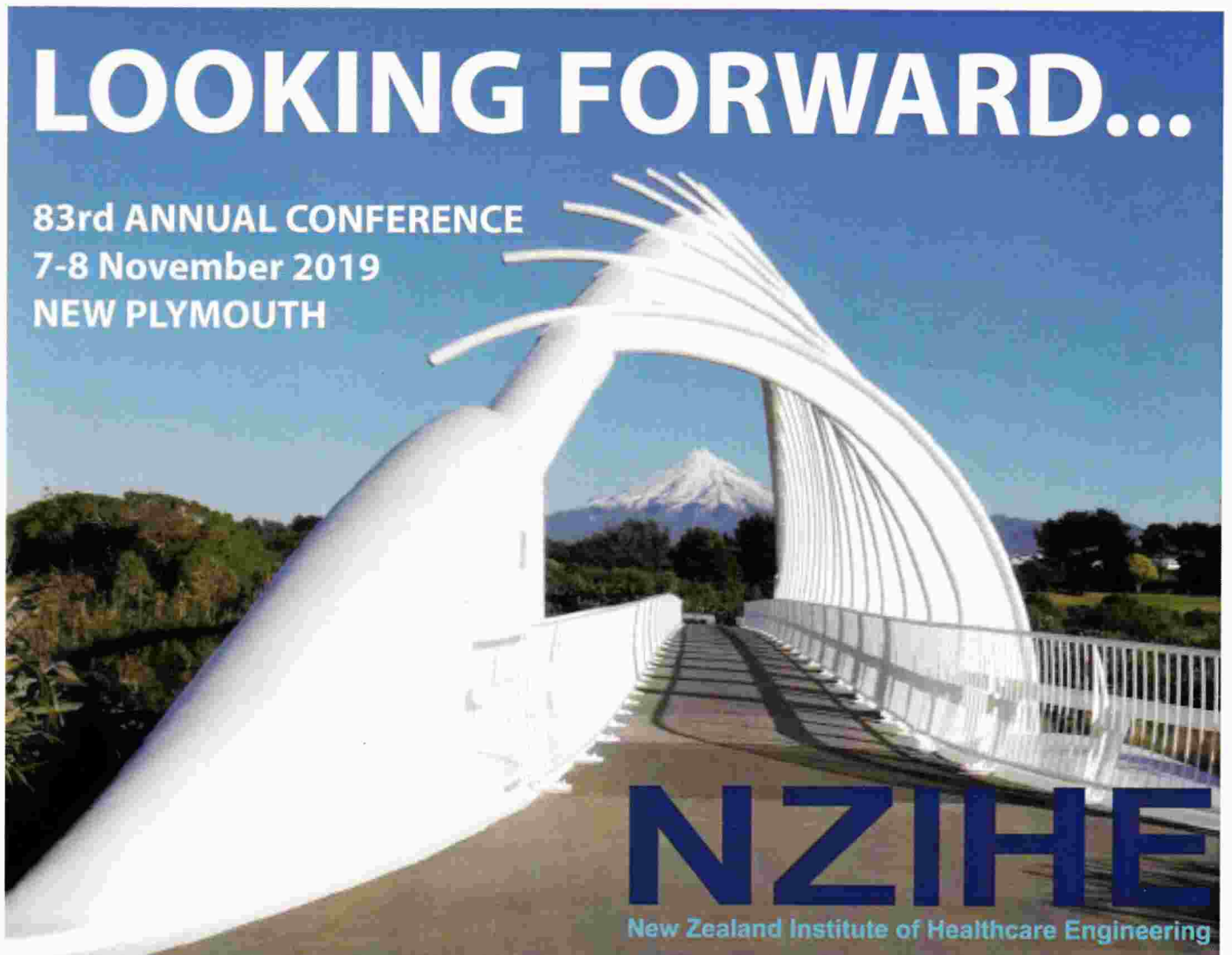


THE HEALTH ENGINEER

LOOKING FORWARD...

83rd ANNUAL CONFERENCE
7-8 November 2019
NEW PLYMOUTH



New Zealand Institute
Of
Healthcare Engineering

SEPTEMBER 2019

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New Plymouth Conference 201913



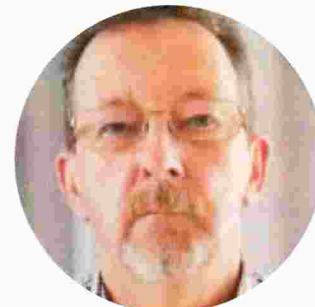
Institute Officers

- President: **Gavin Carey-Smith**
- Vice President: **Michael Brown**
- Secretary: **Warren Crawley**
- Treasurer/Membership: **Bob Duncan**
- Executive Officers: **Doug Moller**
Max Christensen
Kevin Miller
Kevin Flower
- Immediate Past President: **Zane Lee**

Editorial

Wow! Where has all the time gone this year? I would hazard a guess that all of us are busy people and, in reality, this year has probably only been as busy as any other year but phew! It seems to be rushing by. Perhaps, for me, some of it is from organising this year's conference in New Plymouth. I was told it would be easy. All you have to do is follow the plan. Well not sticking to the plan and a couple of health issues later I'm **really** pleased to advise we have a conference worth "Looking Forward" to. More inside: Some changes have been made to our website with executive member Michael Brown acting as webmaster. Check it out at www.nzihe.org.nz. And our Facebook page is also live as well at www.facebook.com/NZIHE.

There have been some necessary interim changes made to leadership roles in the Executive. These require ratification at the AGM held on Thursday 7th November as part of the New Plymouth Conference. Also Nominations were called for the election of officers to fill the vacated positions. The election of officers will be a part of the same AGM. This magazine is yours to contribute to. Perhaps you're a bit like me and have never done anything truly exceptional in your working life. But in my experience lots of ordinary people, making small changes, to seemingly unexceptional things, is the stuff of inventiveness and progress. Drop me an email at rewolfnivek@gmail.com with information regarding your successes and/or failures. Your



information may assist other readers or even be the kick-start for someone to finally invent that Star Trek Tricorder or better yet their Transporter. And then if you happen to be one of those people who manage truly exceptional things maybe you'd like to share the experience with some of the rest of us. I hope you enjoy your read. See you at the NZIHE conference in New Plymouth this November.

*Kevin Flower
Editor.*

Presidents Report

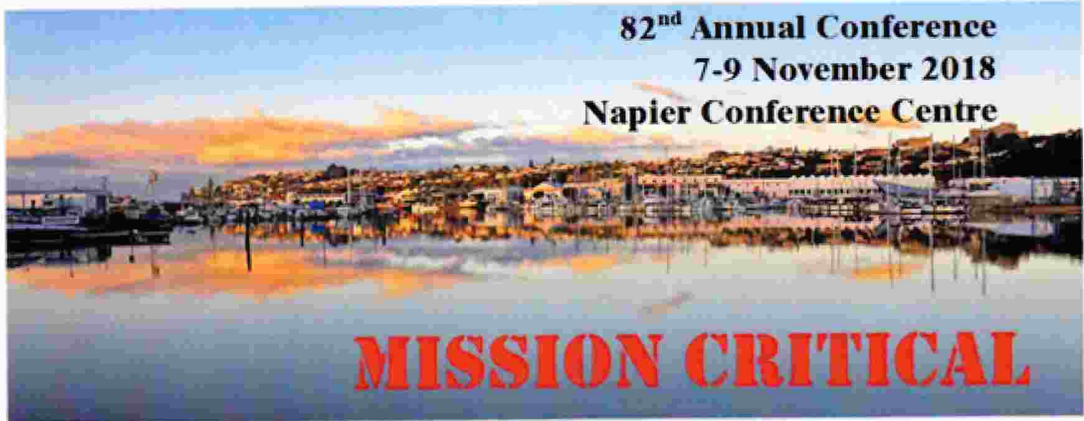
It is with a degree of pride that I present my first President's report for the NZIHE. This year has seen many challenges and the strength of the executive continues to impress me. The executive met formally on few occasions throughout the year. This year individual executive members have been given specific tasks and these have been accepted and carried out without pomp or fanfare. Specifically, Doug has been talking with the EWRB to re-establish relative safety training for all Bio meds. Michael has been very busy creating a new website that is more user friendly. The rest of

the executive have been busy gathering content so that we are able to provide useful and relevant information. Kevin has been putting long hours working on this year's conference in New Plymouth. I have been privileged to see a draft content and this is shaping up to be excellent. Since I have stepped up as President in November last year, I have been very proud of Executive. There has been a lot of change with the ever-present Tony Blackler stepping back and the retirement of Nigel Cross. There have been a couple of new faces with Kevin Miller and Michael Brown stepping in as executive members and

have added a lot to the team. If anyone else wants to get involved, please come and talk to one of the team. This is a very rewarding role and a great bunch of guys to be involved with.

*Zane Lee
President.*





Thanks to our Sponsors for Conference 2018 Napier

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NZIHE Napier 2018 conference

Report on Clinical engineering sessions.

Members of our NZIHE clinical engineering were treated to a worthy, interesting and thought provoking sessions. These followed a very worthwhile training day hosted by Dani from the Medical Room Ltd. On benchtop autoclaves. A huge thank you must go to Steyn for organising this for us.



This year we broke into facilities & clinical engineering sessions on several occasions.

An interesting off beat presentation by HBDHB's microbiologist Neil Campbell kicked off our session on Thursday 8th followed by our valued attendees from ECRI institute.

James Keller described the very real threat of cyber security and its actual known effects on clinical equipment. It reminded us of our responsibility to manage these risks and the tools we have.

James also presented on the Friday 9th regarding the global trends in clinical engineering and the fact that clinical engineering is one of the fastest growing professions in the world. Among topics discussed were the perplexing and continuing issues of working with IT departments in our hospitals.

Udai Kumar from Bay of Plenty DHB outlined the responsibility of the clinical engineer in planning and implementation of radiotherapy departments. This is an area where clinical engineering needs to be more active and fully engaged, especially when our technicians hold radiation licences.

While it was not amongst the Clinical engineering presentations, John Craven's entry in the rapid 20 presentations provided a hugely

well received, comical, look at the role of a shift engineer in a busy hospital. A true super man!

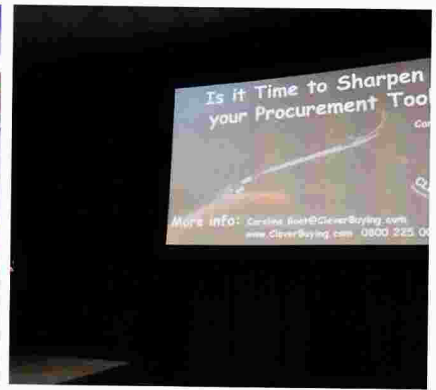
Pharmac presented to us regarding the integration of medical devices into their portfolio and the current procurement investigations on medical devices.



The trade evening again presented a wonderful display of the latest & greatest of both facility & clinical engineering interests and provided a very convivial session with of our great trade supporters.

Well done to Paul McCartney, Steyn, Gavin and Megan for another highly successful Napier conference. I look forward to New Plymouth 2019.

Doug Moller



Partners in Napier enjoying a Winery visit

From Workhouse to the 20th Century, the “old boy” Story Continues

I accepted the offer to transfer to the New Charing Cross Hospital as Assistant Engineer, and stay for a year; this was September 1972, after a 2 year stint at West London Hospital.

The new hospital had been built on the site of Fulham Hospital which had started out as a Workhouse on the site around 120 years previously.

The old hospital still consisted of Nightingale wards, but had a fairly new Geriatric wing which was to stay. It also boasted of a Dialysis unit which was set up as an isolation area, which you had to change to enter the unit. It was also designed to be able to change lights from the ceiling space above which also housed the toilet cisterns.

The site that had been chosen as the original Charing Cross Hospital was just behind the Strand and not particularly easy to access by road in the sixties, let alone today. It was also a teaching hospital and required up to date facilities.

The New hospital had a foot plan in the shape of a cross and was 18 Storeys high to house 664 patients which included 40 private beds on the 15th Floor.

The building was fully air conditioned, had 22 lifts and 2 escalators and all water used in the building was softened due to the hardness of London water.

My position was to assist

with transfer of Mechanical and Electrical services from the Fulham Hospital to the new hospital with little or no disruption to patient services, plus work in with the contractors and commissioning personnel.

Fortunately on my arrival all steam services were being delivered from the new hospital and the boiler house was completely commissioned with 3 oil fired boilers producing a maximum of 32,000kgs/hr at 8.3bar. Most of the main plant had been accepted and handed over.

The Engineers Department was also residing in the Basement area. There were 5 shift teams comprised of a supervisor, 2 electricians, 2 fitters and a plumber plus a day work team including painters, carpenters and labourers.

With a fully air conditioned building, there were 3 Trane centrifical chillers of 609 tonne chilling capacity with 3300V motors in the basement, the main air distribution was from a 2 storey plant room on the 12th & 13th floors, thus not having to put patients on the 13th floor. 10 theatres were housed on the 14th floor.

The water distribution was softened in the boiler house and held in tanks in the basement before being pumped up to the distribution tanks throughout the building. The basement tanks could store up to 3 days'

supply of water. All distribution pipework was copper and there was a clean and dirty distribution network, plus the laboratories had piped distilled water.



Waste water was also in copper connecting to cast iron downpipes, other than laboratory waste which was carried out in Borosilicate glass. Rain water also used cast iron downpipes. PVC was used in the 2 high rise Nurses homes.

We did have one problem with the glass wastes when somehow a small solid object was introduced and smashed through one of the bends. The hospital was fitted with a Building Management System allowing plant to be monitored and control of stopping and starting plant. As this type of plant monitoring was in its infancy at the time, critical alarms were given overriding priority. This meant that if a critical alarm went off the system would stop what it was doing and go straight to the alarm point which meant that if the operator was doing something on the BMS they had

to stop and acknowledge the alarm and then try to start their operation again. For the year I was at Charing Cross I can't remember the system operating effectively.

The nurse call system was also over designed, in my opinion, the call system went back to a central station where an operator, with a nursing background, would receive the call and would allocate what assistance the patient required via a 2 way speaker system at the bed. It also relied on the nurse to activate a push button every time they entered or left a room.

The patients moved in about March 1973 and the Queen

officially opened the hospital in May.

Once all the patients were out of the Fulham Hospital it was time to disconnect services and demolish the old building. A lot of the building was deconstructed prior to the bulldozers arriving.

One of the other buildings built as part of the redevelopment was a staff recreation centre which included a swimming pool, squash courts and a bar where you could have lunch, not too sure if it's available in these times.

One funny event that happened just after the new hospital opened involved a pond

that was built by the main entrance. No one was given the responsibility for looking after it. So as the algae multiplied the pond turned a lovely shade of green. One wet evening someone went running out the main entrance and thought he would take a short cut across the grass. Fortunately no major injury was involved; just embarrassment. And there was no paperwork to fill in.

I enjoyed the year spent at the New Charing Cross hospital, but it was time to move to the antipodes and start another part of my life and to also meet the in-laws.

Bob "The Old Boy" Duncan.

LOOKING FORWARD...

83rd ANNUAL CONFERENCE
7-8 November 2019
NEW PLYMOUTH



Conference Information

The New Zealand Institute of Healthcare Engineering would like to invite you to the 83rd annual conference to be held at The Devon Hotel from 6-8th November 2019.

The conference kicks off on Wednesday with training days for Facilities and Clinical Engineering staff, followed by welcome drinks from 5pm on Wednesday night, venue to be announced. Everyone is welcome to attend and catch up with friends and colleagues. Thursday sees the start of the conference presentations. Trade Night will round out the day from 6-9pm at The Plymouth International.

Following the Friday presentations will be the annual dinner at The Devon Hotel from

6pm to midnight.

Also on the Thursday and Friday a Partners' Programme will be run which includes visits to local attractions.

Keep up to date with the NZIHE 2019 Conference & Trade Evening on the conference website at nziheconference.org.nz.

Our Theme - Looking Forward

The theme for the NZIHE Conference & Trade Evening 2019, "Looking Forward", recognises that change is a constant in the field of health.

Healthcare engineers need to learn from past experience with emerging technologies, while also being aware of, and ready for, new technologies that are

currently evolving and may well be realities in the not too distant future. Only by looking forward can we be prepared to adapt our systems and workplaces for these new technologies which promise major changes in how we will be operating in the years to come.

Speakers

There is a great line up of speakers this year - you can find information on them all on the nziheconference.org.nz.

Training Day 6th November

Clinical Engineering
The Medical Room's Steven Threlfo will offer training on basic engineering principles of anaesthetic machines and how this related to the anaesthetic

machine daily check: the functional components of the Boyle's design of anaesthetic machines; the anaesthetic machine daily pre-use check and basic operator level fault-finding techniques; health and safety relating to anaesthetic machines; and relevant Australian and New Zealand College of Anaesthetists (ANZCA) professional standards.

Facilities

Morning Session: Caroline Boot of Clever Buying will facilitate a training session on turn-key procurement skills. Starting with a simple and powerful model for procurement planning, you and your colleagues will work together on a health infrastructure scenario to build, update and refine your procurement skills.
 Afternoon Session: Principal Sponsor Airepure has kindly agreed to provide a

training session on design considerations for operating theatre ventilation systems, run by Kristian Kirwin. This session will cover: current guidelines and standards (Australia/ World) for hospital filtration/ operating theatres (where they are heading, what they are trying to achieve, and how they achieve it); the various issues (temperature, airflows (OA v ACR), pendants, lights, buoyancy effects, room pressurisation/ cascades); and filtration mechanism/standards and HEPA Testing.

Registration

Clinical Engineering Training Day (limited availability) **FREE**
 Facilities Training Day **FREE** (limited availability)
 Partners programme **FREE** (does not include Conference Dinner)
 Full registration... **NZ\$500+GST** (Two days, including Conference Dinner)

One day registration... **NZ\$250+GST**
 Extra Conference **NZ\$100+GST**
 Dinner ticket

Please register online at:
<https://www.nzihconference.org.nz/register/>

Accommodation

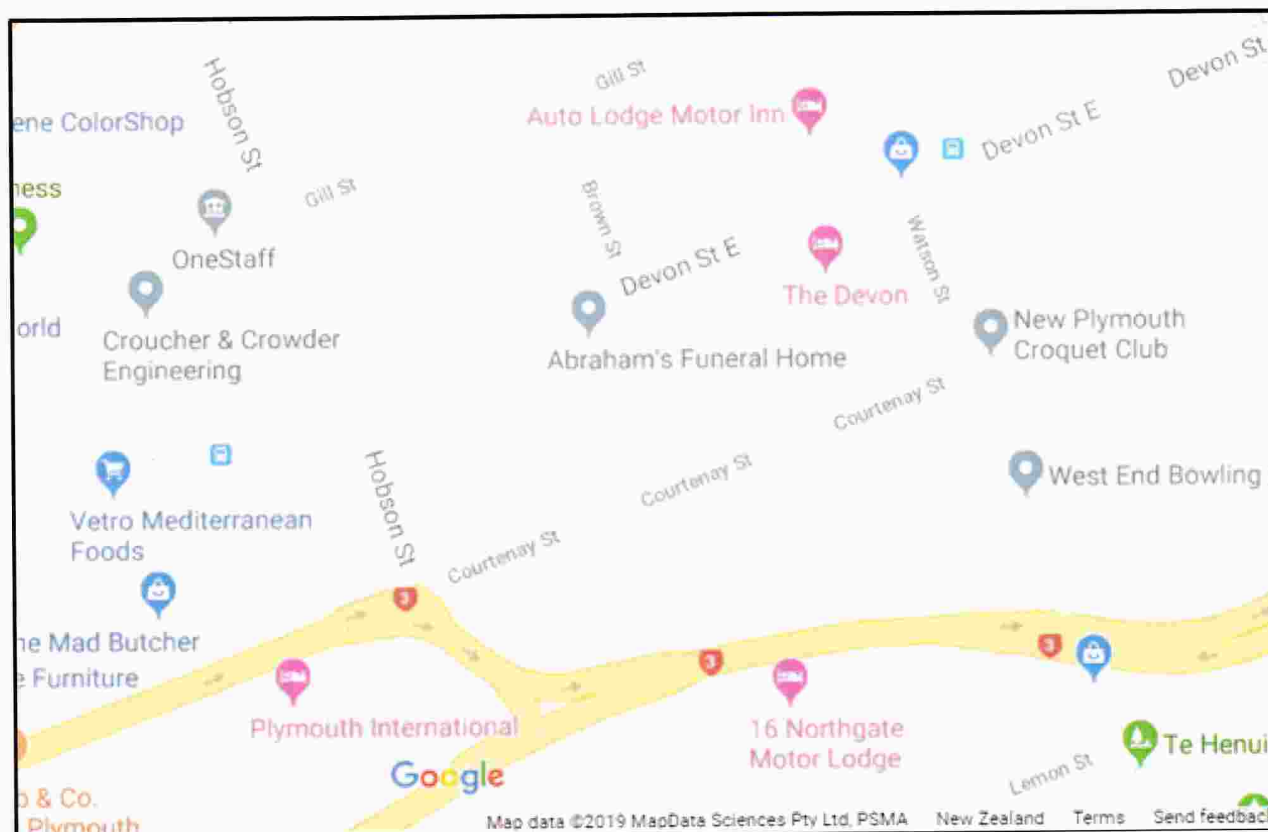
The conference accommodation is at the venue – book direct with The Devon Hotel.

Trade Night

Trade Night will be held from 6-9pm on Thursday at The Plymouth International. As always, food and drinks will be supplied throughout the evening.

Annual Dinner

The annual dinner will be held at The Devon Hotel. Following dinner we have lined up a great band with a 1970s theme, so come dressed up to dance under the disco ball!



NZIHE 2019 CONFERENCE & TRADE EVENING

WEDNESDAY 6 NOVEMBER 2019

Clinical Engineering Training (all day): *Dani Forster, The Medical Room*

Facilities Training (morning): *Caroline Boot, Clever Buying*

Facilities Training (afternoon): *Kristian Kirwin, Airepure*

THURSDAY 7 NOVEMBER 2019

- 8.30 Registration
- 9.00 Official Welcome
- 9.05 Welcome to Taranaki (*Dinnie Moeahu*)
- 9.30 Back to the Future: National Asset Management (*Leigh Halstead, Ministry of Health*)
- 10.00 What the new Government Procurement Rules mean for the health sector (*Caroline Boot, Clever Buying*)
- 10.30 MORNING TEA
- 11.00 Medical Product Development (*Craig Shannon, Globex Engineering*)
- 11.30 Domestic Hot Water systems in Healthcare (*Stefan van Rooij, Waikato District Health Board*)
- 12.00 LUNCH
- 1.00 Hasta la vista, baby... Embracing the digital (*Jaco Maartens Aurecon*)
- 1.30 Current and Emerging Digital Technologies (*Kevin Thickett, Aurecon*)
- 2.00 Dental School Install (*Glen McConachie, DentMed*)
- 2.30 Draw over anaesthesia (*Steven Threlfo, Anaesthetics Trainer, The Medical Room*)
- 3.00 AFTERNOON TEA
- 3.30 ANZEX Exchange and IHEA Conference Report (*Michael Brown & Rob Arian*)
- 4.10 NZIHE AGM
- 6.00 TRADE EVENING, The Plymouth Hotel

FRIDAY 8 NOVEMBER 2019

CLINICAL ENGINEERING STREAM

- 9.00 New Massimo Technologies (*Jo Banks, Promed*)
- 9.30 The process of validating sterilisers (*Kevin Green, Northland DHB*)
- 10.00 Standards, NZSSA and Education (*Alison Stewart, Sterile Science Association*)

FACILITIES STREAM

- 9.00 Clean Power (*Graham Blackmore, UPS*)
- 9.30 Project Maunga - Taranaki Base Hospital Redevelopment (*Ian Grant, TDHB*)
- 10.00 Low carbon future - the key role of engineers (*Andrew Eagles, Green Building Council*)

10.30 MORNING TEA

- 11.00 Medical Gas Pipe System Design, Installation & Management (*Robert van Woerden, Keith McIlroy, & Andy Booth*)
- 12.00 Steam in healthcare infrastructure - past, present and future (*Henry Biggelaar, Spirax Sarco*)
- 12.30 LUNCH
- 1.30 Near-Infrared Spectroscopy – Seeing into the brain at the bedside (*Dani Forster, The Medical Room*)
- 2.00 M10 ward bed - developing the safest medical bed (*Anthony Batley & Angus McLeod, Howard Wright Ltd*)
- 2.30 Site visit to Howard Wright Ltd, New Plymouth
- 4.30 BACK TO VENUE
- 6.00 CONFERENCE DINNER, The Devon Hotel

NZIHE Conference Speakers

Caroline Boot
Managing Director
Clever Buying
MBA(Hons). BSc. Dip.Tch.
MNZIM

Over the past 20 years, Caroline Boot has been heavily engaged in improving tendering practices, for both clients and suppliers throughout New Zealand, across the Asia-Pacific region and beyond. Through Clever Buying, Caroline and her colleagues provide practical procurement support for public sector organisations, including



Probity Auditing, qualified Chairs for tender evaluations, Procurement Planning, RFT Documentation Development and Tender Evaluation Scoring Scale Development. Caroline also trains procurement through the well-known two-day Clever Buying course and leads a team of assessors for the NZQA Level 6 Procurement Qualification. She is dedicated to working with government organisations to sharpen the tools and processes that they use to make public expenditure decisions.

Kevin Thickett
Digital Lead, NZ Built Environment, Aurecon
BIMinNZ Wellington Chapter co founder & current chair

With over a decade of experience delivering projects with BIM, and a similar time

working in 2D, Kevin works with Aurecon's clients and internal teams to ensure the maximum benefit is gained from current and emerging technologies. This includes strategic planning and implementation, as well as



identifying which technologies bring the most benefit & should be adopted, and developing systems and processes to ensure that value is realised.

Jaco Maartens
Buildings of the Future Lead
- Built Environment, Aurecon
NZ CPEng, CMEngNZ

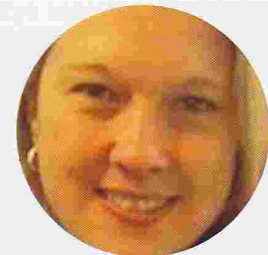
Jaco is the Building of the Future lead for Aurecon in New Zealand. This includes developing what the 'digital future' looks like for clients and designers. His goal is to understand and deliver digital solutions to clients in a practical way. Jaco is a Chartered



Professional Engineer with a background in mechanical engineering and experience leading multidiscipline design teams to deliver complex building projects.

Dani Forster
Director, The Medical Room

Dani Forster has 18 years experience as a Biomedical Engineer and 6 years' experience as a Biomedical Engineering Manager. She specialised in Biomedical Engineering after graduating from The University of Melbourne with Bachelor degrees in both Electrical Engineering and Computer Science.



Whilst training in Melbourne she received both the National Siemens Prize for Innovation for an alarm for the Bubble CPAP neonatal respiration system and the Victoria Fellowship for research involving the algorithms used in hearing aids. Danielle has recently returned to Australia from 10 years in the UK where she gained experience as a Biomedical Engineer and managed the Medical Equipment maintenance and repair services at Kings College Hospital in London. Danielle is completing her PhD, the Optimising Cooling for Hypoxic Ischemic Encephalopathy (OCHIE) study. The OCHIE study aims to model the cerebral haemodynamics of normal and HIE neonates using Doppler Ultrasound and Near Infrared Spectroscopy and in doing so identify the physiological parameters which may be utilised to individualise hypothermia treatment. Dani is also dedicated to

establishing a dedicated training programme for Biomedical Engineers and Associates in Australia as the Director of The Medical Room. The Medical Room, a company dedicated to providing quality, competency-based vocational training for biomedical technicians and engineers, and the effective recruitment of technical staff for the healthcare sector.

**Craig Shannon
Mechanical Engineer, Globex Engineering Ltd**

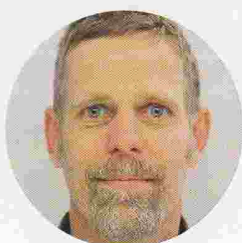
Craig is an experienced Product Design Consultant with a demonstrated history of working in the mechanical or industrial engineering industry for both high and low volume



projects locally and abroad. His training is in engineering with a BE hons in Mechanical Engineering from the University of Auckland. Craig has been with his current company of Globex engineering for 7 years doing product engineering for a variety of products like large recycling bin moldings, high end audio, medical devices and security devices.

**Robert van Woerden
Keyport Ltd**

Robert is qualified mechanical engineer with an electrical service technician registration and is a certified Authorised Person, medical gas pipeline systems to HTM. Robert worked for Keyport for the past 21 years



in sales, supply, installation, validation and servicing of medical equipment.

**Glen McConachie
Dental and Medical Equipment Limited**

Glen started his working career as a watchmaker. Following the closure of this business he joined Doug and Tric Moller at Dental and Medical Equipment Limited. After a couple of years of learning the ropes of dental and medical equipment servicing and repair Glen was able to put his fine dexterity skills to work



specialising in dental hand piece repairs. Around the same time Glen successfully completed a Certificate in Sterilising Technology which led to his senior role attending to autoclave repairs and servicing within the University of Otago Dental School and the private Mercy Hospital. In 2013 he took over the supervision and coordination of the University of Otago Dental School Clinical Workshop for Dental & Medical Equipment. The knowledge/skills gained here placed him in an ideal situation to take a lead role in the University of Otago Dental School Clinical Services Multistage Redevelopment programme. This commenced in 2015/2016 with relocation of the Simulation Clinic from the Dental School into the previous Children's Ward at Dunedin Public Hospital. With Dental and Medical Equipment Ltd being the nominated service provider for the installation of the Dentsply Sirona Equipment for the Dental School rebuild Glen was appointed Project Manager for the company. In this role Glen

worked closely with Dentsply Sirona Germany, the University of Otago Project Team and the main building contractor Leighs Cockram throughout the planning stages and the installation of 214 new dental chairs plus associated support equipment and 35 new x-rays. Scheduled to be a 42 day activity, with building delays and complications the installation of the equipment carried on for eight months, much of the time while the construction of the building continued around it. The completed Clinical Services building was handed over to the University of Otago late May 2019 completing Stage 1 of the redevelopment.

**Andy Booth
ABC Pipefitters, Auckland**

Andy has a degree in engineering as well as being certified to HTM MGPS as an Authorised Person. He has extensive experience in the project management and validation of medical gas pipe system both in New Zealand and



previously in the UK. Andy has been involved in many of the largest medical gas project in NZ from design and specification to installation and validation.

**Keith McIlroy
Medical Gases Installations Ltd, Tauranga**

Keith is a Certifying Plumber and has been involved in commercial plumbing for the last 38 years. For the last 12 years he has been involved with installation of medical gases in the Bay of Plenty region and is certified to HTM MGPS, both

as a Competent Person and an Authorised Person. For the last two years Keith has been carrying out the



verification of new MGPS installations throughout the country.

**Kristian Kirwin
Airepure Director &
Engineering Manager**

B.ENG Mechanical
Kristian has amassed over 15 years' experience within engineering, estimating and project management, working closely with several major end users, builders, mechanical and consulting engineers, providing technical support and engineering knowledge. He has specialised experience in air filtration solutions within containment, pharmaceutical and health science industries, including the direct impact on



mechanical service trades. Kristian is a Director and National Engineering Manager for Airepure Australia – a national air filtration company providing unique, powerful and integrated air filtration solutions, ranging from basic HVAC filtration through to high end HEPA/ULPA filtration and custom airborne containment technologies.

**Henry Biggelaar
National Engineering
Manager, Spirax Sarco
Australia**

Henry has over 30 years of experience working in the Mechanical and Process Control fields of Engineering, with the last 19 years being at Spirax Sarco, who are the leading supplier of Products, Expertise and Solutions for the control and efficient use of steam. Although now based in Australia, Henry originates from New Zealand and retains a good knowledge and understanding of steam using plants and facilities throughout New Zealand, and continues to provide technical support to New Zealand. His sound practical experience, coupled with Mechanical and Process Control qualifications, and many years of steam specialisation with Spirax Sarco, allows Henry to offer a holistic approach



when it comes to the analysis, design and control of systems and processes that use steam. As a result he has an ongoing involvement and input into most institutions and industries that use steam, including the Healthcare sector where he has been heavily involved in ensuring Spirax Sarco are able to offer solutions and services that allow Health Care Organisations to comply with the Australian and NZ standards. Henry is also involved in providing training within the Spirax Sarco organisation in the Asia Pacific region, where he is able to draw on his knowledge and experience to help maintain the high level of expertise within the company.

**Anthony Batley
R&D Manager, Howard Wright
Ltd**

Anthony is the Research & Development Manager at Howard Wright Limited, a leading medical bed and stretcher designer, manufacturer and marketer based in New Plymouth, New Zealand. Anthony has a degree



in mechanical engineering and has a total of 19 years product development and manufacturing experience of which 18 years have been spent developing medical devices.

**Alison Stewart
Tutor Sterilising Technology,
Treasurer New Zealand Sterile
Science Association**

Alison has 20 years involvement with the sterilising industry from initial introduction to the industry as a Technician at Wairau Hospital, Blenheim through to Service Leader at Capital & Coast District Health Board (CCDHB) Wellington. These roles provided Alison with exposure to different size hospital environments and other areas such as dental and



gastroenterology. Since being involved with education Alison has provided support to smaller environments including private practices. Alison is an active member

of the New Zealand Sterile Sciences Association as their Treasurer and representative on the joint New Zealand Australian committee which has oversight of the joint Australian/New Zealand standard 4187 Reprocessing of reusable medical devices in health service organizations. Alison also participates in working groups for development of infection prevention and control guidelines and education programmes.

Kevin Green
Manager, Central Sterilizing Unit, Northland DHB

Kevin has 28 years in sterilization related disciplines, starting as a validation technician based at Auckland Hospital, working for Medisys Ltd. Kevin has additionally filled many other roles within Medisys and Wilson Medical over 14 years. From 2004, Kevin was self-employed providing service and validation to healthcare providers, along with cosmetic laser equipment service and

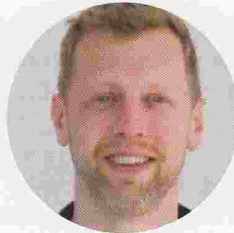


calibration. In 2012 Kevin joined the Northland DHB, in his current role.

Kevin has been involved with NZSSA since 2016 and is conference organiser for their 2019 Wellington conference.

Angus McLeod
Senior Mechanical Designer,

Howard Wright Ltd
Angus has worked with Howard Wright Limited for the last 8 years as a Design Engineer. Prior to Howard Wright he worked with other medical device



companies, also having a short time as a design engineer within the animal pharmaceutical industry, totaling 13 years of medical device design experience.

Steven Threlfo
Trainer, The Medical Room

Steven has over 30 years of experience in hospital based Biomedical Engineering, with 10 years in a specialist role within Anaesthetics and Intensive Care, which included servicing and maintaining current generation electronically controlled equipment.

Steven's knowledge, spanning the change from pneumatic to electronic control of anaesthetic machines was used to provide input to the Australian and New Zealand College of Anaesthetists (ANZCA) professional standards PS31 and PS54. When looked at together, these two standards provide guidance on the selection, maintenance and testing of anaesthetic equipment used in Australia and New Zealand.

Steven has worked on overseas aid projects in Papua New Guinea, countries in the South West Pacific and Vietnam. Based on this experience, for over 10 years he has provided



input to the annual Australian Society of Anaesthetists Real World Anaesthetics Conference, (RWAC), a one week

training course for qualified anaesthetists from Australia and New Zealand who have an interest in participating in medical outreach or disaster relief in resource poor environments.

In collaboration with a senior paediatric anaesthetist, Steven introduced draw over anaesthesia as a teaching tool at John Hunter Hospital in Newcastle NSW. This involved upgrades to basic equipment, as would be encountered in a resource poor environment, to make it safe for use in any hospital operating theatre in Australia or New Zealand. This work preceded and in part contributed to sanctioning of the technique by special mention in ANZCA PS54.

Steven is currently employed by The Medical Room as a trainer specialising in anaesthetic equipment.

Leigh Halstead
Principal Advisor, National Asset Management Plan,

Ministry of Health
Leigh has a long career in property information and databases. He started his career as a registered valuer and more recently in a range of property roles.



Leigh is currently assisting the Ministry of Health in the development of the National Asset Management Plan. He is drawing on his Local Government experience, where he was a part of the introduction in asset management in councils. Having held leadership roles in Rangitikei and Kapiti Coast District Councils he is aware of the hard decisions that need to be made with limited resources.

As part of the National Asset Management Plan project, Leigh has a particular focus on the current state of DHB buildings and infrastructure, seismic resilience and the Health Asset Register Tool (HART) which will hold, analyse and display the national picture of DHB assets.

Jo Banks
Account Manager, Promed Technologies

Jo has been involved in the medical industry for over 35 years both in a clinical capacity as a registered nurse and for the last 15 years as an Account Manager for Promed Technologies. Her understanding of the technology involved in the monitoring of life saving parameters draws on this experience and allows



her to present from both perspectives. Her knowledge and understanding of all levels of the healthcare industry enables her to address not only

clinical outcomes but also the science and research that is such an integral part of modern devices.

Ian Grant
Project Director, Taranaki Base Hospital Redevelopment

Ian is the Project Director, Taranaki Base Hospital Redevelopment Stage 2 & Stage 3. He is leading the development of the Stage 2 business case following Better Business Case methodology and process (estimated value \$150m). Ian is



responsible for procurement of consultant services for site master planning, asbestos survey and management plan, site wide infrastructure review, detailed seismic assessments and building condition assessments, as well as liaising with capital investment portfolio officials at the Ministry of Health and Treasury, and reporting to the TDHB Chief Finance Officer and the DHB Board.

Graham Blackmore
Director, UPS

Graham has 29 years in the generator/distribution and UPS critical power systems electrical market in New Zealand and the Pacific Islands.

Graham originally trained with New Zealand Electricity Department (NZED) - now Transpower - where a solid understanding of the Power Station 110V-120VDC Battery, 48 Volt comms / 24 Volt comms/ SCADA, control and protection systems along UPS systems and battery strings design



was needed, installing and maintaining these at various Power, HVDC Converter Stations and Substations across New Zealand. This solid electrical grounding has given Graham a proactive approach to a critical electrical system design and implementation, and this is regularly passed on internally to the UPS engineering team, and externally to professional engineers across New Zealand.