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PRESIDENT'S WELCOME

On behalf of the Surface Coatings Association of New Zealand, it is my pleasure to extend a warm welcome to all delegates, partners, guests and speakers to this, the 54th annual Convention.

I would especially like to welcome those who have travelled from overseas to be with us this week.

I am really looking forward to meeting you all again as we gather to take part in the technical programme, and also to enjoy each other's company once again. Some of us don't get to meet apart from this annual event, so there is always plenty to catch up on.

The Wellington Conference feels like coming home to the traditional heart of coatings manufacture in New Zealand. The local area and vibe is quite different to last year's Rotorua event. I hope we all get a chance to explore some of the local attractions. At least in Wellington we aren't dependent on the weather to enjoy ourselves. Like they say- you can't beat Wellington on a nice day!

This year I have had a couple of opportunities to meet with some of you at technical meetings here in town. The committee is really pleased to be able to support these meetings, and would encourage any opportunity for the Wellingtonians to get together on a regular basis.

The "Back to the Future" theme brings a little brightness to the proceedings, and hopefully conveys that balance between keeping the good stuff, but looking forward to new developments.

The United Nations themed social evening should give plenty of scope for fun. I'm looking forward to seeing how people run with this.

Please make a point of acknowledging our sponsors, and their support for this event, we really couldn't manage without them. A special thanks must go to our Gold and Silver Sponsors: Dow Coating Materials, Chemcolour and Nuplex. We also very much appreciate the effort that Brenntag and their team put in to create and run the pub night quiz event.

The speakers have put in a great deal of effort to bring interesting and useful papers to convention. I hope you enjoy the topics and can use the valuable information they provide.



I would like to acknowledge the special efforts of this year's convention committee, and those that contribute to make it a valuable event in our calendar. Steve Wilson, Penny Meads and Donna Vincent, have combined to bring it to fruition. Phil Coveny critiqued the papers for us, and Sue Peck has looked after our interests on the conference management side.

Finally, thank you all for attending and supporting this year's convention - have a great time.

David Kennedy, President, SCANZ

SURFACE COATINGS ASSOCIATION OF NEW ZEALAND INC.

Committee

President	David Kennedy
Immediate Past President	Peter Walters ^{FTSC}
Secretariat	Donna Vincent
Professional Gradings	Peter Walters ^{FTSC}
Awards Convenor	Tom Hackney ^{FTSC}
Education	Eric Baggen and Clive Bolt
Membership	Ransi Devendra ^{ATSC}
Technical Meetings	Rick Menalda, Pruthik and Rachana Patel

Brushstrokes Magazine

Editor	Tom Hackney ^{FTSC}
Co-editor	Peter Walters
Advertising	Jacqueline Hickman ^{ATSC}

2016 Convention

Steve Wilson
Penny Meads
Donna Vincent
Sue Peck



TECHNICAL PROGRAMME

Thursday 28 July

12:30	NZPMA Meeting
16:00	Registration Opens
17:30	WELCOME COCKTAILS
19:00	BRENNTAG PUB QUIZ

Friday 29 July

08:45	SESSION 1	Chairperson: David Kennedy
08:45	Official President's Welcome and Introduction	Mr David Kennedy, President, SCANZ
09:00	Novel Acrylic Epoxy Hybrid Technology for Metal and Concrete Protection	Dr Jia Tang, Dow Chemical Company (China)
09:40	Polyaspartic Urethane Coatings – Reducing Cost and Improving Painting Throughout	Peter Caley, Covestro Pty Ltd
10:20	MORNING TEA	
10:50	SESSION 2	Chairperson: Bryan Fifield
10:50	NZ Manufacturing Update and what the future might hold?	Catherine Beard, Executive Director of Manufacturing and Export NZ, Divisions of Business NZ
11:30	The changing shape of the NZ paint market	Richard Hansen, Dulux Paints
12:10	A New Generation of Acrylic Binders for Decorative and Flooring Applications	Richard Wheen, Nuplex
12:50	LUNCH	
13:40	SESSION 3	Chairperson: Cameron Lindsay
13:40	Sustainable Alkyd Based Coatings	Jonathan Huang, Croda Australia
14:20	Wood Structure and How It Relates to Coatings	Alan Dickson, SCION
15:00	Health & Safety at Work Act	Courtney Taylor, One Stop Management
15:40	AFTERNOON TEA	
16:10	SESSION 4	Chairperson: Simon Ward
16:10	Shaping the Future of Surface Coatings Preservation	Daniel Palm, Dow Chemical Australia
16:50	Digital Craft	Ross Stevens, Victoria University of Wellington
17:30	CLOSE	
18:30	FORMAL DINNER	After Dinner Speaker: Sir Ray Avery

Saturday 25 July

9:00	SESSION 1	Chairperson: Nigel Garland
9:00	New Asbestos Act Regulations	Terry Coleman, Coleman Consulting
9:40	Master Painters Association and Coating Problems They Encounter	Phil Wilkinson, Master Painters Association
10:20	MORNING TEA	
10:50	SESSION 2	Chairperson: David Kennedy
10:50	A Brief History of Surface Coatings	Peter Walters, SCANZ
12:10	CONFERENCE CLOSE	Mr David Kennedy, President, SCANZ
12:20	LUNCH	
13:10	WETA WORKSHOP TOUR	
18:30	THEMED DINNER - "UNITED NATIONS"	



BACK TO THE FUTURE

7th - 9th July | Rydges Hotel, Wellington

SCANZ CONVENTION 2016

SOCIAL PROGRAMME

Thursday 7th

5pm - 7pm

Welcome Cocktail Function held at Rydges Hotel

7pm - 9pm

Pub Quiz at The Old Bailey, corner of Lambton and Balance Street. A short 5 minute walk from Rydges. Finger food will be served. Kindly sponsored by Brenntag.



Friday 8th

6.30pm

Formal Dinner held at Rydges Hotel

Saturday 9th

1.10pm - 3.30pm

Weta Workshop Experience

The Weta Workshop Experience gives large groups a non-stop immersive experience from the moment they step through the doors. Located just a few minutes from the Weta Cave, the Weta Workshop experience is nestled discreetly in the industrial movie hub of Miramar, Wellington. This cavernous space allows for large groups to experience a first-class guided tour that takes you through the creative process of design through to the final product. Exclusive photographs that showcase the processes used for different disciplines will assist your guide in talking your group through how Weta Workshop create for film, such as Armour & Costumes, Weapons & Props, Creatures & Make-up FX, Miniatures & Models, Conceptual Art and Merchandise.

- Hosted by members of the Weta Workshop crew
- Learn about their stories and experiences
- Exclusive insight into the processes used by Weta Workshop in creating physical props, costumes, creatures and more
- Get up close with movie props, costumes and armour
- Learn the secrets of behind the movie magic!

Buses depart 1.10pm and return to Rydges at 3.15pm

Cost \$42 per person



6.30pm

United Nations Themed Dinner held at Rydges Hotel

DISCLAIMER

Every effort has been made to present as accurately as possible, all the information contained in this brochure.

The Surface Coatings Association NZ and SP Conference Management will not be held responsible for any changes in the structure or content of the program and any general or specific information published in this brochure. The organizing committee reserves the right to change any or all of these details.



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SPEAKERS

Dr Jia Tang

Research Scientist, Industrial And Functional Coatings R & D,
Dow Coating Materials, The Dow Chemical Company



Dr Jia Tang is currently the Research Scientist in Industrial and Functional Coatings R&D, Dow Coating Materials, The Dow Chemical Company. She is based at the Dow Shanghai Centre, and has been focusing on the development of water-borne coatings for industrial coating applications including metal protection and wood coating. Prior to joining Dow, Jia received her Ph.D. degree in Physical Chemistry from University of

Pennsylvania, and her master and bachelor degree from Fudan University, Shanghai, China.

Abstract

Two component water-borne epoxy systems have been used for many years to provide protection over various substrates including metal and concrete. However, current water-borne epoxy coatings are generally slow drying with poor UV stability. Herein, an acrylic epoxy hybrid system based on Designed Hybridization technology will be introduced which allows fast drying, long pot-life, and improved UV stability with lower cost compared to traditional water-borne epoxy coatings. This type of acrylic epoxy hybrid system can be cured with various types of curatives to provide the balanced performance required by multiple application areas, including metal protection, concrete floor protection, commercial walls etc. In this paper, the design of this acrylic epoxy hybrid system, application results and performance benefits in various applications will be discussed.

Ross Stevens

Design Futurist, School of Design, Victoria University,
Wellington



Ross Stevens is an industrial designer, academic and design futurist. He has worked with many of the world's leading designers, including Philippe Starck, and with high end audio brands. He co-founded Design Led Futures - exploring ideas 80 years in the future for major international brands including Nike and Vodafone. He is a senior lecturer at Victoria University School of Design in Wellington, New Zealand.

Abstract

When I started working with 3D printers 15 years ago I thought they would magically produce finished products at the push of a button. Fortunately this wasn't the case so I still have a job and plenty to teach future students.

My presentation will illustrate how the VUW School of design has developed an approach called 'Digital craft' that explores the subtle relationship between the virtual (CAD) and physical world (3D printers). The projects shown will include low cost filament based printing in diverse materials including biopolymer wood and flexible TPU (thermoplastic polyurethane). More advanced examples of dynamic multi-property polyjet printing for the medical and film industries will also be shown and explained.



Coating Materials





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Keynote Speaker

Ms Catherine Beard

Executive Director of Export NZ and Manufacturing NZ, divisions of Business NZ



Catherine Beard is Executive Director of Export NZ and ManufacturingNZ, divisions of Business NZ, New Zealand's largest business advocacy group, representing thousands of businesses of all sizes.

The Business NZ group includes four large regional business associations, the Major Companies Group, Export NZ, more than 70 affiliated industry associations and Buy NZ Made.

The group's goal is New Zealand's prosperity through successful business.

Catherine works with government and other key decision makers on issues of concern to exporters and manufacturers.

Catherine has spent the last 20 years as a lobbyist and advocate for a wide range of industries on a wide range of issues, including on climate change issues for the energy intensive sector, all aspects of the fire and general insurance sector and the agricultural sector (dairy focus). Catherine has participated in Prime Minister led trade missions to Indonesia and China and represents BusinessNZ at annual Global Federation of Competitiveness Council meetings.

Catherine was also a co-founder of a start-up business designing and manufacturing children's nursery furniture, for which two products won national design awards

Richard Hansen

Executive General Manager, Dulux Paints New Zealand



Richard was appointed to his current role in January 2014. During more than 15 years with DuluxGroup Richard has held a range of sales, marketing and business management roles in the Dulux, Selleys and Yates businesses. Most recently he was Business Manager for Selleys Australia and New Zealand.

The changing shape of the NZ Paint Market

Richard will cover the changes seen in consumer habits, hardware chains, brand movements, over the past, with predictions about where things may go in the future.

He will touch on changes in colour technology and digital trends.



BusinessNZ

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Richard Wheen

Nuplex Resins, Botany, NSW, Australia



Richard graduated from the University of NSW, Sydney, in 1977 with a B.Sc (Hons & University Medal) in Pure & Applied Chemistry. He began his working life in analytical chemistry at CSR's Central Laboratory in Sydney in 1973. This was followed by various Plant, Project & R&D Chemist roles in the Distillery, Sugar Refining, Building Materials & Chemicals Divisions of CSR.

In 1980 he turned his hand to Chemical Engineering & took responsibility for production at CSR's Phthalic Anhydride & Plasticiser plants in Sydney, at a time when phthalate plasticisers were regarded as benign!

He began CSR's shift into specialty chemical manufacture in 1984 by introducing Emulsion Polymerization of vinyl acetate / ethylene copolymers to Australia, & his specialization in emulsion polymers has continued to this day. He has held various Plant & R&D roles in Emulsion Polymer Development & Manufacture with Kemrez, ICI / Orica, APS Chemicals, & then from 2002 with Nuplex. He lives near Sydney & currently manages Polymerization R&D for the ANZ Region of Nuplex Resins.

A New Generation of Acrylic Binders for Decorative and Flooring Applications

Resin supported emulsion polymers are widely used in the printing ink industry as they exhibit near-Newtonian rheology and re-solubility properties needed for flexographic applications. The stabilizing resin colloids used are water soluble polymers with a high acid content, & as a result, the emulsion polymers that they stabilize show poor water resistance in many coatings applications.

Nuplex has developed a novel core/shell process in which the shell initially functions as a nucleating site and then as an in-situ colloidal stabilizer. The molecular weight and the acid content of the shell can be controlled to achieve a very fine particle size, a good balance of hardness & low minimum film forming temperature (MFFT), & improved water resistance. Furthermore, rheological measurements have shown that these core/shell emulsion polymers can be designed to exhibit near-Newtonian rheology. They enable the development of low VOC coatings with fast dry, good hardness, & desirable chemical & abrasion resistance. The coatings can be applied by brush, roller & spray, & can be used beneficially in a wide range of applications.

nuplex

Jonathan Huang

Business Development Specialist – Coatings & Polymers (Asia), Croda



Jonathan is a Business Development Specialist at Croda, responsible for growing sales and margin of the Coatings & Polymers product portfolio across all Asia Pacific, based in Singapore. Prior to this role, Jonathan worked as Graduate Trainee for Croda Singapore with various rotations into Technical and Operations job roles. Jonathan holds a Bachelor's in Chemical and Biomolecular Engineering from Nanyang Technological University, Singapore.

Sustainable Alkyd Based Coatings

VOC reduction programs and volatile raw material prices will dramatically change the coatings market over the coming years. The challenge for the resin producer and paint formulator is to develop binders and coatings with minimal solvent levels that have unchanged dry film properties and are cost effective.

At the same time, demand for more sustainable products using ingredients made from renewable raw material source is growing. Easiest approach to include renewability in the paint formulation is by using water borne alkyd binders.

It is relatively easy for the resin producer to prepare water borne alkyds via emulsification of standard alkyd resins using external polymeric 'oil in water' emulsifiers. No new polymer development or modification is required. Investment costs are minimal as emulsions are prepared in a stirred pot with low mixing speed. Emulsions have a physical form and stability comparable to popular latex binders. This technology gives the formulator an opportunity to develop cost effective water borne coatings using traditional alkyd resins.

CRODA



Alan Dickson

Research Scientist, SCION



Alan Dickson is a botanist and microscopist who has worked on the end-use of wood fibre for over 20 years. His active areas of research have principally been in pulp/paper, printability, dimensional stability and wood plastic composites. His particular interest lies in the role of fibre dimensions and structure in product performance.

Wood Structure and How It Relates to Coatings

Wood is a biocomposite material that has two basic roles in a tree; to structurally support the weight of the leaves and branches, and to conduct water to them. It has evolved over millions of years and has a complex structure to meet the 'design' requirements to perform these functions. When humans use wood, they usually take it beyond its original design specifications and this has a number of consequences. This presentation will give an overview of wood structure and function and how its properties affect its end-use performance. It will cover aspects of plant anatomy macro to ultrastructural level, with special reference to the role of water.



Courtney Taylor

One Stop Management



Courtney Taylor is a Risk Management Specialist with more than 30 Years' experience working in both Australia and NZ. Courtney is the MD of OSM Ltd who provide a professional advisory and consulting service across all industry groups in the specialist field of managing workplace hazards in a very pragmatic manner. Courtney has spent 9 years as a front line health care professional as a paramedic in QLD Australia and has a keen interest in the behavioural sciences and holds formal qualifications in Health & Safety and Industrial Psychology.

Health & Safety at Work Act

The new Health & Safety at Work Act was created to minimise the number of deaths and serious injuries that occur in workplaces in New Zealand.

The legislation now in force is stronger than it has ever been, with a requirement for everyone to be involved, and actively participating in Health & Safety at their workplace. While the news is highlighting the new responsibilities of Directors and Owners, everyone from the managers to staff also have responsibilities. The "She'll be right" attitude is no longer acceptable. This talk goes through the requirements and responsibilities of everyone's roles, so you know what is expected of everyone you work with, including yourself!





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Daniel Palm

Customer Application Specialist, Dow Chemical Australia Ltd.



Daniel Palm is a Customer Application Specialist with Dow Microbial Control and commenced in that role in 2010. Daniel is responsible for managing the advanced Microbiology laboratory, referred to as Dow Microbial Controls Customer Application Centre in Altona, Victoria, Australia. In Daniels role the provides technical support and assistance to customers in the Australia & New Zealand region.

This support includes the use of biocides and microbial control strategies in both products/formulations and R&D, also, integral to his role, is supporting customers in plant hygiene, biocide handling and safe use, product stewardship, and regulatory compliance.

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

Friday Night Dinner Speaker Sir Ray Avery



Sir Ray Avery is a successful businessman, scientist, inventor and social entrepreneur.

2010 New Zealander of the Year, more awards than we can list here, and in 2011 was awarded the New Zealand Order of Merit, Knight of the Grand Champion for services to philanthropy.

Always entertaining and engaging, Ray's observations on the business community and the human condition are enlightening, relevant and very funny.

Shaping the Future of Surface Coatings Preservation

Biocides, in a surface coatings application, are essential – you can have the world's best formulation but without the right preservation package it's ineffective. Surface coatings preservation, both in-can and dry-film, is a rapidly evolving environment: we demand more from less. We're driven to provide low to no VOC formulations, low ecological and mammalian toxicology profiles, and we're driven to use more sustainable raw materials whilst delivering on greater functionality from our surface coatings products. So how do we achieve the balance of regulatory compliance, consumer pressures and offering sustainable products, whilst meeting increased functionality demands from our biocides? As an industry we need to evolve using our knowledge from the past to drive innovation for the future.

In this paper we will consider the pressures being placed on surface coatings formulators from local and overseas regulations, to functionality requirements. We'll also review alternatives to traditional chemistries that meet the demands being placed on us as manufacturers and ways in which these can be employed to meet an evolving and rapidly changing landscape.





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Peter Caley

Covestro Pty Ltd



Peter Caley is currently a Sales Manager for Covestro Pty Ltd (previously Bayer Material Science), based in Melbourne. Peter is responsible for sales of Covestro polyisocyanates, polyols and other raw materials for the surface coatings industry. He has been involved in the surface coatings industry for more than 27 years in his role with Covestro/Bayer and earlier with Ciba Geigy, Ciba Specialty Chemicals and Huntsman, in both NZ and Australia.

Polyaspartic Urethane Coatings – Reducing Cost and Improving Painting Throughput

Two-coat polyaspartic urethane coatings have been used to protect steel structures for well over a decade now. Polyaspartic urethane coatings combine the inherent benefits of both epoxy and polyurethane coatings into a single high build UV-resistant coating. The high build nature of these coatings allows for the reduction in the number of coating layers from three to two, creating significant value for both the contractor and owner. Studies have shown that the application of these fast throughput systems to save Departments of Transportation (DOTs) up to 20% on field repainting costs, while also allowing completion of the job 31% faster than a three-coat zinc/epoxy/urethane system. This paper will discuss several topics including a brief overview of polyaspartic technology, cost and throughput advantages, 3rd party accelerated testing and real world field performance.



Phil Wilkinson

Training & Assessment Manager, Master Painters Association



Phil has been part of the Painting and Decorating industry for over 30 years. Having completed a Painting and Paperhanging apprenticeship in 1987, he has owned and run a successful painting company and a busy retail paint outlet. After selling the retail business in 2005, Phil joined Dulux. After initially managing a large trade store in Auckland, he took up a training role, delivering training courses for Dulux's retail customers such as Mitre 10, Guthrie Bowron and Bunnings, along with training of Interior Designers, some Trade customers and Dulux staff.

Currently Phil is the Training and Assessment Manager for Master Painters NZ Association. This role encompasses delivery of training courses for the membership, providing assessment for MPA's Quality Assurance Programme and providing help and advice to consumers and MPA members.

The courses delivered include dealing with Lead based paint and small business management style workshops.

Taking up more and more of his time is the delivery of painting workmanship assessments and reports. These are completed for Insurance companies and painting contractors but most are completed for home owners. Often these reports are used as evidence in Dispute Tribunal hearings helping to provide resolution to the problems faced. Approximately 70 assessments were completed nationally by Phil last year and this is continuing to grow at a rapid pace.

Living in Auckland, Phil is married to Karen and they have 2 children aged 18 & 20.

Master Painters Association and Coating Problems Their Painters Encounter

The Master Painters NZ Association represents the people who actually use the product that SCANZ members make.

As the Training and Assessment Manager, Phil will give an update on the Association, and the problems that their members are seeing out in the field.

These include:

- Shrinking weatherboard
- Use of dark colours, incorrect products
- Heightened consumer expectation
- Surfactant leaching
- Multi layer delamination

This will give you an idea about what applicators and consumers expectations are in a paint coating ... sometimes the impossible!



Peter Walters

Paint Historian, SCANZ



Peter is the Immediate Past President of SCANZ and has been an active member of OCCA/SCANZ since 1976

Peter contributes the Painted Memories section in Brushstrokes, a section that has been in almost every copy of Brushstrokes since June 2002. Painted Memories has also been published in the SCAA Journal since October 2015.

Peter commenced his career in the Coatings Industry in 1971 by working as a part time salesman in the Levene Paint and Wallpaper stores to finance his degree in Chemistry from Auckland University.

Since graduating from Auckland University in 1975 with a Master of Science degree in Chemistry Peter has been employed by Dulux, Stresscrete, Wattyl and Protective Paints in various Surface Coatings related technical roles.

Peter attended his first Convention, the 16th OCCA Convention, in 1978 and has presented papers at the 2003 and 2004 SCANZ Conventions.

In 2007 Peter was admitted to the class of Fellow in the International Professional Grade Register administered by OCCA UK.

Peter was a foundation student in the inaugural Diploma of Surface Coatings Technology course commencing at A.T.I. in 1980, and from 1982 to 2000 presented Lectures and conducted the Labs for the Non-Convertible Coatings and, from time to time, the Solvent section of this course as it was offered, first at A.T.I. then A.U.T. and finally Auckland University.

From 1982 to 1989 Peter was on the committee of OCCA, now SCANZ, serving as Secretary from 1986 to 1988 during the period that OCCA NZ become independent from OCCA UK. He rejoined the committee in 2009 as the Professional Gradings Convenor and subsequently served as President from 2013 to 2015 and is currently the Immediate Past President.

Because of his interest in history he has become the unofficial archivist and historian for SCANZ.

A Brief History of Surface Coatings

Starting with the present time this presentation will proceed back in time and demonstrate how Surface Coatings, in their broadest sense, are integrally entwined with the culture and history of mankind back to the earliest appearance of Homo Sapiens on this planet.

The change in marketing of coatings reflective of the prevailing culture and Mores of the time will be discussed.

Pigments and coatings used by cultures outside of the more usual Mediterranean and European traditions will be explored and the presentation will conclude with recent discoveries that have provided tantalising hints that Surface Coatings were used by some of our non Homo Sapien cousins and ancestors.





NOTES



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