

International Conferences
IHCI, CGVVCVIP & BigDaCI 2017
CONFERENCE PROGRAM

Friday, 21st July 2017

08:30-19:30 Welcome Desk

09:45-10:00 Session O – Opening Session
(Room Atlântico 1)

Profs. Katherine Blashki, Yingcai Xiao and Ajith P. Abraham

10:00-11:00 Session KL1 – Keynote Presentation
(Room Atlântico 1)

RE-DEFINING THE “SMART EVERYTHING” PARADIGM TOWARDS RECONCILING HUMANS AND TECHNOLOGY

By Dr. Dr. Norbert Streitz, Scientific Director, Smart Future Initiative, Germany

11:00-11:30 Coffee Break

11:30-13:00 Session FP 21.1

Emotional Design issues / methods / experiences for novel interfaces

(Room Atlântico 1)

Chair: Katherine Blashki

POLYHINGE: SHAPE CHANGING TUI ON TABLETOP (F018)

Meng Wang, Haipeng Mi, Yejun Liu and Yingqing Xu

STUDY ON DIGITAL STYLE DESIGN - ROBUST DESIGN SYSTEM FOR KANSEI USING MULTIVARIATE ANALYSIS AND TAGUCHI METHOD (F037)

Hideki Aoyama and Hitomi Yokoyama

NOVEL APPROACHES IN HUMAN-VEHICLE INTERACTION INTERFACE OF A VEHICLE DRIVING ASSISTANCE SYSTEM (F117)

Manolo Dulva Hina, Hongyu Guan and Amar Ramdane-Cherif

11:30-12:45 Session FRP 21.2

Big Data Algorithms and Architectures // Others

(Room Douro 4)

Chair: Jörg Roth

A QOS AWARE AD HOC MULTICAST BY COMBINING TDMA AND IEEE 802.11 DCF (F021)

Jing Lin, Ryo Yamamoto, Satoshi Ohzahata and Toshihiko Kato

A CLOUD-BASED DATA ANALYTICAL FRAMEWORK FOR MEDIUM SCALE SCIENTIFIC APPLICATIONS (F028)

Reena Bharathi, S.C. Shirwaikar, Vilas Kharat and Gajanan Aher

AN ARCHITECTURE FOR A CONTINUOUS AND EXPLORATORY ANALYSIS ON SOCIAL MEDIA (R064)

Diogo Cunha, Nuno Guimarães and Álvaro Figueira

11:30-13:00 Session FP 21.3

Animation // Computer Graphics

(Room Douro 1+2)

Chair: Yingcai Xiao

DOWNSAMPLING METHODS FOR MEDICAL DATASETS (F085)

Jesús Díaz-García, Pere Brunet, Isabel Navazo and Pere-Pau Vázquez

AN INTUITIVE INTERFACE FOR HUMAN PERFORMANCE TRACKING WITH SIMULATED CHARACTERS (F108)

Gökçen Çimen, Martin Guay, Stelian Coros and Robert W. Sumner

AUTOMATICALLY LEARNING AN INTUITIVE ANIMATION INTERFACE FROM A COLLECTION OF HUMAN MOTION CLIPS (F109)

Marcel Lüdi, Martin Guay, Brian McWilliams and Robert W. Sumner

13:00-14:30 Lunch Break

14:30-16:35 Session FSRP 21.4

**Supporting user populations with Physical Disabilities
(Room Atlântico 1)**

Chair: Jorge Cardoso

THE EFFECTIVENESS AND USER SATISFACTION IN THE INTERFACE DESIGNED FOR DISABLED USERS – THE PILOT STUDY (F043)

Katarzyna Jach, Beata Bajcar and Anna Borkowska

HANDS-FREE READING BRAILLE WITH A VIBROTACTILE WRISTBAND (F072)

Simon Schätzle, Bernhard Weber and Benedikt Leichtmann

THE USABILITY OF SYSTEM AND USERS' EMOTIONS DURING WORK WITH INTERFACE DESIGNED FOR DISABLED – THE PILOT STUDY (F055)

Beata Bajcar, Anna Borkowska and Katarzyna Jach

F.R.A.M.E - FACIAL REMOTE ACTIVITY MONITORING EYEWEAR (S020)

Philip Breedon, Paul Watts, Graeme Cox, Ala Szczepura, Darrin Baines, Karen Johnson, Vanessa Venables and Charles Nduka

ACCESSIBLE MOVIES FOR DISABLED PEOPLE (R038)

Filipe Mendes, Ines Kozuh and Matjaž Debevc

14:30-16:00 Session FP 21.5

Geometric Modeling // Computer-Aided Design

(Room Douro 1+2)

Chair: Fernand Cohen

A CAD MODELING METHOD FOR CAR FORM DESIGN BASED ON CE-BÉZIER (F077)

Fan Liu, Xiaomin Ji and Lunqing Gong

A METHOD OF VOLUME CALCULATION FOR 3D MODELS DESCRIBED BY BÉZIER SURFACES USING EXAMPLE OBJECTS OF BIOMEDICAL ORIGIN (F086)

Aleksandrs Sisojevs, Katrina Boločko and Olga Krutikova

EVOLUTIONARY GENERATION OF 3D SHAPE MODELS (F123)

Satoshi Yonemoto and Masaya Sugawa

14:30-15:30 Poster Session

(Room Atlântico 2)

Chair: Piet Kommers

DEVELOPMENT OF A FRAMEWORK FOR MOOC IN CONTINUOUS TRAINING (P029)

Carolina Amado and Ana Pedro

INFORMATION LITERACY IN THE 21ST CENTURY: USEFULNESS AND EASE OF LEARNING (P118)

Patricia Fidalgo and Joan Thormann

THE USE OF AN ACCEPTANCE TEST FOR ACCESSING AN ELECTRONIC INFORMATION SYSTEM (P065)

Line Lundvoll Warth and Kari Dyb

DESIGN OF A MULTI-SENSOR BASED EXERCISE MOTION RECOGNITION SYSTEM (P050)

Seung-Taek Oh, Heon-Tag Kong and Jae-Hyun Lim

DESIGNING OF SLEEP SUPPORT LIGHTING BASED ON SHORT WAVELENGTH RATIO OF NATURAL LIGHT (P053)

Young-Won Kim and Jae-Hyun Lim

“TUE GUTES” – UTILIZING SOCIAL NETWORK MECHANISMS, CROWDSOURCING AND GAMIFICATION TO FACILITATE SOCIAL AWARENESS AND PROMOTE SELFLESS HELP (P040)

Daniel Kadenbach, Nick Nolting and Carsten Kleiner

HOME AUTOMATION SYSTEM FOR ELDERLY HOUSING (P020)

Sung-Hoon Mah, Dong-Hak Kim, Byung-Seo Kim, Jong Kim and Jae Hee Chung

USING INTERACTIVE VISUAL ANALYTICS TO ANALYZE INFLUENCES OF CLIMATE ON INDUSTRIAL PRODUCTION (P035)

Dieter Meiller

DETECTION OF SUBJECT-BASED KEY PLAYER USING SOCIAL NETWORK ANALYSIS (P042)

Minseon Kim, Jiyoung Kim and Kiyun Yu

PHYSICALLY-BASED LINEAR BLEND SKINNING (P031)

YoungBeom Kim and JungHyun Han

TOWARDS SUB-PIXEL DISTANCE MEASURES FOR DISTANCE TRANSFORMATIONS (P141)

Ingemar Ragnemalm

15:30-16:30 Session KL2 – Keynote Presentation

(Room Douro 4)

“HIGH THROUGHPUT CONNECTOMICS: THE BUILDING OF A BRAINSCOPE”

By Professor Nir Shavit, MIT (Massachusetts Institute of Technology, USA)

15:40-16:30 Session FSP 21.6
Game and Entertainment Technologies
(Room Tejo 1+2)
Chair: Katherine Blashki

AR MUSEUM: A MOBILE AUGMENTED REALITY APPLICATION FOR INTERACTIVE PAINTING RECOLORING (F029)

Mattia Ryffel, Fabio Zünd, Yağız Aksoy, Alessia Marra, Maurizio Nitti, Tunç Ozan Aydın and Bob Sumner

AN INSTRUCTIONAL CARD GAME WITH PUZZLE TRIGGERS: GUIDELINES FOR TEACHING SOFTWARE DEVELOPMENT (S017)

Mario Madureira Fontes and Ítalo Santiago Vega

16:30-17:00 Coffee Break

17:00-19:30 – Session FP 21.7

User studies and fieldwork
(Room Atlântico 1)

Chair: Katherine Blashki

GESTURE-BASED LOCOMOTION IN IMMERSIVE VR WORLDS WITH THE LEAP MOTION CONTROLLER (F040)

Jorge Cardoso

GESTURES IN HUMAN-COMPUTER INTERACTION – WHICH SHAPE AND HOW MANY? (F046)

Lisa Graichen, Matthias Graichen, Josef F. Krems

SUITABLE PARAMETERS FOR TACTON DESIGN IN TOUCH SCREEN INTERACTION (F079)

Tobias Stein, Martin Seeger, Bernd-Burkhard Borys, and Ludger Schmidt

DO USERS WANT ADDITIONAL FEEDBACK WHEN USING A GESTURE-BASED SYSTEM? (F086)

Lisa Graichen, Matthias Graichen and Josef F. Krems

AN INTERACTIVE ACTION SET DETECTION IN NATURAL LANGUAGE HYBRID SYSTEM (F092)

Alexander Wachtel, Jonas Paczia and Walter F. Tichy

17:00-19:15 – Session FSRP 21.8

Usability // Creativity Support Systems // Other
(Room Tejo 1+2)

Chair: Hideki Aoyama

DESIGNING FOR THE SECOND-HAND USE OF CONSUMER GOODS (F104)

Swati Srivastava and Alma Leora Culén

TRIGGERING YOUR CREATIVITY WHILE WRITING: CREATIVEWALL - A NOVEL CROWDSOURCING PLATFORM (F045)

Frederica Gonçalves, Igor Sousa and Pedro Campos

ASSESSMENT OF SUITABILITY OF E-SERVICES FOR ILLITERATE USERS (S030)

Rawan Al-Themali and Hmood Al-Dossari

SUPPORTING DOMAIN EXPERTS UNDERSTANDING THEIR DATA: A VISUAL FRAMEWORK FOR ASSEMBLING HIGH-LEVEL ANALYSIS PROCESSES (S065)

Daniel Kaltenthaler, Johannes-Y. Lohrer and Peer Kröger

FINDING USABILITY PROBLEMS IN ERP APPLICATION HELP AND END-USER TRAINING MATERIAL (S068)

Mazhar Sadiq and Antti Pirhonen

HCI RESEARCH IN VIRTUAL REALITY: A DISCUSSION OF PROBLEM-SOLVING (R041)

Costas Boletis, Jarl Erik Cedergren, and Stian Kongsvik

17:00-18:25 Session FSRP 21.9

Data Mining Topics and Applications
(Room Douro 4)

Chair: Nazar Zaki

CULTURAL MACHINE TRANSLATION USING MRF GIBBS MODEL & BAYESIAN LEARNING (F067)

Fernand Cohen and Zheng Zhong

SELECTION OF VULNERABLE FIREFIGHTING AREAS USING SPATIAL REGRESSION ANALYSIS MODEL (S039)

Yonghee Shin, Jiyoung Kim and Kiyun Yu

ACADEMIC CONFERENCE CLASSIFICATION ACCORDING TO SUBJECTS USING TOPICAL KEYWORD EXTRACTION (S051)

Sue Kyoung Lee and Kwanho Kim

ANALYSIS OF KEYWORD EXTRACTION METHOD IN UNSTRUCTURED DATA USING SOCIAL DISASTER INFORMATION (R045)

Janghyuk Yim, Jiyoung Kim and Kiyun Yu

17:00-19:00 Session FP 21.10

Visualization

(Room Douro 1+2)

Chair: *Lazaro Campoalegre*

VISUAL ANALYSIS OF DEFECT CLUSTERING IN ATOMISTIC SIMULATION OF THE IRRADIATION PROCESS (F016)

Guoqing Wu and Deye Lin

MUGDAD: MULTILEVEL GRAPH DRAWING ALGORITHM IN A DISTRIBUTED ARCHITECTURE (F043)

Antoine Hinge, Gaëlle Richer and David Auber

AN EFFICIENT SURFACE CLIPPING MODEL FOR VOLUMETRIC DATA (F047)

Fukun Wu, Zeyao Mo and Xianfeng Bao

CIRCUMPLEX SORT: A TWO-PHASE METHOD FOR REVEALING CIRCUMPLEX DATA PATTERNS IN REORDERABLE MATRICES (F144)

Miguel Mechi Naves Rocha, Pedro Kretikowski Roque Jr. and Celmar Guimarães da Silva

Saturday, 22nd July 2017

08:30-15:45 Welcome Desk

09:00-11:00 Session FP 22.1

HCI and Design education

(Room Atlântico 1)

Chair: Katherine Blashki

COLLECE 2.0: A DISTRIBUTED REAL-TIME COLLABORATIVE PROGRAMMING ENVIRONMENT FOR THE ECLIPSE PLATFORM (F015)

Santiago Sánchez, Miguel A. Redondo, David Vallejo, Carlos González and Crescencio Bravo

USER ELICITATION FOR COGNITIVE CONSONANCE IN THE DESIGN OF DIGITAL ARTIFACTS (F025)

Rui Belfort, Fábio Campos and Juliana Gonçalves

ACTA: A GENERAL PURPOSE FINITE STATE MACHINE (FSM) DESCRIPTION LANGUAGE FOR SMART GAME DESIGN (F051)

Emmanouil Zidianakis, Margherita Antona and Constantine Stephanidis

A CASE STUDY OF EVALUATING A GAME-BASED INTERACTIVE PICTURE BOOK BASED ON THE ARCS

MOTIVATION MODEL (F059)

Yih-Shyuan Chen and Yu-Horng Chen

09:20-11:00 Session FSP 22.2

Image Processing

(Room Douro 4)

Chair: Ingemar Ragnemalm

AN AUTOMATED OVARIAN TISSUE DETECTION APPROACH USING TYPE P63 COUNTER STAINED IMAGES TO MINIMIZE PATHOLOGY EXPERTS OBSERVATION VARIABILITY (F116)

T M Shahriar Sazzad, Leisa Armstrong and Amiya Kumar Tripathy

A FEATURE SIMILARITY INDEX BASED ON THE OPPONENT WEIGHTING FUNCTION FOR IMAGE QUALITY ASSESSMENT (F146)

Chengho Hsin, Zheng Chiu Chen and Shaw-Jyh Shin

SEMI-AUTOMATIC METHOD OF SEARCHING FOR THE CONTROL POINTS IN TWO FACIAL IMAGES (S030)

Olga Krutikova, Aleksandrs Sisojevs and Mihails Kovalovs

A NOVEL EDGE-PRESERVING FILTER FOR MEDICAL IMAGE ENHANCEMENT (S100)

Tzong-Jer Chen, Sixian Niu, Chengde Lin and Ronghui Lu

11:00-11:30 Coffee Break

11:30-12:45 Session FRP 22.3

Supporting user populations from specific Generations // Supporting user populations with Intellectual Disabilities

(Room Atlântico 1)

Chair: Katherine Blashki

A TABLET APPLICATION TO SUPPORT COMMUNICATION FOR PEOPLE WITH DISABILITIES (F023)

Akira Hattori, Kuniomi Shibata and Sayaka Matsumoto

A DIGITAL COOKBOOK FOR ELDERLY PEOPLE: INVESTIGATING INTERFACE CONCEPTS (F083)

Valeria Orso, Francesca Gullà, Roberto Menghi, Silvia Ceccacci, Lorenzo Cavalieri, Michele Germani and Luciano Gamberini

AUTOMATION TOOLS APPLIED TO USER SUPPORT SYSTEMS (R027)

José Gonçalves, João C. Silva and José Luís Silva

11:30-12:50 Session FSP 22.4

Big Data Algorithms and Architectures

(Room Douro 4)

Chair: Krzysztof Dzieciolowski

PRIOR ART CANDIDATE SEARCH ON BASE OF STATISTICAL AND SEMANTIC PATENT ANALYSIS (F053)

Dmitriy M. Korobkin, Sergey S. Fomenkov, Alla G. Kravets and Sergey G. Kolesnikov

FULL MODEL SELECTION IN HUGE DATASETS UNDER THE MAPREDUCE PARADIGM (F084)

Angel Díaz-Pacheco, Jesús A. Gonzalez-Bernal, Carlos Alberto Reyes-García and Hugo Jair Escalante-Balderas

THE ENERGY INDEX OF CHILLERS OF AIR-CONDITIONING SYSTEM USING DATA ENVELOPMENT ANALYSIS (S061)

Yung-Yu Wen and Wen-Shing Lee

13:00 – 14:30 Lunch Break

14:30-15:30 Session FP 22.5
3D and Stereo Vision // Other
(Room Atlântico 1)

Chair: Ardelio Galletti

3D FACE RECONSTRUCTION FROM IMAGE(S) BASED ON GENDER AND ETHNICITY GENERIC MODELS (F019)

Zexi Liu and Fernand Cohen

TECHNIQUE OF INFORMATION HIDING FOR 3-D PRINTED OBJECTS WITH TRANSMISSION IMAGES OF NEAR-INFRARED RAYS (F105)

Kazutake Uehira, Masahiro Suzuki, Youichi Takashima and Hideyuki Torii

14:30-15:30 Session FP 22.6

Shading and Rendering

(Room Tejo 1+2)

Chair: Yingcai Xiao

IRIDESCENT SHADING MODEL FOR BIOLOGICAL STRUCTURES (F079)

Fukun Wu, Li Xiao and Yi Cao

NEW ALGORITHMS FOR ANTI-ALIASED DISTANCE TRANSFORMATIONS (F128)

Ingemar Ragnemalm

14:30-15:20 Session FSP 22.7

Analytics and Metrics

(Room Douro 4)

Chair: Ajith P. Abraham

ROBUST VERSIONS OF PRINCIPAL COMPONENT ANALYSIS (F049)

Boris Polyak and Mikhail Khlebnikov

ASSESSING MATCHING ERRORS IN PREDICTIVE MODELS (S092)

Krzysztof Dzieciolowski and Daniel Marinescu

15:45 – Conference Tour and Dinner

Sunday, 23rd July 2017

08:30-13:00 Welcome Desk

09:05-11:00 Session FSRP 23.1

Affective User-Centred Analysis, Design and Evaluation // Emotional Design issues / methods / experiences for novel interfaces (Room Atlântico 1)

Chair: Katherine Blashki

INVESTIGATING THE INFLUENCE OF PRODUCT REPRESENTATION FORMATS IN A USER EXPERIENCE EVALUATION (F073)

Ingrid M. Pettersson, Dimitrios Gkouskos and I.C. Marianne Karlsson

COPING WITH USER DIVERSITY: UX INFORMS THE DESIGN OF A DIGITAL INTERFACE THAT ENCOURAGES SUSTAINABLE BEHAVIOUR (F075)

Ane Irizar-Arrieta and Diego Casado-Mansilla

“WISE THINGS”: WHEN SMART OBJECTS STIMULATE REFLECTION (S082)

Maliheh Ghajargar, Alberto De Marco and Francesca Montagna

DESIGN FOR TRUST – ONLINE GROCERY SHOPPING (S089)

Amela Karahasanović, Kristoffer T. Holm and Aria Nejad

PACKAGING DESIGN OF E-LEARNING SOFTWARE AND THE EFFECT OF THE DESIGN (R034)

Takamitsu Tanaka, Yen-Yu Kang, Mitsuhiro Setoyama and Yukari Chiba

09:00-11:00 Session FP 23.2

Visualization

(Room Tejo 1+2)

Chair: Yingcai Xiao

IN SITU VISUALIZATION INFRASTRUCTURE FOR LARGE SCALE SIMULATIONS WITH STRUCTURED MESHES (F024)

Yi Cao, Zeyao Mo, Zhiwei Ai, Aiqing Zhang, Li Xiao and Huawei Wang

A VISUALIZATION PIPELINE FOR COMPUTABLE GEOMETRIC MODEL DATA (F042)

Huawei Wang, Li Xiao, Zhiwei Ai and Yi Cao

TIGHTLY COUPLED IN SITU VISUALIZATION WITH SIMULATIONS ON THOUSANDS OF CPU CORES (F098)

Zhiwei Ai, Yi Cao, Li Xiao, Huawei Wang and Aiqing Zhang

EXPLOITING SPATIO-TEMPORAL COHERENCY IN TIME-VARYING VISUALIZATION OVER NETWORK ENVIRONMENTS (F113)

Lazaro Campoalegre, Tom Noonan and John Dingliana

11:00-11:30 Coffee Break

11:30-13:00 Session FP 23.3

Pattern Recognition in Computer Vision

(Room Atlântico 1)

Chair: Chengho Hsin

CONVNET FEATURES FOR AGE ESTIMATION (F045)

Ali Maina Bukar and Hassan Ugail

RECOGNITION OF DYNAMICAL SITUATIONS ON THE BASIS OF FUZZY FINITE STATE MACHINES (F088)

Vladimir V. Deviatkov and Igor I. Lychkov

USING TENSORFLOW TO DESIGN ASSISTIVE TECHNOLOGIES FOR PEOPLE WITH VISUAL IMPAIRMENTS (F137)

Davide Mulfari, Alessandro Palla and Luca Fanucci

11:30-12:50 Session FSP 23.4

Big Data Applications

(Room Tejo 1+2)

Chair: Ajith P. Abraham

FAST RELEVANCE-REDUNDANCY DOMINANCE: FEATURE SELECTION FOR HIGH DIMENSIONAL DATA (F025)

David Browne, Carlo Manna and S. D. Prestwich

MOBILE BIG DATA: THE SILVER BULLET FOR TELCOS? A CASE STUDY IN THE NORWEGIAN TELCOS MARKET (F087)

Dennis Y.C. Gan and Dumitru Roman

BIOCARIAN: A SEARCH ENGINE FOR PERFORMING EXPLORATORY SEARCHES OF BIOLOGICAL DATABASES (S032)

Nazar Zaki and Chandana Tennakoon

13:00 Best Paper Awards Ceremony and Closing Session

(Room Atlântico 1)

Prof. Katherine Blashki, Yingcai Xiao and Ajith P. Abraham