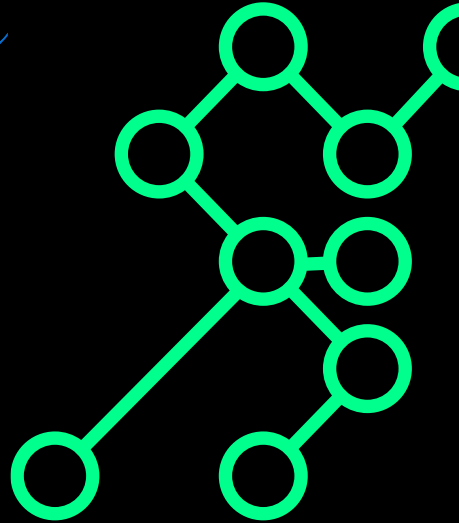


Orthopaedic  
Research UK



# AI in Orthopaedics



**Date:** Tuesday 27 September 2022

**Venue:** The View, Royal College of Surgeons of England, London

**CPD:** 5.5 credits awarded



**#AlinOrtho**

In association with



British Orthopaedic  
Association




Royal College  
of Surgeons  
of England

ADVANCING SURGICAL CARE

# AI in orthopaedics...how we unlock the power of AI and big data for the benefit of orthopaedic patients and the NHS.

 Tuesday 27 September 2022

 Venue: The View, Royal College of Surgeons of England, London

## Introduction

This will be the first national conference dedicated to the role of AI within orthopaedics!

Designed to cut through the hype and focus on practical ways in which AI, underpinned by big data, can be used to benefit patients and the NHS.

Speakers will include senior clinicians, researchers and technologists actively involved in AI projects within orthopaedics, plus NHS leaders and policy makers.

It will provide an opportunity for the wider MSK community to share best practice and identify solutions to common problems.

## We are most grateful for the support of our sponsors

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Conference organised by Orthopaedic Research UK



# Programme



**09:00** Registration and refreshments

**09:30** Welcome to the Royal College of Surgeons of England

Professor John Skinner, Immediate Past President, British Orthopaedic Association

**SYMPOSIUM 1: AN OVERVIEW OF WHERE WE ARE**

Chair: Lord Ajay Kakkar & Professor John Skinner

**09:35** AI in orthopaedics: Will it help? What are the challenges?

Mr Keith Tucker, Trustee, Orthopaedic Research UK

**09:45** Realising the benefit of big data and AI for patients

Ms Nicola Perrin, Chief Executive, Association of Medical Research Charities

**09:53** What His Majesty's government are likely to need?

Speaker to be confirmed

**10:01** Where we are in NHSE with AI and machine learning

Mr Ed Kendall, Director of Analytical Insights, NHS England and NHS Improvement

**10:09** Panel discussion

**10:25** SYMPOSIUM 2: WHAT ARE WE TALKING ABOUT? THE ANALYSIS OF BIG DATA

Chairs: Dr Justin Green, Professor Xavier Griffin & Professor J Mark Wilkinson

**10:27** Machine learning: A gentle introduction

Professor Kia Nazarpour, Professor of Digital Health, The University of Edinburgh

**10:37** How AI and big data can enhance the monitoring of implants

Mr Richard Armstrong, Head of Registries, NEC Software Solutions

**10:45** Strategies to combine robotic and real world data, utilising AI to deliver optimised care and outcomes

Mr Mark Brincat, Senior Director of AI and Advanced Analytics, Zimmer Biomet

**10:53** Panel discussion

**11:20** Refreshments and exhibition

**11:45** SYMPOSIUM 3: MACHINE LEARNING AND IMAGES

Chairs: Mr Vipin Asopa, Professor Tim Briggs & Professor Siôn Glyn-Jones

**11:47** Machine learning and evaluating hip replacements

Mr Peter Harris, Research Team Lead, Nielsen IQ

**11:55** Machine learning and hip fractures

Professor Richie Gill, Chair of Healthcare Engineering, University of Bath

**12:03 Machine learning in genetics and explant analysis**

Mr David Langton, Director, ExplantLab

**12:11 The NHS AI Lab - Supporting the safe deployment of AI in medical imaging**

Mr Dominic Cushnan, Director of AI, Imaging and Deployment, NHS Transformation Directorate

**12:17 Panel discussion**

**12:30 SYMPOSIUM 4: DATA AVAILABILITY AND FUNDING**

Chairs: Lord Timothy Clement-Jones, Professor Siôn Glyn-Jones, Ms Nicola Perrin & Professor Tony Young

**12:31 The legal landscape when it comes to using data**

Mr Taj Sallamuddin, Lawyer, Information Governance Services Limited

**12:39 Understanding worldwide MSK data silos?**

Mr Thomas Harte, CEO, My Recovery

**12:46 NIHR and the part it can play**

Dr Helen Compton, Stakeholder Engagement Manager, Innovations Directorate, NIHR

**12:52 Panel discussion**

**13:00 Lunch and exhibition**

**14:00 SYMPOSIUM 5: WHAT IS ALREADY HAPPENING IN MSK**

Chairs: Professor Mike Reed & Professor J Mark Wilkinson

**Proffered papers**

Clinicians, scientists and technologists were invited to submit abstracts for a poster presentation, the top 8 abstracts were invited to give a 3-minute oral presentation.

**14:02 Using AI in primary hip and knee arthroplasty to support high volume low complexity pathways and tackle the elective backlog**

Dr Justin Green, Orthopaedic Registrar, Northumbria Healthcare Trust and ORUK / BHS Research Fellow

**14:05 Automated identification of orthopaedic implants on radiographs using AI**

Mr Vineet Batta, Senior Clinical Fellow, Luton and Dunstable University Hospital

**14:08 A software system to automatically assess hip migration in children with cerebral palsy**

Dr Claudia Lindner, Sir Henry Dale Fellow, Senior Research Fellow, Division of Informatics, Imaging and Data Sciences, The University of Manchester

**14:11 Machine learning for wrist fracture detection based on x-ray images**

Mr Jeremy Rushbrook, Consultant Orthopaedic Surgeon, Portsmouth Hospitals University NHS Trust



**14:14 Machine learning models to predict mortality and revision risks using the largest two hip registries**

Mr Hadi Alagha, Senior Teaching Fellow in Patient Safety and Health Policy, Imperial College London  
Fellow in Trauma and Orthopaedics, Chelsea and Westminster Hospital

**14:17 Development of a supervised learning algorithm that incorporates spinopelvic mobility for predicting impingement in patients undergoing total hip arthroplasty**

Mr Andreas Fontalis, Specialist Registrar in Trauma and Orthopaedics, University College Hospital

**14:20 Smart templates to Inform personalised transtibial prosthetic socket design**

Dr Alex Dickinson, Associate Professor, University of Southampton

**14:23 MoveR - Edinburgh Movement and Rehabilitation Digital Health and Care Hub**

Professor Kia Nazarpour, Professor of Digital Health, The University of Edinburgh

**14:26 Panel discussion**

**SYMPOSIUM 6: WHERE DO THE BIG PLAYERS FIT WITHIN AI AND ORTHOPAEDICS?**

**Chairs: Professor Richie Gill, Mr Martin Gouldstone & Professor Mike Reed**

**14:45 Microsoft, AI and healthcare**

Ms Anna Dijkstra, Innovation Director, UK Healthcare & Life Sciences, Microsoft

**14:52 Using AI and digital twins to transform patient outcomes**

Dr Nicole Mather, Life Sciences Lead, IBM

**14:59 Amazon**

Ms Kira Levy, Head of Healthcare UK, Amazon Web Services

**15:06 Panel discussion**

**15:20 Refreshments and exhibition**

**SYMPOSIUM 7: MOVING FORWARD**

**Chairs: Professor Tim Briggs, Professor Fares Haddad & Professor Kia Nazarpour**

**15:50 Pulling it all together**

Ms Roshana Mehdian, Trauma & Orthopaedic Registrar and Director, Radius Health

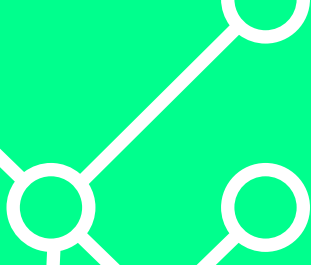
**15:58 How the NHS is opening up access to health data**

Dr Chris Russell, Head of Delivery, Data for R&D, NHS England & Improvement

**16:08 Practical reality**

Professor Tony Young OBE, National Clinical Lead for Innovation, NHS England  
Consultant Urological Surgeon and Associate Medical Director, Mid and South Essex  
NHS Foundation Trust

Director of Medical Innovation and Entrepreneurship, Anglia Ruskin University



16:15	<b>Panel discussion</b>
16:33	<b>Integrating AI and big data into ORUK's research and education strategy</b> Dr Arash Angadji, CEO, Orthopaedic Research UK
16:40	<b>A message for all of us who look after patients with MSK problems</b> Professor John Skinner, Immediate Past President, British Orthopaedic Association
16:45	<b>Join our movement</b> Mr Adrian Downing, Chair, Board of Trustees, Orthopaedic Research UK
16:50	<b>Drinks reception and exhibition</b>
19:00	<b>Close</b>

*Please note this programme may be subject to change.*

## How to get here



## Venue address

The View, Royal College of Surgeons  
of England, 38–43 Lincoln's Inn Fields,  
London, WC2A 3PE.

## Travelling by tube

The nearest tube stations are Holborn (Piccadilly and Central lines – 6 minute walk) and Temple (District and Circle lines – 10 minute walk).

## Travelling by train

The nearest train stations are City Thameslink, Farringdon, Blackfriars and Charing Cross (All about a 15 minute walk).

## Travelling by car

Two NCP car parks are situated nearby in Covent Garden and Bloomsbury Square.



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