

TOMMASO URLI, PH.D.

CONTACT INFORMATION

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RELEVANT WORK AND RESEARCH EXPERIENCE

Optimiser July 2017–present Satalia
Research Scientist Sep. 2015–June 2017 CSIRO Data61, Australia
Optimisation Platforms and Applications
Decision Sciences Program, Canberra Research Laboratory
References: Phil KILBY
Researcher June 2014–Sep. 2015 NICTA, Australia
Logistics, Supply Chains, and Transportation
Optimisation Research Group, Canberra Research Laboratory
References: Pascal VAN HENTENRYCK · Phil KILBY
Research Fellow Jan. 2014–May 2014 The University of Udine, Italy
SCHEDULING AND TIMETABLING GROUP
Department of Electrical, Business and Mechanical Engineering
References: Prof. Andrea SCHAEF · Prof. Luca DI GASPERO
Research Fellow Apr. 2010–Dec. 2010 The University of Udine, Italy
HUMAN-COMPUTER INTERACTION LABORATORY
Department of Mathematics and Computer Science
Advisor: Prof. Roberto RANON

EDUCATION

Ph.D. Program 2011–2014 The University of Udine, Italy
Industrial and Information Engineering
Thesis: *Hybrid Meta-heuristics for Combinatorial Optimization*
Advisor: Prof. Luca DI GASPERO
Referees: Prof. Nysret MUSLIU · Prof. Andrea ROLI

Research Visit 2012–2013 (8 months) The University of Adelaide, Australia
EVOLUTIONARY COMPUTATION GROUP
School of Computer Science
Advisor: Prof. Frank NEUMANN
Co-workers: Dr. Markus WAGNER · Anh Quang NGUYEN

M.Sc. 2008-2010 The University of Udine, Italy
Master Program in Computer Science · Final score: 106 / 110
Thesis: *Accurately Measuring the Satisfaction of Visual Properties in Virtual Camera Control* (Computer Graphics)
Advisor: Prof. Roberto RANON

Exchange Visit 2008 (6 months) Lunds Universitet, Lund, Sweden
LUNDS TEKNISKA HÖGSKOLA (LTH)

B.Sc. 2004-2007 The University of Udine, Italy
Bachelor Program in Computer Science · Final score: 97 / 110
Thesis: *Use of the MVC design pattern in the development of a Web application*
Advisor: Prof. Claudio MIROLO

RESEARCH ACTIVITY

Following is a description of the research topics I am most interested into. The list is representative but non-exhaustive.

Hybrid meta-heuristics A significant part of my research studies hybrid meta-heuristics for combinatorial optimisation problems. In particular, I have explored the intersection between constraint propagation techniques and local search and population-based meta-heuristics. The nature of my research is often applied, and I have worked at projects involving hybrid meta-heuristics in the fields of timetabling, scheduling, and logistics.

Advanced parameter tuning I am interested in advancing the field of algorithm configuration and the parameter tuning for optimization solvers, particularly meta-heuristics. In this space, I am looking to leverage machine learning techniques to increase the off-the-shelf applicability of commodity optimisation solvers.

Modelling abstractions I am interested in exploring the abstractions behind the efficient modelling of rich industrial optimisation problems. The goal of this research is to facilitate and accelerate the process of transforming a set of requirements into fully functioning solvers.

Optimisation as a service I am interested in changing the way industry interacts with optimisation, by leveraging micro-service architectures to allow the composition of optimisation solver and other business components. The aim of this research is to make the use of optimisation more ubiquitous and standardised.

COMMITTEES

As a member of the research community, I serve as a Program and Organising Committee member for a number of international conferences and workshops.

CP'17 Publicity chair & Program Committee member

ICLP'17 Publicity chair

<i>SAT'17</i>	Organising Committee member
<i>IJCAI'17</i>	Program Committee member
<i>MIC'17</i>	Program Committee member
<i>EvoStar'17</i>	Program Committee member
<i>AAAI'17</i>	Sub-reviewer and Demo Program Committee member
<i>EvoStar'16</i>	Program Committee member
<i>ACALCI'16</i>	Program Committee member
<i>PATAT'16</i>	Organizing Committee member
<i>ASOR'16</i>	Program Committee member
<i>CP'16</i>	Doctoral Program Committee member
<i>IJCAI'16</i>	Program Committee member
<i>EvoStar'15</i>	Program Committee member
<i>MIC'15</i>	Program Committee member
<i>CP'15</i>	Doctoral Program Committee member
<i>EvoStar'14</i>	Program Committee member
<i>CP'14</i>	Doctoral Program Committee member
<i>HM'14</i>	Sub-reviewer
<i>ICSIBO'14</i>	Sub-reviewer
<i>MIC'13</i>	Program Committee member
<i>MIC'11</i>	Local Organizing Committee member

JOURNAL REVIEWING

I have been invited to provide my insight as a reviewer on articles submitted to the following international scientific journals.

JOURNAL OF THE OPERATIONS RESEARCH SOCIETY (Palgrave Macmillan)

EUROPEAN JOURNAL OF OPERATIONS RESEARCH (Elsevier)

ARTIFICIAL INTELLIGENCE (Elsevier)

JOURNAL OF ARTIFICIAL INTELLIGENCE RESEARCH (Elsevier)

ARTIFICIAL INTELLIGENCE REVIEW (Springer)

INTERNATIONAL JOURNAL OF SUSTAINABLE TRANSPORTATION (Taylor & Francis)

PEERJ COMPUTER SCIENCE (PeerJ)

FRONTIERS IN APPLIED MATHEMATICS AND STATISTICS (Frontiers)

CONSTRAINTS (Springer)

TRANSACTIONS ON COMPUTATIONAL LOGIC (Springer)

JOURNAL OF SCHEDULING (Springer)

COMPUTERS & OPERATIONS RESEARCH (Elsevier)

PH.D. STUDENT SUPERVISION

<i>Panel member</i>	ARTHUR MAHÉO (CSIRO Data61 and the Australian National University)
<i>Panel member</i>	FRANCESCO BERTOLI (CSIRO Data61 and the Australian National University)
<i>Panel member</i>	MARK LAWRENSON (CSIRO Data61 and the Australian National University)

GRANTS & AWARDS

I have received the following awards and grants (including travel grants and scholarships).

<i>CP'15</i>	Best Application Paper Award
<i>FOGA'13</i>	Travel Grants · SIGEVO · ACM
<i>CP'13</i>	Travel Grants (Doctoral Program) · ACP
<i>MIUR</i>	3-years scholarship for Ph.D. Program (2011-2013)
<i>DIMI</i>	6-months scholarship for student mobility (Sweden) · University of Udine

INVITED SEMINARS & LECTURES

I have been invited to give the following lectures and seminars, at various universities and institutions.

<i>Lecture</i>	Australian National University (2017) Guest lecture (1h) about <i>Optimisation</i> within the <i>Art of Computing</i> course (lecturer: Prof. Lexing Xie).
<i>Talk</i>	Queensland University of Technology (2016) Talk on <i>Tactical Fleet Design</i> within the <i>Biarri Applied Math (BAM)</i> event.
<i>Lecture</i>	Australian National University (2016) Guest lecture (1h) about <i>Optimisation</i> within the <i>Art of Computing</i> course (lecturer: Dr. Patrik Haslum).
<i>Seminar</i>	Australasian Conference on Artificial Intelligence (2015) Seminar about <i>git</i> within the Student Symposium.
<i>Seminar</i>	University of Udine (2015) Seminar (2h) about <i>Fleet Design Optimisation from Historical Data Using Constraint Programming and Large Neighbourhood Search</i> .
<i>Seminar</i>	NICTA Canberra Research Laboratory (2014)

Seminar (1h) about *Homecare scheduling: a CP-base LNS approach* (ORG SEMINARS).

Lecture

Aalborg University of Copenhagen (2013)

Guest lecture (1h) about *Effective Viewpoint Computation with Particle Swarm Optimization* within the *Computer Graphics* course (lecturer: Dr. Paolo Burelli).

Seminar

University of Adelaide (2012)

Seminar (1h) about *Hyperheuristics to solve combinatorial optimisation problems* (*Evolutionary Computation Group* seminars).

TEACHING

In the course of my Ph.D., I have provided teaching assistance at some of the courses offered by the University of Udine.

TA

Web Applications · Prof. Luca Di Gaspero

I took care of some of the laboratory sessions for the Web Applications course, with practical exercises about HTML and CSS.

TA

Computer Networks · Prof. Pier Luca Montessoro

In a series of three lectures, I gave some practical demonstration of some attacks (MITM, buffer overflow, SQL injection and WEP password cracking) that can be carried out over computer networks.

TA

C Programming · Prof. Pier Luca Montessoro

I supervised the laboratory lectures for the course of *C Programming* (Fondamenti di Informatica 1) of the Faculty of Engineering.

TA

Computer Networks · Prof. Pier Luca Montessoro

In a series of three lectures, I gave some practical demonstration of some attacks (MITM, buffer overflow, SQL injection and WEP password cracking) that can be carried out over computer networks.

LANGUAGES

ITALIAN

Native language · Good writing skills

ENGLISH

Good reading, listening, writing and speaking skills. Latest certification: 8/9 (equivalent to C2 in the European Framework of Reference Levels) in IELTS taken in May 2014 (8.5/9 listening, 8.5/9 reading, 7.0/9 writing, 7.5/9 speaking). Previous certification: 104/120 in TOEFL iBT taken in March 2010 (partials: 28/30 reading and listening, 23/30 speaking, 25/30 writing). To date, I have lived in an English-speaking country (Australia) for more than 3 years, and in Sweden (2008) for 6 months.

July 11, 2017