

# Summer School 2020: Data-Driven Healthcare

30 October (Friday) and 31 October (Saturday)

	Session Title	Goal of Session	Speaker	Topic
<b>Day 1</b>				
8:50	Session 1: Data Science and Machine Learning	To introduce TEAP registrars into current approaches to obtaining insights from data sets (e.g. data science, machine learning)	Mikey Bernardo	This day is dedicated to showing TEAP Registrars the importance of data analysis and data visualisation.
9:00			Lois Holloway	Introduction to data science
9:45			Matthew Field	Introduction to machine learning
10:30	<b>Morning Tea</b>			
11:00	Session 2: Data Analysis and Data Visualisation	This session aims to show what good data analytics and data visualisation entails while highlighting how sampling and presenting data can skew perception of outcomes.	Ronald Huynh	Data Analytics and Visualisation: Effectively communicate information and knowledge
11:30			Effi Shwintarsky, The Nova Group	Presentation around good use of data (i.e. selection of factors, population)
12:00			Effi Shwintarsky, The Nova Group	Presentation around misuse of data (i.e. graphs skewing perception of outcome)
12:30	<b>Lunch</b>			
13:20	Session 3: Data Science in our work	This session looks at the opportunities for data science that ACPSEM members can explore in diagnostic imaging, radiation oncology and radiopharmaceutical science.	Price Jackson	Expanding Quantitative Medicine in Imaging through AI and Automation
13:50			Prabhakar Ramachandran	Deep Learning in Radiation Oncology
14:10			Andrew Katsifis	Opportunities in radiopharmaceutical science
14:30	<b>Afternoon Tea</b>			
14:40	Session 4: Being data-driven in radiation risk assessment	This session will give TEAP registrars an insight into radiation risk assessment and how research ethics are conducted. This session will give a basic understanding of epidemiology and the data it is based on and then look at how radiation risk assessment is performed risk in CT and nuclear medicine.	Stephen Edwards	The principles of radiation risk: a closer look
15:00			Benjamin Keir	How do we assess risk in CT radiation exposure?
15:20			Benjamin Keir	Fetal dosimetry and risk analysis in CT
15:40			Deborah Carrick	Risk assessment and Analysis: Nuclear Medicine
16:10			Shonah Van Garderen	Understanding Research Ethics and the Role of Medical Physicists
16:40	<b>Finish</b>			

<b>Day 2</b>				
8:50	Session 1: Gathering and collecting data to make changes	This session will give TEAP Registrars an introduction into the various databases used for clinical management and how to work with them to affect change in their facilities.	Mikey Bernardo	This day is dedicated to exploring quality management and risk management from a data-driven perspective.
9:00			Ian Smith	Quantitative clinical governance
9:20			Jonathan Sykes	Radiotherapy clinical management systems and how to extract data from it
9:40			Simon Biggs	Global collaborative software development
10:00			Randle Taylor	Efficient Machine QA Program Management with QATrack+
10:20			Ronald Huynh	Data visualisation: Learning from COVID-19
10:45	<b>Morning Tea</b>			
11:00	TEAP Registrar Group Session	Submission and Presentation of Summer School Assignment	TEAP Group Session	TEAP Registrar Zoom Sessions (30 to 45 minutes to finalise presentations)
11:45				TEAP Registrar Group Presentations
12:45				Questions/Discussion
13:00	<b>Lunch</b>			
14:00	Session 3: What innovations are currently being worked on?	The intent is to give TEAP registrars ideas for projects that they can submit for assessment as part of TEAP requirements or even take away ideas for implementation at their facilities.	Stephen Edwards	Presenting... the Staff Dosimetry Management system (SDMS)
14:20			Kevin Hickson	SAHMI experience with data-driven medical imaging projects
14:40		This session will showcase ACPSEM member-led applications of data science and/or machine learning in delivery of healthcare.	Steven Goodman	Using Open Source Automatic Lung Segmentation for Quantitative Lung Scintigraphy
15:00			Samuel Peet	The RBWH tech stack for data analysis and automation
15:40			Prabhakar Ramachandran	Deep learning for auto segmentation - PAH Experience
16:00	<b>Finish</b>			