

EGL'2018 Workshop on Optimisation, Applied and Numerical Mathematics
Sponsored by the Department of Mathematical Sciences
University of Essex

Venue: Essex Business School, Room EBS 2.45, Wivenhoe Park,
Colchester CO4 3SQ

Workshop Program

Wednesday 6th of June 2018

09:00-9:45 **Registration and Coffee**

9:45-10:00 **Welcome note** (Abdel Salhi, as@essex.ac.uk, Tel: +(0)1206 873022,
Mob: 07763835433)

Session i Chair: **Professor Abdel Salhi**

10:00-10:30 Invited talk: **Professor Eric S. Fraga** (University College London)
Literate programming and reproducible research

10:30-10:55 **Ola L. Idris et al.** (University of Greenwich)
Food Safety Systems for Identifying Critical Limits at Critical Control
Points in Food Manufacturing: On Reducing Risk of Contaminant
in Food Products

10:55-11:20 **Rudy Kusdiantara** (University of Essex)
Homoclinic Snaking of Discrete Solitons with Saturable Optical Cavities

11:20-11:45 **Adam Woodhouse** (University of Essex)
Error Modelling in Origami Constructions

11:45-12:10 **Miguel Pineda** and **Michail Stamatakis** (University College London)
On the Stochastic Modelling of Surface Reactions Through Reflected
Chemical Langevin Equations

12:10-12:25 **Rahmi Rustin** and **Hadi Susanto** (Uni. of Essex, Universitas Indonesia)
Analysis of Discrete Systems via Variational Method

12:25-12:45 **Yuslenita Muda et al.** (University of Essex, Institut Teknologi Bandung)
Justification of the Rotating Wave Approximation in Damped, Driven
Weakly Coupled Oscillators

12:45-14:00 **Lunch break**

Session ii Chair: **Professor Eric S. Fraga**

14:00-14:30 Invited talk: **Professor Choi-Hong Lai** (University of Greenwich)
A Generalised Defect Correction Method and its Applications in Option Pricing

14:30-14:55 **Andrew Jupe** (University of Buckingham)
The Radon Transform: Tomography and Image Analysis

14:55-15:20 **Aras Asaad et al.** (University of Buckingham)
Breast Cancer Detection Using Topological Analysis of Digital
Mammograms

Coffee break

Session iii Chair: **Professor Choi-Hong Lai**

15:35-16:00 Invited talk: **Professor Sabah Jassim** (University of Buckingham)

Emergence of Topological Data Analysis in Machine Learning

16:00-16:25 **Dr Mohamed Mehbali** (University of London South Bank)

Solving the Solid Assignment Problem

16:25-16:50 **Chris Taylor** (University of Essex)

The Mathematics of Pareto Rankings and Tournament Selection

16:50-17:10 **Ansam Al-Sabti** and **Sabah Jassim** (University of Buckingham)

Informative Visualisation of Biological Networks in high throughput Systems Biology Investigations

Dinner

Thursday 7th of June

EBS 2.45, Wivenhoe Park, Colchester CO4 3SQ, University of Essex

09:00-9:30 **Coffee**

Session iv Chair: **Professor Sabah Jassim**

09:30-10:00 Invited talk: **Dr Niaz Ahmed Wassan** (KBS, University of Kent)

A metaheuristic Optimization approach for solving a real-life Gas Delivery Problem

10:00-10:25 **Dr Xinan Yang** (University of Essex)

An Approximate Dynamic Programming Approach to Attended Home Delivery Management

10:25-10:50 **Hajem A. Daham** (University of Essex)

A Heuristic Decomposition based on Column Generation Approach for Combining Orders in Inland Transportation of Containers

Comfort Break

Session v Chair: **Dr Daan van den Berg**

11:00-11:25 Invited talk: **Dr Alexei Vernitski** (University of Essex)

A new data compression method (yes-no-yes Bloom filters) and ways of optimising its performance

11:25-11:40 **Dr Irem B. Selamoglu** and **Abdel Salhi** (Universities of Essex)

Hybridising Strip Algorithms and the 2-Opt Rule for Graph-based Optimisation Problems

11:40-12:00 **Romi Geleijn et al.** (University of Amsterdam, Netherland)

The Plant Propagation Algorithm and the University Course Timetabling Problem

12:00-12:20 **Reitze Jansen et al.** (University of Amsterdam, Netherland)

Plant Propagation as a Metaheuristic for an Optimal VLSI-Router

12:20-12:40 **Markus Pfundstein et al.** (University of Amsterdam, Netherland)

Strawberries and Fireworks

Lunch Break

Session vi Chair: **Dr Niaz Ahmed Wassan**

14:00-14:30 Invited talk: **Dr Vanni Noferini** (University of Essex)

Don't walk back in anger

14:30-14:55 **Pedro I. O. Filho et al.** (University College London)

Latin Hypercube Sampling and Regression Trees Applied to Process Scale-up under Uncertainty

14:55-15:20 **Ahmed K. Al-Jaberi et al.** (University of Buckingham)

Inpainting Large Missing Regions Based on Seam-Carving

Coffee Break

Session vii Chair: **Dr Xinan Yang**

15:35-16:00 **Al-Razaz, A. et al.** (University of Greenwich)

A Novel, Robust and Adaptive Model for predicting Oral Drug Absorption

16:00-16:15 **Andrew Lewis** (Simulsys Ltd)

Robotic Process Automation: An Introduction

16:15-16:40 **Dr Salma A. S. Alarefi and Stewart Walker** (University of Essex)

Modelling of Hydropower Generator Characteristic Impedance

16:40-17:00 **Dr Sahar Ahmadzadeh Ghahnaviehei** (University of Essex)

Demand Response Management and Real Time Pricing Issues in Smart Grids

EGL'2019 Announcement and Close of EGL'2018