

## Engineering & Physical Sciences in Medicine Conference 2017

### Program

*Program subject to change*

**Sunday 29 October**

0900 - 1700	ACPSEM Council Meeting	Mezzanine Board Room
1700 - 1900	Registration & Information Desk Open	Exhibition Foyer
1730 - 1900	Welcome Reception	Exhibition Foyer

# Engineering & Physical Sciences in Medicine Conference 2017

## Program

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Monday 30 October

0800 - 1730	Registration & Information Desk Open	Exhibition Foyer
0800-0845	Asia Pacific Special Interest Group Meeting Chair: Simon Downes	Wellington 1
0900-1030	Chair: Anne Perkins	Auditorium
0900 - 0910	Welcome <i>Ekta Jhala &amp; Duncan Butler</i>	
0910 - 0930	Tasmanian welcome and conference opening <i>Steve Wallace</i>	
0930 - 1015	Keynote Speaker: Philippe Lambin <i>Radiomics: transforming standard imaging into mineable data related to biology</i>	
1015 - 1030	2016 Boyce Worthly Young Achiever's Award Presentation <i>Data mining Mobius3D</i> <i>Leon Dunn</i>	
1030 - 1100	Morning Tea	Tasman Room - Exhibition Hall
1100-1230	Chair: Ekta Jhala	Auditorium
1100 - 1130	Invited Speaker: Elizabeth Pearce <i>On the Origin of Art</i>	
1130 - 1230	<b>Proffered papers: Intensity modulated radiotherapy</b>	
1130 - 1145	<i>Interplay effect for IMRT treatments of breast cancer</i> <i>Scott Crowe</i>	
1145 - 1200	<i>IMRT and VMAT in the ACDS level III audit</i> <i>Stephanie Keehan</i>	
1200 - 1215	<i>A 3D <math>\gamma</math> analysis of supine tangential IMRT breast patients planned for Genesis Cancer Care Queensland Varian iX linacs transferred to its TrueBeam linacs via treatment override</i> <i>George Warr</i>	
1215 - 1230	<i>International benchmarking of the ACDS IMRT audit</i> <i>Jessica Lye</i>	
1130- 1215	<b>Proffered papers: Commissioning of radiotherapy treatment planning systems: Monaco</b> Chair: Peter Metcalfe	Wellington 1
1130 - 1145	<i>Monaco 5.10 as an independent plan checking solution</i> <i>John Shakeshaft</i>	
1145 - 1200	<i>Verification of the Elekta Monaco TPS Monte Carlo in modelling radiation transport through metals in a water equivalent phantom</i> <i>Kurt Byrnes</i>	
1200 - 1215	<i>Commissioning of Electron Monte Carlo in Monaco Treatment Planning System</i> <i>Aleksandra Kazi</i>	
1130 - 1230	<b>Proffered papers: Respiratory motion management in radiotherapy</b> Chair: Anna Ralston	Wellington 2
1130 - 1145	<i>A retrospective dosimetric study of radiotherapy patients with left-sided breast cancer; benefits of the deep inspiration breath hold</i> <i>Eva Bezak</i>	
1145 - 1200	<i>CT ventilation imaging derived from breath hold CT exhibits good regional accuracy versus Galligas PET</i> <i>John Kipritidis</i>	
1200 - 1215	<i>Characterisation of the positional accuracy and precision of a depth sensor for deep inspiration breath hold monitoring</i> <i>Elisabeth Steiner</i>	
1215 - 1230	<i>Respiratory biofeedback for radiotherapy patients</i> <i>Leon Dunn</i>	
1130 - 1230	<b>Radiology Specialty Group Meeting</b> Chair: Amanda Perdomo	Boardwalk
1230 - 1330	Lunch	Tasman Room - Exhibition Hall
13:30 - 15:00	Chair: Tanya Kairn	Auditorium
1330 - 1415	Keynote Speaker: Saiful Huq <i>Emerging treatment paradigms and new challenges in radiation oncology</i>	
1415 - 1500	<b>Proffered papers: New paradigms and emerging techniques in radiotherapy</b>	

1415 - 1430	<i>The BiRT project – developing a radiomics pipeline to advance treatment of prostate cancer</i> <b>Annette Haworth</b>	
1430 - 1445	<i>Towards real-time MRI guided radiotherapy: Phase II of the Australian MRI-Linac</i> <b>Gary Liney</b>	
1445 - 1500	<i>Dosimetric equivalence and MLC tracking for fixed-beam image-guided adaptive radiotherapy</i> <b>Paul Liu</b>	

<b>1330 - 1500</b>	<b>Proffered papers: Radiotherapy Quality Assurance</b> Chair: Frank Gagliardi	<b>Wellington 1</b>
1330 - 1345	<i>A novel and reproducible approach to Intrabeam isotropy measurement</i> <b>Godfrey Mukwada</b>	
1345 - 1400	<i>Effects of MLC positional errors on the treatment of dynamic tumours: a lung phantom-based Monte Carlo study</i> <b>Natalia Roberts</b>	
1400 - 1415	<i>The benefits of monitoring the dosimetric leaf gap in 2D</i> <b>Mario Perez</b>	
1415 - 1430	<i>High-accuracy MLC leaf position QA using the Hancock test in RITG142</i> <b>Ben Perrett</b>	
1430 - 1445	<i>Investigation of long-term linear accelerator performance from comprehensive EPID-based quality assurance tests</i> <b>Peter Greer</b>	
1445 - 1500	<i>A virtual phantom method for remote auditing of Elekta systems</i> <b>Narges Miri</b>	

<b>1330 - 1445</b>	<b>Proffered papers: Medical imaging dose management and optimisation</b> Chair: Zoe Brady	<b>Wellington 2</b>
1330 - 1345	<i>Update on ARPANSA DRLs</i> <b>Peter Thomas</b>	
1345 - 1400	<i>Evaluation of the practical application of ALARA in operator directed procedures: linking procedural success and radiation risk</i> <b>Ian Smith</b>	
1400 - 1415	<i>Optimising Imaging Dose in Image Guided Radiation Therapy: the art of minimal illumination</i> <b>Victoria Earl</b>	
1415 - 1430	<i>The challenges, pitfalls, applications and rewards of developing in-house CT radiation dose monitoring software</i> <b>Kevin Hickson</b>	
1430 - 1445	<i>Estimating peak skin dose delivered during CT</i> <b>Chris Williams</b>	

<b>1500 - 1530</b>	<b>Afternoon Tea</b>	<b>Tasman Room - Exhibition Hall</b>
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<b>1530 - 1630</b>	<b>Concurrent Sessions - invited speakers and proffered papers</b>	
1530 - 1630	Chair: Eva Bezak	<b>Auditorium</b>
1530 - 1600	<b>Invited Speaker: Martin Ebert</b> <i>Physics and cancer: radiation and beyond</i>	
1600 - 1630	Panel Discussion <i>The future of medical physics and engineering</i> Panellists: Peter Dunscombe, Martin Ebert, Saiful Huq, Philippe Lambin, Ben Tsui	
<b>1530 - 1630</b>	<b>Proffered papers: In vivo dosimetry in radiotherapy</b> Chair: Nanette Schleich	<b>Wellington 1</b>
1530 - 1545	<i>Implementation of EPIgray for EPID-based in-vivo dosimetry</i> <b>Andrew Cousins</b>	
1545 - 1600	<i>In-vivo dosimetry with Gafchromic EBT3 films for TBI treatment: clinical implementation and dosimetric review</i> <b>Sylwia Zawlodzka</b>	
1600 - 1615	<i>Imaging dose to Cardiovascular Implantable Electronic Devices (CIEDs) from the Elekta Synergy X-ray Cone Beam CT System: A dosimetric study using Gafchromic film XR-QA2</i> <b>Hossein Aslian</b>	
1615 - 1630	<i>Impact of an in vivo dosimetry system using TLDs across a large radiotherapy department</i> <b>Peta Lonski</b>	

<b>1530 - 1630</b>	<b>Proffered papers: biomedical and clinical engineering</b> Chair: Emmanuel Koumondourous	<b>Wellington 2</b>
1530 - 1545	<i>Quantitative features of diffusion tensor imaging (DTI) of prostate cancer patients for Computer Aided Diagnosis (CADx)</i> <b>Neda Gholizadeh</b>	
1545 - 1600	<i>Characterisation of an external beam port on a PETtrace cyclotron</i> <b>Johan Asp</b>	

1600 - 1615	<i>Near-Infrared Spectrometry (NIRS) as an indicator of severity of Hypoxic-Ischemic Encephalopathy</i> <b>Danielle Forster</b>	
1615 - 1630	<i>Evaluating inter-centre intensity normalisation on T2WI of human prostate with cancer</i> <b>Neda Gholizadeh</b>	
1630 - 1655	<b>ACPSEM Foundation: update on support of Calmette Hospital, Cambodia and future plans for the Foundation</b> Chair: Eva Bezak	<b>Auditorium</b>
1655 - 1730	<b>ACPSEM AGM</b> Chair: Ian Smith	<b>Auditorium</b>
<b>1830 - 2130</b>	<b>APSIG Trivia Night</b>	<b>The Brunswick Hotel</b>

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## Program

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Tuesday 31 October

0730 - 1700	Registration & Information Desk Open	Exhibition Foyer
0715 - 0840	<b>Varian Breakfast Symposium</b> <b>Early experience with the Halcyon™ System</b> <b>Speakers:</b> <b>Talia Jarema</b> , Radiation Oncology Medical Physicist Radiation Oncology Centres, Toowoomba <b>&amp;</b> <b>Selena Hsieh</b> , Product Marketing Manager, APAC Varian Medical Systems Pacific, Inc.  <i>Breakfast will be served from 0715</i>	Wellington Room 1
0800 - 0845	<b>Nuclear Medicine / Radiopharmaceutical Science Specialty Group Meeting</b> Chair: Andy Young and Andrew Katsifis	Wellington Room 2
09:00 - 10:30	Chair: Nicholas Hardcastle	Auditorium
0900 - 0945	<b>Keynote Speaker: Ben Tsui</b> <b>Development and applications of realistic 4D digital human phantoms (biomedical imaging, treatment planning and dosimetry)</b>	
0900 - 1030	<b>Concurrent Sessions - invited speakers and proffered papers</b>	
0945 - 1030	<b>Proffered papers: Imaging in radiotherapy</b> Chair: Nicholas Hardcastle	Auditorium
0945 - 1000	<i>Feasibility of automatic cardiac segmentation in planning CT</i> <b>Robert Finnegan</b>	
1000 - 1015	<i>Development and validation of a CT-MR pelvic atlas for clinical trial quality assurance</i> <b>Dale Roach</b>	
1015 - 1030	<i>Clinical implementation of CT &amp; MR atlases for radiotherapy treatment planning</i> <b>James Hellyer</b>	
0900 - 1030	<b>Proffered papers: Dosimetry and quality assurance in radiation therapy</b> Chair: Jessica Lye	Wellington Room 1
0900 - 0915	<i>Update on Linac-based MV calibration service at ARPANSA with the inclusion of IBA CC13 chamber</i> <b>Viliami Takau</b>	
0915 - 0930	<i>Characterisation of a 2D amorphous silicon detector for in-air fluence monitoring</i> <b>Martin Ebert</b>	
0930 - 0945	<i>Evaluation of published film dosimetry techniques</i> <b>Emma Spelleken</b>	
0945 - 1000	<i>Testing the performance of a ScanNCut cutting system for radiochromic film preparation</i> <b>Scott Crowe</b>	
1000 - 1015	<i>Validation of RIT virtual star shot</i> <b>Ben Perrett</b>	
1015 - 1030	<i>Video based gantry angle assessment for VESPA using Double Dot and dose rate meter</i> <b>Peter Greer</b>	
0900 - 1030	<b>Proffered papers: Synchrotron</b> Chair: Jeff Crosbie	Wellington Room 2
0900 - 0915	<i>A patient positioning protocol for synchrotron micro-beam radiotherapy (MRT)</i> <b>Micah Barnes</b>	
0915 - 0930	<i>Dosimetric verification of synchrotron generated microbeams using water-equivalent Presage® dosimeters</i> <b>Frank Gagliardi</b>	
0930 - 0945	<i>A cryogenic mouse holder system for synchrotron CT</i> <b>Nanette Schleich</b>	
0945 - 1015	<b>Invited Speaker: Jayde Livingstone</b> Medical applications of synchrotron radiation (preclinical imaging and radiotherapy)	
1015 - 1030	<i>Sub-millimeter spatial response maps of ionization chambers in a magnetic field</i> <b>Duncan Butler</b>	
1030 - 1100	Morning Tea	Tasman Room - Exhibition Hall
11:00 - 12:30	Chair: Trevor Ackerly	Auditorium

1100 - 1145	<b>Keynote Speaker: Peter Dunscombe</b> <b>Quality and Safety in Radiotherapy</b>	
1100 - 1230	<b>Concurrent Sessions - invited speakers and proffered papers</b>	
1145 - 1230	<b>Proffered papers: Quality and safety in radiotherapy</b> Chair: Trevor Ackerly	<b>Auditorium</b>
1145 - 1200	Use of the AAPM Safety Profile Assessment tool to evaluate the change in safety culture after implementing prospective risk management in radiotherapy <b>Anna Ralston</b>	
1200 - 1215	Comparison of delivery errors in a multi-institutional pre-treatment verification study for Nasopharyngeal cancer radiotherapy VMAT <b>Lois Holloway</b>	
1215 - 1230	DataCheck: an in-house software system for verifying the integrity of treatment planning data from treatment planning system through to linac delivery <b>Michael Currie</b>	
1100 - 1230	<b>Proffered papers: Radiotherapy beam modelling and treatment planning</b> Chair: Vanessa Panettieri	<b>Wellington Room 1</b>
1100 - 1115	Implementing a hybrid Geant4 Monte Carlo Dose Calculation Algorithm for Synchrotron Microbeam Radiotherapy into the Eclipse Treatment Planning System <b>Liam Day</b>	
1115 - 1130	Clinical implementation of an automated Monte Carlo dose verification system <b>Alexander Livingstone</b>	
1130 - 1145	3D modelling of EBRT radiation dose in heterogeneous media using artificial neural networks <b>James Keal</b>	
1145 - 1200	Evaluation of inhomogeneity modelling of flattening filter free beams by a commercial Monte Carlo treatment planning system <b>Mahesh Mundayadan Chandroth</b>	
1200 - 1215	EGS_chamber_array: A new EGSnrc user code developed for efficient Monte Carlo simulations through detector arrays <b>Catherine Jones</b>	
1215 - 1230	Radiation treatment plan suitability assessment using 2D structural dissimilarity analysis on transit EPID images -Radiation treatment plan suitability assessment using 2D structural dissimilarity analysis on transit EPID images <b>Mario Perez</b>	
1100 - 1230	<b>ARPANSA Diagnostic Reference Levels workshop</b> Chair: Peter Thomas	<b>Wellington Room 2</b>
1230 - 1330	<b>Lunch</b>	<b>Tasman Room - Exhibition Hall</b>
1330 - 1445	<b>Concurrent Sessions</b>	
13:30 - 14:45	Chair: Leon Dunn	<b>Auditorium</b>
1330 - 1415	<b>Keynote Speaker: Philippe Lambin:</b> <b>Multifactorial Decision Support Systems: a "must" for Precision medicine?</b>	
1415 - 1445	<b>Proffered papers: Knowledge based planning</b>	
1415 - 1430	Clinical implementation of automated treatment planning for prostate radiotherapy <b>Philip Vial</b>	
1430 - 1445	Use of knowledge based planning for plan quality improvement in the FASTRACK II clinical trial <b>Nicholas Hardcastle</b>	
1330 - 1445	<b>Proffered papers: Nuclear medicine and radiopharmaceutical science</b> Chair: Andy Young	<b>Wellington Room 1</b>
1330 - 1345	Does voxelised pharmacokinetics estimation for nuclear medicine dosimetry introduce a bias compared to whole organ methods? A comparison of post-treatment dosimetry in Lu-177 Octreotate therapy <b>Price Jackson</b>	
1345 - 1400	Dose determination for hydrophilic drugs for chemotherapy and radioimmunotherapy <b>Barry Allen</b>	
1400 - 1415	Mary, Mary, quite contrary, how does your garden glow: Radionuclide therapy patient non-compliance <b>Daniel Badger</b>	
1415 - 1430	Zirconium-89 (89Zr): a Positron Emission Tomography (PET) radioisotope with promising applications in Biomedicine <b>Rainer Scharli</b>	

1430 - 1445	<i>A comparative evaluation of Ac225 vs Bi213 as therapeutic radioisotopes for targeted alpha therapy for cancer</i> <b>Barry Allen</b>	
<b>1330 - 1445</b>	<b>Proffered papers: Patient specific quality assurance in radiotherapy</b> Chair: Peta Lonski	<b>Wellington Room 2</b>
1330 - 1345	<i>Evaluating patient specific pre-treatment QA practices</i> <b>Scott Crowe</b>	
1345 - 1400	<i>On using ArcCHECK® with Monaco® Monte Carlo treatment planning system for flat and flattening filter free beams</i> <b>Mahesh Mundayadan Chandroth</b>	
1400 - 1415	<i>The effects of dose distribution resolution on gamma-analysis passing ratios</i> <b>Jeremy Supple</b>	
1415 - 1430	<i>Sensitivity of EPID based transit dosimetry to detect Inter-fraction patient variations</i> <b>Sisira Herath</b>	
1430 - 1445	<i>The "FluDo" experience - an aid to patient specific IMRT QA</i> <b>Ben Cooper</b>	
<b>1330 - 1445</b>	<b>Radiochromic film discussion group</b> Chair: Nick Bennie	<b>Boardwalk Gallery</b>
<b>1445 - 1515</b>	<b>Afternoon Tea</b>	<b>Tasman Room - Exhibition Hall</b>
<b>1515 - 1630</b>	<b>Concurrent Sessions - invited speakers and proffered papers</b>	
<b>1515 - 1600</b>	<b>Proffered papers: Radiation safety and protection</b> Chair: Amanda Perdomo	<b>Auditorium</b>
1515 - 1530	<i>Boronated polyethylene wall lining and ceiling baffles as a supplement to doorless room maze design for high energy linacs</i> <b>Steven Wallace</b>	
1530 - 1545	<i>Can Diagnostic CT Imaging scanning cause premature menopause?</i> <b>Luke Wilkinson</b>	
1545 - 1600	<i>Problems, pitfalls and solutions in the radiation safety requirements for a new tertiary children's hospital</i> <b>Janette Atkinson</b>	
<b>1600 - 1630</b>	<b>Proffered papers: Art and science</b> Chair: Amanda Perdomo	<b>Auditorium</b>
1600 - 1615	<i>Art and science: fluorescence dosimetry using household materials</i> <b>Scott Crowe</b>	
1615 - 1630	<i>Dosimetry under the microscope: texture analysis and microstructure investigations of gel dosimeters</i> <b>Callum Watson</b>	
<b>1515 - 1630</b>	<b>Proffered papers: neutrons and protons</b> Chair: Sean Geogheghan	<b>Wellington Room 1</b>
1515 - 1545	<b>Invited Speaker: Joseph Bevitt</b> <i>Neutron Micro-Computed Tomography, a New Imaging Modality for Australia</i>	
1545 - 1600	<i>A radiobiological Markov simulation tool for aiding decision making in proton therapy referral</i> <b>Annabelle Austin</b>	
1600 - 1615	<i>High resolution silicon detector performance measuring proton pencil beam profiles</i> <b>Trent Causer</b>	
1615 - 1630	<i>Monte Carlo Investigation of ROS Yield Enhancement at Gold-Water Interface for Proton Irradiation</i> <b>Michael Douglass</b>	
<b>1515 - 1615</b>	<b>Proffered papers: High dose rate and electronic brachytherapy</b> Chair: Chris Fox	<b>Wellington Room 2</b>
1515 - 1530	<i>Dose accumulation of multiple HDR prostate brachytherapy treatments in two commercial image registration systems</i> <b>Joel Poder</b>	
1530 - 1545	<i>Commissioning and clinical implementation of Xofigo electronic brachytherapy for Intra-Operative Radiotherapy (IORT) of Breast Cancer</i> <b>Prabhakar Ramachandran</b>	
1545 - 1600	<i>Dosimetric evaluation of Balloon applicator used IORT procedure in Xofigo Electronic Brachytherapy</i> <b>Derrick Wanigaratne</b>	
1600 - 1615	<i>Electronic HDR brachytherapy dose enhancement using gold nanoparticles</i> <b>Elham Shahhoseini</b>	
1515 - 1630	<i>Education and research opportunities in the Australia and USA: informal discussion with Ben Tsui, Jeff Crosbie and others</i> Chair: Jeff Crosbie	<b>Boardwalk Gallery</b>

1745	Boat departs Wrest Point for MONA and Gamma Gurus EPSM 2017 Gala Dinner	MONA
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# Engineering & Physical Sciences in Medicine Conference 2017

## Program

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Wednesday 01 November

0800 - 1700	<b>Registration &amp; Information Desk Open</b>	<b>Exhibition Foyer</b>
0800 - 0845	<b>Radiation Oncology Specialty Group Meeting</b> Chair: Mario Perez	<b>Auditorium</b>
0800 - 0845	<b>University Specialty Group Meeting</b> Chair: Andrew Fielding	<b>Wellington Room 1</b>
0800 - 0845	<b>Biomedical Engineering Specialty Group Meeting</b> Chair: Emmanuel Koumondouros	<b>Wellington Room 2</b>
0900 - 1030	<b>Concurrent Sessions - invited speakers and proffered papers</b>	
0900 - 10:30	Chair: Alex Merchant	<b>Auditorium</b>
0900 - 0945	<b>Keynote Speaker: Ben Tsui</b> <b>Model based reconstruction methods for PET and CT</b>	
0945 - 1015	<b>Invited Speaker: Roger Fulton</b> <i>Motion-corrected image reconstruction techniques for SPECT, PET and CT</i>	
1015 - 1030	<b>Proffered paper: Advances in diagnostic imaging</b>	
1015 - 1030	<i>A framework for 3D radiation dose simulation from diagnostic imaging: development, validation, and potential applications in radiation epidemiology and radiotherapy</i> <b>Price Jackson</b>	
0900 - 1030	<b>Proffered papers: Image guidance and motion management in radiotherapy</b> Chair: Peter Greer	<b>Wellington Room 1</b>
0900 - 0915	<i>Does MLC tracking improve tumour control probability in prostate radiotherapy?</i> <b>Jeremy Booth</b>	
0915 - 0930	<i>4D-CBCT reconstruction from a one minute scan</i> <b>Chun-chien Shieh</b>	
0930 - 0945	<i>Initial experience in motion management for pancreatic cancer patients with implanted fiducial markers</i> <b>Adam Briggs</b>	
0945 - 1000	<i>The ART of patient positioning: Analysing Rotations and Translations using Calypso and radiographic imaging</i> <b>Anne Perkins</b>	
1000 - 1015	<i>Accuracy &amp; clinical utility of TrueBeam Intra-fraction Motion Review (IMR)</i> <b>Peter Greer</b>	
1015 - 1030	<i>Innovating a world-first robotic measurement system for quality assurance (QA) in motion adaptive radiotherapy</i> <b>Saree Alnaghy</b>	
0900 - 1030	<b>Proffered papers: HDR brachytherapy source position verification and image guidance</b> Chair: Annette Haworth	<b>Wellington Room 2</b>
0900 - 0915	<i>Source tracking treatment verification for HDR prostate brachytherapy: a preliminary patient study</i> <b>Maximilian Hanlon</b>	
0915 - 0930	<i>Error Signatures for in vivo treatment monitoring during HDR Prostate Brachytherapy</i> <b>Rick Franich</b>	
0930 - 0945	<i>Pre-clinical investigation of an innovative Fiber Optic Dosimetry (FOD) system for the localisation of HDR 192Ir Brachytherapy sources</i> <b>Mohammed Al Towairqi</b>	
0945 - 1000	<i>Source position verification during real-time HDR prostate brachytherapy</i> <b>Joel Poder</b>	
1000 - 1015	<i>Implementation and validation of a real-time prostate HDR brachytherapy system: Dosimetric verification and use of FMEA in the development of a QA program</i> <b>Ryan Brown</b>	
1015 - 1030	<i>Implementation of ultrasound image-guided real-time high dose-rate brachytherapy system for prostate cancer</i> <b>Adam Yeo</b>	

0900 - 1030	<b>TEAP Update</b> <i>Facilitators: Sharon Flynn and ACPSEM Medical Physics Training coordinators</i>	Boardwalk Gallery
1030 - 1100	Morning Tea	Tasman Room - Exhibition Hall
11:00 - 12:30	Chair: Scott Crowe	Auditorium
1100 - 1145	<b>Keynote Speaker: Saiful Huq</b> New IAEA-AAPM International Code of Practice for the dosimetry of small static photon fields	
1100 - 1230	<i>Concurrent Sessions - invited speakers and proffered papers</i>	
1145 - 1230	<b>Proffered papers: small field dosimetry, stereotactic radiotherapy and radiosurgery</b> Chair: Scott Crowe	Auditorium
1145 - 1200	Small field output factor determination using an IBA Round Stealth Chamber <b>Catherine Jones</b>	
1200 - 1215	Stereotactic Ablative Body Radiotherapy (SABR) credentialing for the NIVORAD trial <b>Nicholas Hardcastle</b>	
1215 - 1230	Assessing the geometric accuracy and precision of non-coplanar single fraction SRS delivery using On-Board Imaging systems <b>Kankean Kandasamy</b>	
1100 - 1230	<b>Proffered papers: Radiation biology and pre-clinical research</b> Chair: Martin Ebert	Wellington Room 1
1100 - 1115	Commissioning of a small-animal IGRT system for pre-clinical radiotherapy research <b>Martin Ebert</b>	
1115 - 1130	Validation of radiochemical yields in Geant4-DNA and impact on SSB and DSB induction <b>Jake Forster</b>	
1130 - 1145	Biological dose-equivalence between synchrotron and conventional radiation therapy based on normal tissue toxicity <b>Lloyd Smyth</b>	
1145 - 1200	Biofocused approach to prostate cancer IMRT planning with voxel-level cancer biology derived from multiparametric MRI <b>Martin Ebert</b>	
1200 - 1230	<b>Invited Speaker: Eva Bezak</b> The role of radiobiology and radiobiological modelling in radiation therapy of head and neck cancers	
1100 - 1230	<b>Proffered papers: Imaging in radiotherapy planning and treatment</b> Chair: Ivan Williams	Wellington Room 2
1100 - 1115	Deformable image registration of planning CT-to-CBCT for quantifying patient-specific anatomical change during head-and-neck radiotherapy in the context of reduced PTV margins <b>Nicholas Lowther</b>	
1115 - 1130	Application of AAPM TG132 and TG100: Optimisation of image registration workflow for deformable image registration <b>Johnson Yuen</b>	
1130 - 1145	Minimising image registration error with image difference reduction and deformable image registration: correlation of physical phantom with clinical data <b>Johnson Yuen</b>	
1145 - 1200	Implementation of MIM into the GCC NSW clinical environment <b>Kristie Harrison</b>	
1200 - 1215	Evaluation of metal artefact reduction algorithms in radiotherapy treatments <b>Scott Crowe</b>	
1215 - 1230	Kilovoltage Cone Beam CT in radiotherapy: implications of the imaging dose and how the dosimetry relates to diagnostic CT <b>Anna Hayton</b>	
1045 - 1245	<b>Slicer Workshop</b> Steven Muir	Boardwalk Gallery
1230 - 1330	Lunch	Tasman Room - Exhibition Hall

<b>1330 - 1500</b>	<b>Concurrent Sessions - invited speakers and proffered papers</b>	
1330 - 1500	Chair: John Shakeshaft	<b>Auditorium</b>
<b>1330 - 1500</b>	<b>Proffered papers: Superficial x-ray therapy</b>	
1330 - 1345	Energy response of Farmer-type chambers in medium-energy kilovoltage beams <b>Duncan Butler</b>	
1345 - 1400	Comparison of the acrylic covered graphite farmer chamber PTW 30013 versus the graphite farmer NE 2571 for kV x-ray reference dosimetry in the range 80 kV, 1 mm Al HVL to 120 kV, 8 mm Al. <b>Steven Wallace</b>	
1400 - 1415	A calculation algorithm to correct for the loss of backscatter in superficial x-ray radiation therapy <b>Jeffrey Harwood</b>	
<b>1415 - 1500</b>	<b>Keynote Speaker: Peter Dunscombe</b> <b>Health Economics and Radiotherapy Costing</b>	<b>Auditorium</b>
<b>1330 - 1500</b>	<b>Proffered papers: Radiology physics</b> Chair: Luke Wilkinson	<b>Wellington Room 1</b>
1330 - 1345	Simultaneous quantification of fat and iron in liver using MRI <b>Alicia Harvey</b>	
1345 - 1400	Increased iron content in the striatum revealed by voxel based statistical analysis of T2-weighted magnetic resonance brain images <b>Benjamin Crouch</b>	
1400 - 1415	Ultrashort echo time magnetic resonance imaging of surrogate cortical bone in 3D printed phantoms <b>Robba Rai</b>	
1415 - 1430	In-vivo dosimetry with the small animal MARS multi-energy CT <b>Emmanuel Marfo</b>	
1430 - 1445	Comparison of peak entrance skin dose estimation techniques in interventional radiology and cardiology <b>Leah Biffin</b>	
1445 - 1500	Radiation structured dose reports for medical imaging QA <b>Stewart Midgley</b>	
<b>1330 - 1500</b>	<b>Proffered papers: Radiotherapy treatment planning</b> Chair: Jeremy Booth	<b>Wellington Room 2</b>
1330 - 1345	MRI-only prostate cancer treatment – a prospective clinical study <b>Peter Greer</b>	
1345 - 1400	Verification of accuracy of substitute CT for MRI-only prostate IMRT using transit dosimetry <b>Peter Greer</b>	
1400 - 1415	Commissioning of a commercial electron beam algorithm, Varian's eMC v13.7, for clinical use <b>Andrew Williams</b>	
1415 - 1430	Assessment of in-lung dose and out-of-field dose from the ACDS national Level III audit data <b>Andrew Alves</b>	
1430 - 1445	Voxel-wise association and classification of 3D dose distributions with disease progression in prostate cancer radiotherapy: results from the TROG 03.04 RADAR trial <b>Martin Ebert</b>	
1445 - 1500	Experimental evaluation of the analytical anisotropic algorithm for total body irradiation: challenges of measuring beyond 400 cm <b>Joshua Varcoe</b>	
1330 - 1500	Chair: Mario Perez	<b>Boardwalk Gallery</b>
1330 - 1400	<b>Invited Speaker: Urszula Jelen</b> Selected aspects of commissioning and quality assurance in scanned ion-beam therapy	
1400 - 1415	<b>Adelaide proton therapy centre update</b> <b>Scott Penfold</b>	
1415 - 1500	<b>Discussion: implications for introduction of proton therapy for ACPSEM</b>	
<b>1500 - 1530</b>	<b>Afternoon Tea</b>	<b>Tasman Room - Exhibition Hall</b>

1530 - 1600	<b>Concurrent Sessions - invited speakers and proffered papers</b>	
1530 - 1600	<b>Proffered papers: Professional development and training</b> Chair: Duncan Butler	<b>Auditorium</b>
1530 - 1545	Reporting on outcomes of regular medical physics journal club meetings <b>Scott Crowe</b>	
1545 - 1600	A transition to linac based radiotherapy in Cambodia; An ACPSEM volunteer training project <b>Soo Min Heng</b>	
1530 - 1600	<b>Proffered papers: Low dose rate brachytherapy</b> Chair: Prabhakar Ramachandran	<b>Wellington Room 1</b>
1530 - 1545	Seed reconstruction methods for low dose rate prostate brachytherapy <b>Taylah Brennen</b>	
1545 - 1600	Clinical verification and implication of the Variseed dynamic volume calculation algorithm for low dose rate prostate brachytherapy <b>Prabha Jones</b>	
1530 - 1600	<b>Proffered papers: Gel dosimetry</b> Chair: Rick Franich	<b>Wellington Room 2</b>
1530 - 1545	Creating target regions: Investigations into the dosimetric properties of contrast agent polymer gels <b>Callum Watson</b>	
1545 - 1600	Clinical experience of the normoxic PAG gel dosimeter using a flattening filter free beam for SABR treatments with MRI readout <b>Anthony Venning</b>	
1600 - 1700	Chair: Duncan Butler	<b>Auditorium</b>
1600 - 1615	<b>2016 Richard Bates Travel Scholarship Winner Presentation</b> <i>Philip Vial</i>	
1615 - 1630	<b>2017 APESM Journal Awards</b> <i>Martin Caon</i>	
1630 - 1645	<b>2017 conference prizes</b>	
1645 - 1700	<b>EPSM 2017 close and handover to EPSM 2018</b>	