support Specialist.

CHANGING REGULATIONS: EFFECT ON FORMULATING FOR SUCCESS

Biocides are an essential component of paints to prevent degradation of water based paint while in the can and water and solvent based paint films. The choice of biocides to provide the required protection was usually made on cost and effectiveness with regulations a consideration. Unfortunately, regulations are becoming the driving force, reducing the biocidal actives which are available and limiting the concentrations that can be used.

This paper will look at the effect regulations have had on the biocides available for use and and the potential changes that may be required due to pending EU decisions and the consequences of these, in particular the way the EPA deals with the changes and effect these have for ECNZ requirements. It will also discuss several ways that the industry may move forward to ensure availability of biocides to afford good protection into the future.

THURSDAY 22ND SEPTEMBER

SESSION THREE – 12.50Pm

SUE BARTLETT

Lead Auditor PCCP / APAS, Secretary of SCAA Board, SCAA

Sue Bartlett is currently the Lead Auditor PCCP/APAS, Secretary of SCAA Board and SCAA Technical Co-Ordinator.

Sue has been a member of SCAA for 40 years, having joined the then OCCAA in 1982 as a QC Chemist at British Paints.

In 1985, she organised her first industry Conference in the Hunter Valley, where two days before the Conference started, airline pilots around Australia went on strike! It was amazing to see the 350 delegates all make their way to the Conference.

In 1986, Sue became NSW Section Chairman, and in 2000, she became the Federal President, a great honour. Sue has been both Board Secretary and Technical Co-Ordinator since 2018.

When the Technical Manager at British Paints advised Sue to join OCCAA, he said it would enhance her career within the Paint Industry; how right he was!

SCAA has allowed Sue to do many jobs within the Surface Coatings Industry, and she is very grateful for this.

SUPPORTING INDUSTRY ONE COAT AT A TIME

A presentation on the history of :

Australian Paint Approval Scheme (APAS) and Painting Contractor Certification Scheme (PCCP)

And The Collaboration between SCAA and CSIRO

THURSDAY 22ND SEPTEMBER

SESSION THREE – 1.30pm

ELDON TATE

CEO & Founder, Inhibit Coatings

Inhibit Coatings Limited is a New Zealand based company producing leading edge antimicrobial coatings. Inhibit Coatings uses a unique silver nanoparticle functionalisation method that produces physically robust, low-leaching and long lifetime antimicrobial coatings.

Dr Eldon Tate graduated with a PhD in Chemistry from Victoria University of Wellington, New Zealand, in 2016. He completed his PhD under the supervision of Professor Jim Johnston in the School of Chemical and Physical Sciences, Victoria University of Wellington.

His research focussed on functional materials, imparting new and interesting properties to plastics and paints through the incorporation of nanoparticles.

NOVEL ANTIMICROBIAL COATINGS USING SILVER NANOPARTICLES

Inhibit Coatings is a Wellington based company that develops antibacterial and antiviral coatings based on silver nanoparticle technology. Inhibit Coatings uses a unique silver nanoparticle functionalisation method that produces physically robust, low leaching and long life-time antimicrobial coatings. The technology produces silver particles evenly dispersed throughout the polymer coating.

Only very small amounts of silver are required - typically less than 0.1% - thanks to the excellent and well documented performance of silver as an antimicrobial agent, with proven activity against over 650 different microorganisms. The antimicrobial technology has been applied to a number of coating systems including acrylates, epoxies and polyurethanes. Independent laboratory testing of these coatings has shown them to be effective at reducing E. coli, S. aureus and L. monocytogenes by over 99.997%, and to have retained this antimicrobial activity after numerous cleanings with common cleaning agents. Antiviral testing has shown our coatings to be effective against influenza H1N1, feline calicivirus (a norovirus surrogate), and also human coronavirus with a reduction of > 99.9%.

Inhibit Coatings has been working with industry partners to develop antimicrobial coatings for textiles, food safety, transport and healthcare applications. Developments have included textile finishings, broadwall coatings and flooring systems.

THURSDAY 22ND SEPTEMBER

SESSION THREE – 2.10pm

JACK HAYDEN

R & D Team Leader, Resene

Jack Hayden is a paint chemist with 13 years' experience in the industry. He holds a BSc in Applied Chemistry from Northumbria University.

He started his career at International Paints working in the marine coatings department in Felling, England. He moved to New Zealand in 2017 to take up the position of Senior Research and Development Chemist at Resene.

He is currently the R&D team leader and is responsible for developing new products and supporting the factory through the technical laboratory.

WATER-BORNE DISPERSION DEVELOPMENTS FOR ARCHITECTURAL COATINGS SOLUTIONS FOR INTERIOR PREMIUM AND SUSTAINABLE PAINTS

With customers demanding more and more from exterior paint systems, how do we evaluate new technologies against their claims?

This talk looks to explore the challenges of predicting durability in experimental paint systems. What causes degradation in paint films? Is there correlation between accelerated weathering systems and outdoor exposure?

After exploring these questions and more, we will begin to understand the challenges in creating a paint for the harsh NZ environment.

THURSDAY 22ND SEPTEMBER

SESSION FOUR – 3.20pm

JOE LOMBARDO

Consultant & Agency Manager, Chem Add

Graduated with Diploma of Applied Chemistry (1976), Bachelor in Applied Science (1980), Post graduate diploma in Business Management (1986) and Commercial Law (1996).

Worked for ICI Australia, GAF Corporation, Rhone Poulenc, Henkel, Cognis and briefly with BASF (2011). Worked in R&D, Technical Service, Marketing and Sales. Over the last 20+years as Business Unit Management for Cognis with regional responsibility and Profit Management and most recently, as a Consultant.

Additives and understanding the importance in water based Coatings and general Coatings has been a key focus for more than 20 years. Other markets services include Cosmetics and Pharmaceutical, Wine and Beer Industry, Agricultural, Industrial Cleaning and UV Coatings.

My early years at ICI were focussed on pioneering work in rigid Polyurethane foams, Brake Fluids technology and Surfactant Technical service development in Australia and NZ.

OPTIMISING MICRO AND MACRO FOAM CONTROL ADDITIVES IN PIGMENT MILL BASE SYSTEMS - A PRACTICAL AND SIMPLE GUIDELINE

A case study on optimising the impact on using Micro and Macro foam additives in a mill base is presented. Theoretically and practically, most surface active materials do interact in dispersion and wetting systems to potentially form synergistic mixtures, which can enhance performance in some way, as well as final physical properties of the coating system.

This study demonstrates that in a typical mill base used for water based coatings, using a Micro foam control agents and a Macro Foam control agent together, at optimum levels, can result in enhanced performance in processing and final let down and dry film surfaces.

This study demonstrates a simple way for formulators to determine the optimum point.

THURSDAY 22ND SEPTEMBER

SESSION FOUR – 4.00pm

MR DETLEF VAN PEY

Technical Service Director, CliQ SwissTech

Mr van Pey is a qualified chemical technician. He worked 7 years for Martinswerk/ Albemarle to optimize aluminium trihydrate application as flame retardant in thermoset applications. In 1996 he joined RHEOX / Elementis technical support team. As Technical Service Director he was later responsible for support of rheological additives, dispersing agents, colorants and defoamers throughout Europe.

In early 2012 he joined CLiQ SwissTech as technical marketing director for the additive line CLiQSPERSE dispersing and wetting agents, CLiQFLOW rheological additives and CLiQSMART defoamers/special additives used in coatings, inks, thermosets & related industries.

UREA AND POLYURETHANE THICKENER TECHNOLOGY - A MODERN WAY TO CONTROL RHEOLOGY

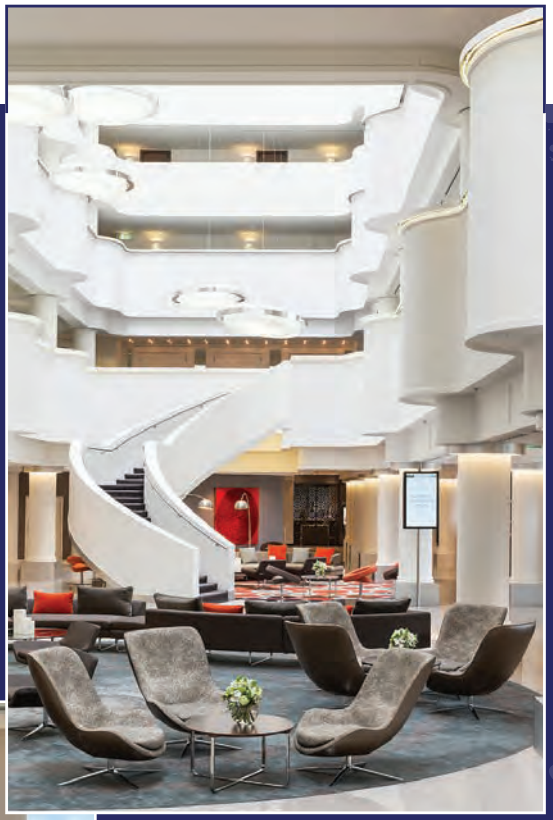
The presentation will cover two new rheological additive technologies based on urea and polyurethane technology for aqueous architectural and industrial coatings.

First part of the presentation will discuss a unique development in Newtonian polyurethane thickener with outstanding efficiency. The thickener efficiently provides high shear viscosity to improve hiding power and brush drag with limited impact on low- and mid-shear viscosity. The high efficiency allows reduced loading levels compared to conventional high shear thickeners resulting in less side effects in the final coating system and in an excellent cost-inuse position.

The second part of the presentation will discuss the new development of thixotropic additives based on a patented urea-urethane technology. This rheological additive class provides a strongly shear thinning, thixotropic flow behavior with limited impact on high shear viscosity. The controlled thixotropy results in an excellent balance between sag and levelling particularly for spray applied coating systems. They create a 3-dimensional structure at rest that provides elasticity to the system to keep pigments and extenders in suspension to prevent sedimentation at rest. The liquid urea-urethane thickeners are used alone or in combination with other rheological additives to improve the rheological properties.

The presentation will discuss the structure of both additives, their rheological properties and advantages compared to other thickener classes. Their use in common coating systems for industrial and decorative applications is also shown.

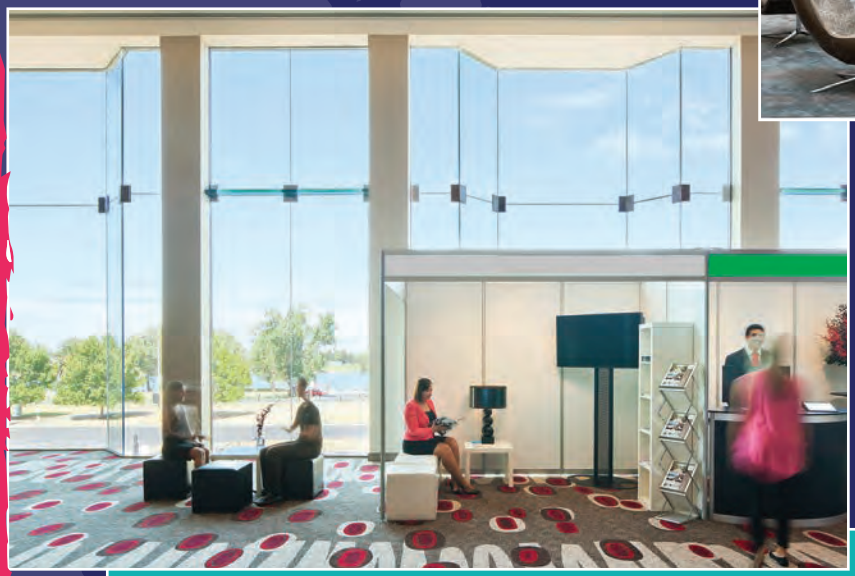
AUSTRALIAN COATINGS SHOW 2023



The Pullman

Albert Park, Victoria

Wednesday 24th
to **Friday 26th May**
2023



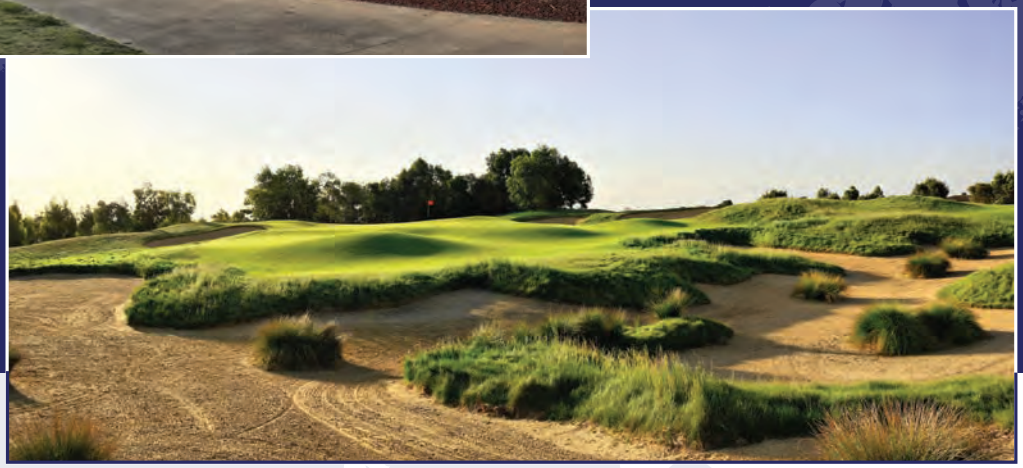
"The Exhibition Returns"

We're taking technical papers now!
Send to Daniel Palm: technical@australian-coating-show.com.au

Request a sponsorship & exhibition package
Garry Cooper: sponsorship@australian-coatings-show.com.au

General Enquiries
Sue Bartlett: chairman@australian-coatings-show.com.au

PRE CONFERENCE ACTIVITIES



"SCAA National Ambrose Championship"

Wednesday 24th May | Sandhurst Golf Club

Wednesday 24th May

Heidelberg Bowls Club

"SCAA Lawn Bowls Event"

More details available at:

www.australian-coatings-show.com.au

FRIDAY 23RD SEPTEMBER

SESSION ONE – 9.00am

SHEHANI NANAYAKKARA

Technical Services Chemist, Dispersions and Resins, BASF

Shehani Nanayakkara is the Technical Services Chemist and Account Manager at BASF in their Dispersions and Resins division.

Shehani has worked in the architectural coatings industry for the last 5 years after graduating with a Bachelor of Pharmaceutical Science (Formulation Chemistry) at Monash University. In her role as Technical Services Chemist, Shehani conducts product application tests in line with scientific validity principles in a variety of industries. Predominantly focusing on the architectural industry but also servicing the construction chemicals industry.

WATER-BORNE DISPERSION DEVELOPMENTS FOR ARCHITECTURAL COATINGS SOLUTIONS FOR INTERIOR PREMIUM AND SUSTAINABLE PAINTS

Authors: Shehani Nanayakkara, Rachel Sun, Akiko Tanabe, Juan Zhou, Nikolaus Raupp

The world 's resources consumption has outpaced the earth's regenerative capacity.

Providing safer raw materials is a well-established topic in the architectural industry. Examples being APEO free, low VOC and low odour options which can provide an immediate environmental and safety benefit to the consumer. Moreover, customers are increasingly requesting coatings that can provide a neutral or positive environmental impact. As manufacturers we now look to renew our perspective to include raw materials with increased renewable content and high CO2 emissions abatement potential.

BASF's BioMass Balance and Bio-based approaches offers our customers significant innovation in renewably sourced raw materials for dispersions. Herein we will discuss each process in some detail and some preliminary evidence with benchmarking results. As well as BASF's Project SCOTT a strategic CO2 transparency tool that will help us provide clear data outlining the carbon footprint of 45,000 individual sales products across all our industries.

FRIDAY 23RD SEPTEMBER

SESSION ONE – 9.40am

DR TASS KARALIS

Technical Manager, Thor Specialities

Dr Tass Karalis is a Microbiologist with interests and experience in food, environmental, cosmetics, pharmaceutical and medical device sectors. He holds both a BSc in Science and Mathematics at UNSW majoring in Microbiology and Biotechnology, as well as a PhD in Applied Bioscience at UNSW (Microbiology).

Experience has included;

- Microbiology Research Consultant with the Food Industry Development Centre at the UNSW
- Disease Surveillance with NSW Health
- Laboratory Director with a number of commercial consulting laboratories including the Merieux Group and Bureau Veritas

Dr Karalis has sat on various committees including the NSW Health Listeria committee, AQIS/Department of Agriculture Laboratory working group and the Microbiology committee of the Australian Institute of Food Science and Technology, had expertise in sterilization validation processes including Gamma irradiation, Ethylene Oxide and Heat Sterilization and is currently the Technical Manager at Thor Specialties

THE IMPORTANCE OF MANUFACTURING SUPPORT PROGRAMS FOR ENSURING PRODUCT INTEGRITY

Recent shifts in local and international regulations governing biocides have impacted a diverse range of industries as they seek to meet regulatory and labelling compliance. Focus on biocide replacement strategies with potentially weaker options has placed greater emphasis on holistic approaches to ensuring product integrity.

This paper discusses a broad approach to achieving formulation and process control with consideration given to hurdle technology, good manufacturing practice principles and other key support programs including environmental monitoring as a predictive tool, and the use of endemic environmental and product isolates in the validation of new or modified biocide systems.

FRIDAY 23RD SEPTEMBER

SESSION ONE – 10.20am

DEANNE HOLDSWORTH

General Manager, Pact Packaging NZ

Deanne has a background primarily in the manufacturing industry across multiple disciplines. Deanne started her career in the finance and accounting discipline and later moved into general management running two of Pact Groups business units and is now the General Manager of Sales for Pact Packaging NZ.

Deanne has a strong desire to see New Zealand businesses succeed in their sustainability values, with the Pact Groups' objectives to lead the circular economy supporting this.

SUSTAINABILITY IN PACKAGING

Sustainability is the buzz word for every industry and SCANZ is no different to any other. What can we learn from our own industry and those that surround us which will assist us in our packaging and messaging to customers? This session will explore various ways in which we can work towards more sustainable packaging in New Zealand, using some international and national guidelines around design and using the hierarchy of waste, and with our infrastructure in New Zealand.

FRIDAY 23RD SEPTEMBER

SESSION TWO – 11.30am

PROFESSOR RAY FERNANDO

Endowed Chair for Polymers & Coatings Specialty, Polymers and Coating California Polytechnic State University

Professor Ray Fernando has been the occupant of the Arthur C. Edwards Endowed Chair in Coatings Technology and Ecology at Chemistry and Biochemistry Department, Cal Poly SLO since 2002. He is also the director of Cal Poly's Kenneth N Edwards Western Coatings Technology Center. Ray Received his Chemistry B.Sc. degree in 1979 from Sri Jayewardene University, Sri Lanka. He received his Polymers and Coatings Ph.D. in 1986 from North Dakota State University, USA. He has fifteen years of industrial experience (3-years at Air Products and Chemicals & 12-years at Armstrong World Industries). Ray received the American Coatings Association's Joseph J Mattiello Award in 2018 and American Chemical Society's Roy W Tess Award in 2019.

RHEOLOGY AND DISPERSION STABILITY OF LATEXES THICKENED WITH HEUR

Understanding interactions among ingredients in waterborne latex paints is crucial for controlling their stability and rheology. In our prior work, ternary systems of latex-thickener-surfactant were investigated to further the understanding in this area. A well characterized HEUR (Hydrophobically-modified, ethoxylated urethane) thickener with C18 terminal hydrophobes, two experimental latexes (a butyl acrylate/styrene – BA/Sty and a butyl acrylate/methyl methacrylate – BA-MMA, each containing a small amount of methacrylic acid) and six different surfactants were used in those studies.

Results of those studies helped map out composition ranges for the onset of bridging flocculation instabilities and syneresis as well as the formation stable, fully bridged networks. The latex volume fraction in the previous studies was constant at 0.25. Our recent studies focus on determining the threshold volume fractions of the above two latexes for the onset of bridging flocculation and associated syneresis. Results available so far indicate that, at a 1% (by weight) HEUR level, the onset of flocculation and syneresis occurs at a very low volume fractions (0.02 – 0.10) of the BA/Sty and BA/MMA latexes. At latex volume fractions around 0.25, the mixtures become stable. A comparison of results between the two latexes, their analysis, and models to explain the results will be presented.

FRIDAY 23RD SEPTEMBER

SESSION TWO – 12.10pm

TUN AUNG HLAING

Regional Sales Manager, Fast & Fluid Management (A Unit of IDEX Corporation)

Tony Hlaing is the Technical Sales Manager (Oceania) at Fast and Fluid Management Australia. With a passion for electronics and machines, he joined FFM, the global leader in paint tinting solutions in 2017. Having worked closely with multiple paint companies, he commands broad practical experience in implementing and supporting tinting systems. He specializes in product installation, application testing, troubleshooting and product training. His excellent critical thinking and analytical reasoning help him solve customer problems quickly and efficiently.

He counts hiking and table tennis as his passion though DIY woodwork has emerged as his favourite leisure activity of late. He renovated his home all by himself! However, nothing gives him more joy than traveling and enjoying the diversity and heritage across the world.

MANAGING THE COMPLEXITIES OF NEXT-GEN VOC-FREE COLORANTS

For the decorative and architectural markets, coatings formulators have been innovating and introducing next-gen low and zero VOC colorants to create a more environmentally friendly coating that complies with the government regulations. Understanding the challenges when working with these complex colorants, while still achieving accuracy and repeatability is critical.

We will discuss these challenges in a case study of issues that occurred following a pour-over change from a traditional universal tint system to a Low VOC system. The challenges that arose, the difficulty tracing the root cause, the partnering required with all players to finally reach a solution, this from the perspective of a dispensing machine manufacturer.

We will also present the new technologies we have introduced to address these challenges, we've built some future-proof technologies for paint dispensers, such as the patented ZeroPurge™ or AutoDrive™. Innovations in stirring systems as well as ways we have improved reliability and reduced operator maintenance. Years of market research, product development, and testing in the field have enabled us to set a new standard in reliability, dispense speed, operator friendliness, serviceability, and sustainability. For example, the ZeroPurge piston pump not only makes life easier for the operator but also eliminates purged waste, ensuring more environmentally friendly paint dispensing operations. The AutoDrive not only offers ultimate reliability at high speed, but it also prevents colorant-related mistints. The result? Significantly less paint waste and a smaller ecological footprint.

Being the market leader in the tinting industry comes with certain responsibilities, the environmental impact being one of them. Apart from eliminating purge waste, we have also managed to create the most energy-efficient paint dispensers.

In this presentation, we would like to focus on the key challenges with VOC-free colorants and how our innovative technology based on customer collaboration and years of development ensure superior dispensing results, even with the most challenging colorants.

FRIDAY 23RD SEPTEMBER

SESSION THREE – 1.30pm

STEVE BRODERICK

Business Unit Manager, Chemiplas

Steve Broderick is the Business Unit Manager for Chemiplas NZ, having joined way back in November 2000.

Steve completed his MSc in Organic Chemistry in 1989 at the University of Port Elizabeth, South Africa, and joined SCANZ in 2003.

He is a well known figure in the NZ industry, and especially at SCANZ Conventions.

A COATING WITH A DIFFERENCE!

You are going to have to come along to see what this is about, but we can assure you, it will be memorable!

FRIDAY 23RD SEPTEMBER

SESSION THREE – 2.10pm

KIRK HOPE

CEO, Business NZ

Kirk Hope is Chief Executive of BusinessNZ, New Zealand's leading business advocacy group, representing thousands of businesses of all sizes.

Mr Hope and his Wellington-based team work with companies, organisations and political and other decision makers, advocating for New Zealand's success through sustainable economic growth.

Before joining BusinessNZ, Kirk was CEO of the New Zealand Bankers' Association. Prior to that he was Executive Director of the Financial Services Federation, the industry body representing the non-bank sector. He previously held a range of senior positions at Westpac, including Head of Government Relations and Regulatory Affairs.

Kirk holds a Master's degree in law, focused on regulation of financial services, and an Honours degree in political science.

Kirk has represented BusinessNZ on the 2018 Tax Working Group, the 2018 Fair Pay Agreements Working Group, the Future of Work Tripartite Forum, and is a Commission member of the Tertiary Education Commission, and a member of the Defence Employer's Support Council.

UPDATE ON NZ BUSINESS ENVIRONMENT

Including issues such as proposals for compulsory product stewardship and sustainability, funding for R&D, health and safety in the sector, dealing with local government, and also some of the more general issues for business, including:

- economic indicators
- levels of business confidence
- availability of skilled staff

SCANZ MEMBERSHIP

Who can Join?

Membership is open to anyone who has an interest in coatings, printing ink or adhesives. The science of surface coatings is involved in a wide range of industries. Consequently SCANZ draws its members from such diverse fields as paint, printing ink, adhesives and resins. Raw material suppliers and end users of these industries are also represented.

SCANZ aims to foster interest in all areas of surface coatings, not just the technical aspects. In line with this policy, its current membership includes people from purchasing, marketing and sales as well as scientists and technicians employed in the research and development, quality management and technical service fields.

SCANZ Activities:

These include both educational and social functions. Technical evenings and occasional plant tours are held as well as the occasional social event.

National functions such as the Annual Conference are organised by the Management Committee. Members are advised of planned events by email and a brief summary of the meeting is published in the Association's regular magazine "Brush Strokes".

Benefits of Membership

- Free attendance to SCANZ Activities
- Reduced price for SCANZ Annual Conference
- Bi-monthly copies of the SCANZ magazine "Brushstrokes"
- Notification of any other activities that may be of interest to members
- Access to Professional Grading

PROFESSIONAL GRADING

Through our membership of CSI, Coatings Societies International, and our affiliation with The Oil & Colour Chemists Association in the UK, we are able to offer, to suitably qualified and experienced members of SCANZ, internationally recognised, peer reviewed Professional Grading which provides those members admitted to the Professional Grade the right, so long as they remain financial members of the Association, to use the appropriate designatory letters after their name.

The three classes of Professional Grading are;

Licentiate: Professional Membership in the Class of Licentiate is the basic Class of Professional Grading. It is suitable for newly qualified applicants without significant industrial experience.

Designatory Letters: LTSC

Associate: Professional Grading to the Class of Associate is the Class of Professional Grading to which most Members involved in the Technical side of the Surface Coatings Industry will be eligible. To be eligible for this grading you are required to demonstrate that you have gained training and experience in the practice of surface coatings technology for a minimum of five years. You need to show is that you have acquired the skills and training necessary for you to undertake your employment in the technical side of the surface coatings industry.

Designatory Letters: ATSC

Fellow: Professional Grading to the Class of Fellow is the most prestigious Class of Professional Grading. Applicants will be required to demonstrate substantial evidence of professional achievement in the science or technology of coatings, The Association is looking for a position of senior responsibility in the science or technology of surface coatings, and expects you to have been employed in a company or educational establishment active within the surface coating sector. You will be expected to demonstrate that you have made a significant contribution to the scientific or technical development of the sector through publications (internal and/or external) and/or lectures to raise the standard of scientific, technical and professional knowledge of persons engaged in the Surface Coatings Industry.

Designatory Letters: FTSC