International Conference
IHCI, GET, CGVCVIP, BigDaCI & TPMC
2016

FINAL CONFERENCE PROGRAM

Saturday, 2nd July 2016

08:00-19:10 Welcome Desk

09:45-10:00 Session O – Opening Session
(Room Funchal)

10:00-11:00 Session KL1 – Keynote Presentation
(Room Funchal)

HUMAN COMPUTER INTERACTION AND SOCIETAL IMPACT – CAN HCI INFLUENCE PUBLIC POLICY MAKING AND IT POLITICS?
By Professor Jan Gulliksen, KTH Royal Institute of Technology, Sweden

11:00-11:30 Coffee Break

11:30-12:50 Session FSP 2.1 – (IHCI 2016)
Creativity Support Systems // Participatory Design and Cooperative Design Techniques
(Room Funchal)
Chair: Jan Gulliksen

WHEN DESIGNERS ARE NON-DESIGNERS: OPEN ENDEDNESS VS. STRUCTURE OF DESIGN TOOLS (F043)
Alma Leora Culen, Andrea Gasparini, Pavla Minářková, Roman Novotný, Sumit Pandey and Ladislava Zbieczak Suchá

MODELS AS BRIDGES FROM DESIGN THINKING TO ENGINEERING (F054)
Hilda Tellioğlu

MUSICAL OBJECT (S033)
Francisco Lopes, Tiago Cruz and F. Amílcar Cardoso

11:30-13:10 Session FSP 2.2 – (BigDaCI 2016)
Big Data Algorithms and Architectures
(Room Paris)
Chair: Tamilla Mavlanova

PROFIT-BASED LOGISTIC REGRESSION TRAINED BY MIGRATING BIRDS OPTIMIZATION: A CASE STUDY IN CREDIT CARD FRAUD DETECTION (F020)
Azamat Kibekbaev and Ekrem Duman

TWITTER TEMPORAL EVOLUTION ANALYSIS: COMPARING EVENT AND TOPIC DRIVEN RETWEET GRAPHS (F004)
Giambattista Amati, Simone Angelini, Francesca Capri, Giorgio Gambosi, Gianluca Rossi and Paolo Vocca

BRINGING HEALTHCARE ANALYTICS TO WHERE BIG DATA RESIDES USING A DISTRIBUTED QUERY SYSTEM (S022)
Shawn Murphy, Alyssa Goodson, Michael Mendis, Marykate Murphy, Lori Phillips, Yanhing Wang and Christopher Herrick

TECHNICAL FUNCTION DISCOVERY IN PATENT DATABASES FOR GENERATING INNOVATIVE SOLUTIONS (S001)
Dmitriy M. Korobkin, Sergey A. Fomenkov, Sergey G. Kolesnikov and Alexander B. Golovanchikov

13:00 – 14:30 Lunch Break

14:30-15:30 Session FRP 2.3 – (IHCI 2016)
Supporting user populations with Intellectual Disabilities
(Room Funchal)
Chair: Paul Lyons

A HAPTIC DISPLAY FOR THE SIMULATION OF SOFT TISSUE PALPATION IN CHA3D (F003)
Jan Hergenhan and Heinz Wörn

HUMAN ACTIVITY RECOGNITION IN AMBIENT ASSISTED LIVING FOR ALZHEIMER’S PATIENT: A REVIEW OF TRENDS AND CHALLENGES IN MALAYSIA (R011)
Nur Waheeda Basharudin and Ku Nurul Fazira Ku Azir
### 14:30-16:40 Session FSP 2.4 – (CGVCVIP 2016)
**Computer Graphics // Other**
(Room Sidney)
Chair: Liming Zhang

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### 14:30-15:30 Session FP 2.5 – (TPMC 2016)
**Networking Protocols // Other**
(Room Paris)
Chair: Jean-Pierre Kuilboer

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<td>Toshihiko Kato, Yao Koffi Hubert Wilfried, Celimage Wu and Satoshi Ohzuhata</td>
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### 15:30-16:30 Session KL2 – Keynote Presentation
(Room Funchal)

**Visualization and Data Mining for High Dimensional Data**
By Professor Alfred Inselberg, Senior Fellow San Diego Supercomputing Center & Computer Science and Applied Mathematics Departments, Tel Aviv University, Israel

### 16:30-17:00 Coffee Break

### 17:00-18:40 Session FSP 2.6 – (IHCI 2016)
**HCI and Design Education // User Studies and Fieldwork**
(Room Funchal)
Chair: Till Halbach

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<td>&quot;SIMON SAYS” “USE HUMANOID ROBOT TO TEACH CHILDREN” – A CASE STUDY OF EXPECTATIONS AND REALITY</td>
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### 17:00-19:10 Session FSP 2.7 - (CGVCVIP 2016)
**Computer Vision**
(Room Sidney)
Chair: Peter Dannenmann

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### 19:15 Welcome Cocktail
Sunday, 3rd July 2016

08:30-15:45 Welcome Desk

09:00-11:00 Session FP 3.1 – (IHCI 2016)
HCI and Design education
(Room Sidney)
Chair: Hilda Tellioglu

- COMPUTATIONAL PRODUCTION OF COLOUR HARMONY. USING A GENETIC ALGORITHM (F009)
  Paul Lyons and Giovanni Moretti
- ASPECT ORIENTATION AS A NEW APPROACH FOR CONTEXT DEPENDENT HMI ADAPTATION (F037)
  Sebastian Heinze, Jens Ziegler, Markus Graube and Leon Urbas
- ECO-A: CHILDREN'S ENGAGEMENT IN ENVIRONMENTAL AND CLIMATE ISSUES (F047)
  Alma Leora Culén, Ingeborg Eilertsen, Lone Lægreid, Sumit Pandey, Magnus Søyland and Ingrid Smørgrav Viddal
- DESIGNING FOR TECHNOLOGY ENABLED CONSTRUCTIVISM LEARNING; EXPLORING A MANGROVE FOREST BIOME (F029)
  Kaberi Naznin, Vivienne Farrell and Karola von Baggo

09:00-11:00 Session FP 3.2 – (BigDaCI 2016)
Big Data Applications // Data Mining Applications
(Room Paris)
Chair: Ajith Abraham

- THE ROLE OF DATA ASSETS IN THE ORGANIZATIONAL SUCCESS (F007)
  Stanislav Mamonov and Tamilla Mavlanova
- BIG DATA ANALYTICS IN THE PUBLIC SECTOR: A CASE STUDY OF NEET ANALYSIS FOR THE LONDON BOROUGHS (F018)
  Daqing Chen, Babatunde Asaolu and Chuo Qin
- FACTORY ORIENTED AS A NEW APPROACH FOR CONTEXT DEPENDENT HMI ADAPTATION (F047)
  Sebastian Heinze, Jens Ziegler, Markus Graube and Leon Urbas
- PREDICTING MORTGAGE DEFAULT: LESSONS FROM DATA MINING FANNIE MAE MORTGAGE PORTFOLIO (F006)
  Stanislav Mamonov and Raquel Benbunan-Fich

11:00-11:30 Coffee Break

11:30-13:00 Session FP 3.3 – (IHCI 2016)
Measurement of success of Emotional Technology / Interfaces // Supporting User Populations With Physical Disabilities
(Room Sidney)
Chair: Hilda Tellioglu

- REFLECTIONS ON COST-BENEFIT ANALYSES CONCERNING UNIVERSAL DESIGN OF ICT SOLUTIONS (F010)
  Till Halbach and Kristin Skeide Fuglerud
- THE ROLE OF MATERIALS IN DESIGN OF FAMILIAR AND CONTEXTUAL ASSISTIVE TECHNOLOGIES (F042)
  Suhas Govind Joshi and Heidi Bråthen
- INVOLVING SENIORS IN THE DESIGN OF HOME-BASED WELFARE TECHNOLOGIES: A REVIEW OF EXISTING RESEARCH (F045)
  Rune B. Rosseland

11:30-12:50 Session FSP 3.4 - (CGVCVIP 2016)
Image Processing
(Room Paris)
Chair: Pere-Pau Vázquez

- A COMPARATIVE STUDY OF COMPUTERIZED APPROACHES FOR TYPE P63 OVARIAN TISSUES USING HISTOPATHOLOGY DIGITIZED COLOR IMAGES (F035)
  T. M. Shibrri Sazzad, Leisa Armstrong and Amiya Kumar Tripathy
- ACCURATE BACKGROUND POINTS DETECTION FOR ACTION RECOGNITION IN PRACTICAL VIDEO DATASETS (F059)
  Yu Xiang, Yoshitiro Okada and Kouke Kaneko
- VISUAL DEFICIENCIES OF DIGITIZED ANALOG VIDEO - A STUDY OF A VIDEO HOME SYSTEM (VHS) ARCHIVE (S061)
  Stefanie Müller and Maximilian Eibl

13:00 – 14:30 Lunch Break
**14:30-15:10 Session SP 3.5 - (CGVCVIP 2016)**

**Pattern Recognition in Computer Vision**

(Room Sidney)

Chair: Dirk Berndt

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<td>Luis Gerardo de la Fraga and Daniel López-Escogido</td>
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**14:30-15:30 Poster Session**

(Room Lisboa)

Chair: Ajith Abraham

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<td>Ana Rita Teixeira, Ana Carvalhal, Filipe Abrantes, Vladimir Lourenço, Anabela Gomes and João Orvalho</td>
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<td>VECTOR FIELD RBF INTERPOLATION ON A SPHERE</td>
<td>Michal Smolik and Vaclav Skala</td>
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<td>Alina Andreica</td>
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<td>THE INTERNET OF THIN GS ARCHITECTURE AND IMPEDED SECURITY</td>
<td>Jean-Pierre Kaulboer and Noushin Ashrafi</td>
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**14:30-15:40 Session FSP 3.6 – (TPMC 2016)**

**Algorithms // Security**

(Room Paris)

Chair: Noushin Ashrafi

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<td>AN ADAPTIVE HYBRID GENETIC ALGORITHM FOR PAVEMENT MANAGEMENT (F004)</td>
<td>João Santos, Adelino Ferreira and Gerardo Flintsch</td>
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<td>Noushin Ashrafi, Jean-Pierre Kaulboer and One-Ki (Daniel) Lee</td>
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<td>APPLYING EQUIVALENCE ALGORITHMS IN SOLVING PATTERN MATCHING PROBLEMS. CASE STUDY FOR EXPERT SYSTEM DESIGN (S013)</td>
<td>Alina Andreica</td>
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15:45 – Conference Tour and Dinner
**Monday, 4th July 2016**

08:30-13:30 Welcome Desk

09:20-11:00 Session FSP 4.1 – *(GET 2016)*
Game and Entertainment Technologies
(Room Lisboa)
Chair: Alma Leora Culén

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<td>VIRTUAL-REALITY BASED LEISURE EXPERIENCE OF NINTENDO WII FOR ELDERLY (S018)</td>
<td>Muge Akyildiz Munusturlar and Suleyman Munusturlar</td>
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<td>THE VIRTUAL REALITY: INTERFACE WITH TECHNOLOGY, DIGITAL GAMES AND INDUSTRY (S001)</td>
<td>Pablo Gobira and Antônio Mozelli</td>
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09:30-11:00 Tutorial - 1st Part
(Room Paris)

**COMPUTATIONAL INTELLIGENCE IN DATA MINING**
By Professor Ajith P. Abraham, Machine Intelligence Research Labs (MIR Labs), USA

11:00-11:30 Coffee Break

11:30-12:50 Session FSP 4.2 - *(CGVCVIP 2016)*
Visualization
(Room Lisboa)
Chair: Peter Dannenmann

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<td>A NEW RADIAL BASIS FUNCTION APPROXIMATION WITH REPRODUCTION (F015)</td>
<td>Zuzana Majdisova and Vaclav Skala</td>
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<td>INTERACTIVE VISUALIZATION OF MASSIVE 3D POINT CLOUDS (F029)</td>
<td>Jörg Futterlieb, Christian Teutsch and Dirk Berndt</td>
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<td>A MODERN VISUAL GRAPHIC SEARCH HOMEPAGE (S010)</td>
<td>Xin Bai, Dawn Wang and Huizhen Ji</td>
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11:30-12:30 Session Tutorial - 2nd Part
(Room Paris)

**COMPUTATIONAL INTELLIGENCE IN DATA MINING**
By Professor Ajith P. Abraham, Machine Intelligence Research Labs (MIR Labs), USA

12:30 Best Paper Awards Ceremony and Closing Session
(Room Lisboa)