2007 IEEE Symposium on Computational Intelligence in Scheduling
Hilton Hawaiian Village Beach Resort & Spa

Program Chairs: Edmund Burke, Graham Kendall, Stephen Smith, and Kay Chen Tan

Technical Program

Monday, April 2, 2007

Session Title: Scheduling Theory
Keynote Chair: Graham Kendall
M-AM1: 8:00am-10:00am
South Pacific Ballroom 4
8:00am:

Keynote Lecture
"Airport flight gate scheduling with constraint programming" by Erwin Pesch

Session Chair: Saeed Zolfaghari
9:00am
"A genetic algorithm with injecting artificial chromosomes for single machine scheduling problems" by Pei-Chann Chang, Shih-Shin Chen, Qiong-Hui Ko and Chin-Yuan Fan

9:30am
"A new meta-heuristic approach for combinatorial optimization and scheduling problems" by Nader Azizi, Ming Liang and Saeed Zolfaghari

10:00am-10:15am BREAK
Session Title: Sport/Employee Scheduling
Session Chair: Lyndon While
M-AM2: 10:15am-12:15pm
Hibiscus II
10:15am
"A new lower bound to the traveling tournament problem" by Sebastian Urrutia, Celso Ribeiro and Rafael Melo

10:45am
"An ant based hyper-heuristic for the travelling tournament problem" by Pai-Chun Chen, Graham Kendall and Greet Vanden-Berghe

11:15am
"Test machine scheduling and optimization for z/OS" by Matthew Kaplan, Tracy Kimbrel, Kevin Mckenzie, Richard Prewitt, Maxim Sviridenko, Clay Williams and Cemal Yilmaz

11:45am
"Super 14 rugby fixture scheduling using a multi-objective evolutionary algorithm" by Lyndon While and Luigi Barone

12:15pm-1:15pm BREAK

Session Title: Production Scheduling I
Session Chair: Abdullah Konak
M-PM1: 1:15pm-3:15pm
Hibiscus II
1:15pm
"An ant colony optimization approach to the minimum tool switching instant problem in flexible manufacturing system" by Abdullah Konak and Sadan Kulturel-Konak

1:45pm
"Solving a bi-criteria permutation flow shop problem using an immune algorithm" by Reza Tavakkoli-Moghaddam, Alireza Rahimi-Vahed and Ali Mirzaei

2:15pm
"Efficient scheduling focusing on the duality of MPL representation" by Hiroyuki Goto, Yusuke Hasegawa and Masaki Tanaka

3:15pm-3:30pm BREAK

Session Title: Production Scheduling II
Session Chair: Nodari Vakhania
M-PM1: 3:30pm-5:00pm
Hibiscus II
3:30pm
"Global estimation for multiprocessor job-shop" by Nodari Vakhania

4:00pm
"Rolling partial rescheduling driven by disruptions on single-machine based on genetic algorithm" by Bing Wang and Xiaoying Hong

4:30pm
"Local rescheduling - A novel approach for efficient response to schedule disruptions" by Juergen Kuster, Dietmar Jannach and Gerhard Friedrich

5:00pm-7:00pm BREAK

M-Poster Session
7:00pm-9:00pm
Coral Ballroom I/II

Poster Paper #1:
"A hybrid GA-based scheduling algorithm for heterogeneous computing environments" by Han Yu

Poster Paper #2:
"A GA based intelligent traffic signal scheduling model" by Shaw Ching Chang, Ming Wen Tsai and Gi Wei Huang

Poster Paper #3
"A genetic algorithm with dominance property for single machine scheduling problems" by Pei-Chann Chang, Shih-Hsin Chen, Shih-Min Hsiung and Chin-Yuan Fan

Tuesday, April 3, 2007

Session Title: Production Scheduling III
Session Chair: Uwe Schwiegelshohn
T-AM1: 8:00am-10:00am
Hibiscus II
8:00am
"Scheduling through group decision support with adaptive hypermedia" by Ana Almeida, Goreti Marreiros and Constantino Martins

8:30am
"Greedy scheduling with complex objectives" by Joachim Lepping, Carsten Franke and Uwe Schwiegelshohn

9:00am
"A starting-time-based approach to production scheduling with particle swarm optimization" by Jacomine Grobler, Andries P. Engelbrecht, Johan W. Joubert and Schalk Kok

9:30am
"Modelling alternatives in temporal networks" by Roman Bartak, Ondrej Cepek and Pavel Surynek

10:00am - 10:15am BREAK

Session Title: Production Scheduling IV
Session Chair: James Bean
T-AM2: 10:15am-12:15pm
Hibiscus II
10:15am
"Scheduling coupled-tasks on a single machine" by Haibing Li and Hairong Zhao

10:45am
"A genetic algorithm for scheduling parallel non-identical batch processing machines" by Shubin Xu and James Bean

11:15am
"Refinery scheduling optimization using genetic algorithms and cooperative co-evolution" by Leonardo Simao, Douglas Dias and Marco Aurelio Pacheco

11:45am
"Multi-objective semiconductor manufacturing scheduling: A random keys implementation of NSGA-II" by Scott Mason, Mary Kurz, Michele Pfund, John Fowler and Letitia Pohl

12:15pm-1:15 BREAK

Session Title: Timetabling
Session Chair: Christine Mumford
T-PM1: 1:15pm-3:15pm
Hibiscus II

1:15pm
"A multi-objective evolutionary approach to exam timetabling problem" by Chun Yew Cheong, Kay Chen Tan and Bharadwaj Veeravalli

1:45pm
"Memory length in hyper-heuristics: An empirical study" by Ruibin Bai, Edmund Burke, Graham Kendall and Barry McCollum

2:15pm
"An order based evolutionary approach to dual objective examination timetabling" by Christine Mumford

2:45pm
"Construction of initial neighborhoods for a course scheduling problem using tiling" by Graham Kendall and Douglas Moody

3:15pm-3:30pm BREAK

Session Title: Transport
Session Chair: Germano Vasconcelos
T-PM1: 3:30pm-5:30pm
Hibiscus II
3:30pm
"A new meta-heuristic for the bus driver scheduling problem: GRASP combined with rollout" by Emilia Marchitto, Gionatan D'Annibale, Renato De Leone and Paola Festa

4:00pm
"A robust method for the VRPTW with multi-start simulated annealing and statistical analysis" by Humberto Cesar Brandao de Oliveira, Germano Crispim Vasconcelos, Guilherme Bastos Alvarenga, Rafael Vargas Mesquita and Mariane Moreira de Souza

4:30pm
"Solving dynamic single-runway aircraft landing problems with extremal optimisation" by Irene Moser and Tim Hendtlass

5:00pm
"The application of multilevel refinement (ML) to the vehicle routing problem (VRP)" by Demane Rodney, Alan Soper and Chris Walshaw

5:30pm-7:00pm BREAK

7:00pm-9:00pm
T-Poster Session
Coral Ballroom I/II

Poster Paper #4
"Improving the performance of genetic algorithm in capacitated vehicle routing problem using self imposed constraints" by Ziauddin Ursani, Ruhul Amin Sarker and Hussein Abbass

Poster Paper #5
"Static task scheduling using genetic algorithm and reinforcement learning" by Mohammad Moghimi Najafabadi, Mustafa Zali, Shamim Taheri and Fattaneh Taghiyareh

Wednesday, April 4, 2007

Session Title: Case Studies I
Session Chair: Jacques Ferland
W-AM1: 8:00am-10:00am
Hibiscus II
8:00am
"Optimisation of maintenance scheduling strategies on the grid" by Alex Shenfield, Peter Fleming, Jeff Allan and Visakan Kadirkamanathan

8:30am
"Structured neighborhood Tabu search for assigning judges to competitions" by Amina Lamghari and Jacques A. Ferland

9:00am
"Optimal paths design for a GMPLS network using the Lagrangian relaxation method" by Takashi Fukumoto and Komoda Norihisa

9:30am
"A discrete differential evolution algorithm for the total earliness and tardiness penalties with a common due date on a single-machine" by M. Fatih Tasgetiren, Quan-Ke Pan, Yun-Chia Liang and P. N Suganthan

10:00am-10:15am BREAK

Session Title: Case Studies II
Session Chair: P.N. Suganthan
W-AM1: 10:15am-12:15pm
Hibiscus II
10:15am
"Scaling adaptive agent-based reactive job-shop scheduling to large-scale problems" by Thomas Gabel and Martin Riedmiller

10:45am
"Noisy chaotic neural networks for delay constrained multicast routing" by Wen Liu, Lipo Wang and Haixiang Shi

11:15am
"A discrete differential evolution algorithm for the no-wait flowshop scheduling problem with total flowtime criterion" by M. Fatih Tasgetiren, Quan-Ke Pan, Ponnuthurai Nagaratnam Suganthan and Yun-Chia Liang