

**Workshop for Korea-UK
AI/ML Research in
Fundamental Sciences**

Report of Contributions

Contribution ID: 2

Type: **not specified**

Registration

Monday 31 October 2022 10:00 (20 minutes)

Session Classification: Session 1

Contribution ID: 3

Type: **not specified**

Welcome message

Monday 31 October 2022 10:30 (15 minutes)

Presenter: BAIK, Sungwook (Vice President, Sejong U.)

Session Classification: Session 1

Contribution ID: 4

Type: **not specified**

AIMLAC CDT activity

Monday 31 October 2022 11:00 (20 minutes)

Presenter: AARTS, Gert (Co-Pi, Swansea University)

Session Classification: Session 1

Contribution ID: 6

Type: **not specified**

Hypergames and Cybersecurity

Monday 31 October 2022 14:45 (30 minutes)

Primary author: CROOK, Tonicha (Swansea University)

Presenter: CROOK, Tonicha (Swansea University)

Session Classification: Session 2

Contribution ID: 7

Type: **not specified**

Solutions of HPC-AI for Hybrid Environment

Monday 31 October 2022 14:15 (30 minutes)

Presenter: LEE, Sangmoon (ATOS KOREA)

Session Classification: Session 2

Contribution ID: 8

Type: **not specified**

Grammatical Neuroevolution

Monday 31 October 2022 15:15 (30 minutes)

Primary author: WINTER, Ben (Bangor University)

Presenter: WINTER, Ben (Bangor University)

Session Classification: Session 2

Contribution ID: 9

Type: **not specified**

Research in industry

Monday 31 October 2022 15:45 (30 minutes)

Presenter: SPRIGGS, Tom (Swansea University)

Session Classification: Session 2

Contribution ID: 10

Type: **not specified**

Exploring the growth progression of breast cancer using deep features

Tuesday 1 November 2022 11:00 (30 minutes)

Primary author: THOMAS, Cory (Aberystwyth university)

Presenter: THOMAS, Cory (Aberystwyth university)

Session Classification: Session 3

Contribution ID: 11

Type: **not specified**

Deep learning based medical image standardization

Tuesday 1 November 2022 10:30 (30 minutes)

Presenter: KIM, Mingyu (Promedius Inc.)

Session Classification: Session 3

Contribution ID: 12

Type: **not specified**

Novel Classes and Epistemic Uncertainty in Medical Imaging

Tuesday 1 November 2022 11:30 (30 minutes)

Presenter: ROBINSON, Will (AIMLAC / Aberystwyth University)

Session Classification: Session 3

Contribution ID: 13

Type: **not specified**

Automated optimisation of industrial X-ray computed tomography

Tuesday 1 November 2022 14:45 (30 minutes)

Primary author: MITCHELL, Iwan (AIMLAC)

Presenter: MITCHELL, Iwan (AIMLAC)

Session Classification: Session 4

Contribution ID: 14

Type: **not specified**

Regularized Knowledge Gradient: A No-regret Algorithm for Stochastic Gaussian Multi-armed Bandit Problems

Tuesday 1 November 2022 14:00 (45 minutes)

Presenter: LEE, Donghun (Korea U.)

Session Classification: Session 4

Contribution ID: 16

Type: **not specified**

Two approaches using Deep Learning to solve partial differential equations

Tuesday 1 November 2022 15:15 (30 minutes)

Presenter: LEE, Jaeyong (KIAS)

Session Classification: Session 4

Contribution ID: 17

Type: **not specified**

Dark Matter Searches: The latest result from the Large Hadron Collider and outlook

Wednesday 2 November 2022 16:00 (30 minutes)

Presenter: GLOWACKI, Maciej (University of Bristol (AIMLAC))

Session Classification: Session 5

Contribution ID: **18**

Type: **not specified**

Machine Learning for Invisible Particle Search

Wednesday 2 November 2022 15:15 (45 minutes)

Presenter: KO, Young Ju (IBS)

Session Classification: Session 5

Contribution ID: 19

Type: **not specified**

The Automatic Particle Reconstruction with Machine Learning at e+e- Collider

Wednesday 2 November 2022 16:30 (30 minutes)

Presenter: KIM, Kyungho (KISTI)

Session Classification: Session 5

Contribution ID: 20

Type: **not specified**

Deep Image Segmentation of the Radio Sky

Thursday 3 November 2022 11:15 (30 minutes)

Presenter: STEWART, Hattie (University of Bristol)

Session Classification: Session 6

Contribution ID: 21

Type: **not specified**

Constraining Cosmology using Self-Attention

Thursday 3 November 2022 11:45 (30 minutes)

Presenter: HWANG, Se Yeon (U. of Seoul)

Session Classification: Session 6

Contribution ID: 22

Type: **not specified**

Treasures of the deep: GW-observation of black hole-spin down at 5.5 sigma

Thursday 3 November 2022 10:30 (45 minutes)

Presenter: VAN PUTTEN, Maurice (Sejong University)

Session Classification: Session 6

Contribution ID: 23

Type: **not specified**

Precision physics with Antihydrogen - and how Machine Learning help

Thursday 3 November 2022 14:30 (45 minutes)

Presenter: MADSEN, Niels (Swansea University)

Session Classification: Session 7

Contribution ID: 24

Type: **not specified**

A data-driven method for classifying gamma-rays and cosmic rays with the HAWC observatory

Thursday 3 November 2022 15:15 (30 minutes)

Presenter: CHO, Baek Sun (U. of Seoul)

Session Classification: Session 7

Contribution ID: 25

Type: **not specified**

Demystifying Gravitational Wavws: A Sweet of App utilities

Thursday 3 November 2022 14:00 (30 minutes)

Presenter: ABCHOUYEH, Maryam Aghaei (Sejong U./UNIST)

Session Classification: Session 7

Contribution ID: 26

Type: **not specified**

ITS2 alignment : AI approach

Thursday 3 November 2022 15:50 (30 minutes)

Presenter: KIM, Jaehyun (Yonsei University)

Session Classification: Session 7

Contribution ID: 27

Type: **not specified**

Machine learning for lattice field theory and back

Friday 4 November 2022 10:00 (45 minutes)

Presenter: AARTS, Gert (Swansea University and ECT*)

Session Classification: Session 8

Contribution ID: 28

Type: **not specified**

Quantum Computing in Noisy Environment and Statistical Mechanics Model

Friday 4 November 2022 10:45 (45 minutes)

Presenter: KIM, Seyong (Sejong University)

Session Classification: Session 8

Contribution ID: **31**

Type: **not specified**

Welcome message

Monday 31 October 2022 10:45 (15 minutes)

Presenter: DAVIES, Gareth (Head of Science & Innovation Network, UK embassy/Korea)

Session Classification: Session 1

Contribution ID: 32

Type: **not specified**

Modelling materials to improve safety of nuclear fuels and design the next generation of nuclear systems

Monday 31 October 2022 13:30 (45 minutes)

Presenter: MIDDLEBURGH, Simon (Bangor University)

Session Classification: Session 2

Contribution ID: 37

Type: **not specified**

Introduction

Monday 31 October 2022 10:20 (10 minutes)

Presenter: KIM, Seyong (PI, Sejong University)

Session Classification: Session 1

Contribution ID: **38**

Type: **not specified**

Overview of ML Activities in the Computing Physics Lab (CPLUOS) at the University of Seoul

Friday 4 November 2022 11:30 (45 minutes)

Presenter: WATSON, Ian James (U. of Seoul)

Session Classification: Session 8

Contribution ID: 39

Type: **not specified**

Deep Learning for Low-Latency Detection of Unmodelled Gravitational-Wave Transients

Thursday 3 November 2022 16:20 (30 minutes)

Presenter: NORMAN, Michael (Cardiff University)

Session Classification: Session 7