



AALBORG UNIVERSITY
DENMARK

Aalborg Universitet

An Internet of Things Resource for Rehabilitation

Brooks, Anthony Lewis; Petersson, Eva

Published in:

Proceedings of the 2014 International Conference on Collaboration Technologies and Systems (CTS 2014)

DOI (link to publication from Publisher):

[10.1109/CTS.2014.6867605](https://doi.org/10.1109/CTS.2014.6867605)

Publication date:

2014

Document Version

Early version, also known as pre-print

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Brooks, A. L., & Petersson, E. (2014). An Internet of Things Resource for Rehabilitation. In W. W. Smari, G. C. Fox, & M. Nygård (Eds.), *Proceedings of the 2014 International Conference on Collaboration Technologies and Systems (CTS 2014)* (pp. 461-467). IEEE Computer Society Press. <https://doi.org/10.1109/CTS.2014.6867605>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- ? Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- ? You may not further distribute the material or use it for any profit-making activity or commercial gain
- ? You may freely distribute the URL identifying the publication in the public portal ?

Take down policy

If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

CTS 2014 Sessions – Preliminary
(Subject to changes)

(Underlined name is the official paper presenter)

KEYNOTES AND PLENARY PAPERS

Talking in the Zooniverse: A Collaborative Tool for Citizen Scientists

Lucy Fortson, Stuart Lynn

School of Physics and Astronomy, University of Minnesota – Twin Cities, Minnesota, USA; Citizen Science Department, Adler Planetarium, Illinois, USA

TUESDAY, MAY 20, 2014

Social Computing, New Media and Networks

Tuesday, May 20 10:20-12:20

1. Identifying and Shifting Social Media Network Patterns with NodeXL

Marc Smith

Connected Action, Inc., and Social Media Research Foundation, California, USA

2. Elite Size and Resilience Impact on Global System Structuration in Social Media

Sorin Adam Matei, Wutao Tan, Michael Zhu, Chuanhai Liu, Elisa Bertino, Jeremy Foote

Purdue School of Communications, Purdue University, Indiana, USA

3. The Networked Gatekeeping Process for News in the 21st Century

Thomas Ernste

University of Minnesota – Twin Cities, Minnesota, USA

4. Design and Implementation of Web-based Collaborative Social Curation

Abbas Ali Butt, Jaehyuk Park, Yong-Moo Kwon

IMRC - Korea Institute of Science and Technology (KIST), Seoul, South Korea; University of Science and Technology, Daejeon, South Korea

5. Combining Smart Energy Meters with Social Media: Increasing Energy Awareness using Data Visualization and Persuasive Technologies

Julie Marie Røsok

Østfold University College, Halden, Norway

Virtual Teams and Collaborative Teamwork

Tuesday, May 20 13:20-15:20

1. Leadership Styles and Their Effect on the Structure of Communication Response Patterns among Global Virtual Teams

Ian Brooks, Kathy Swigger

University of North Texas, Texas, USA

2. Asynchronous Understanding of Creative Sessions using Archived Collaboration Artifacts

Lutz Gericke, Matthias Wenzel, Christoph Meinel

Hasso-Plattner-Institut, Potsdam, Germany

3. Notifications Management in Distributed Development Environments: A Case Study

Hani Bani-Salameh, Clinton Jeffery

The Hashemite University, Zarqa, Jordan; University of Idaho, Idaho, USA

- 4. Semantic Conflict Reduction Through Automated Feature Reservation in Multi-user Computer-Aided Design**
Ammon Hepworth, Bryce DeFigueiredo, Devin Shumway, Nathan Fronk, C. Greg Jensen
Brigham Young University, Utah, USA

Human Centered Systems and Collaboration Awareness Tuesday, May 20 15:40-17:00

- 1. Supporting Practice-centered Awareness in Computer-Mediated Collaboration across Communities of Practice**
Obinna Anya, Hissam Tawfik
IBM Research - Almaden, California, USA; Liverpool Hope University, U.K.
- 2. A Case Study in Seeding Collaboration Transformation with Experience Themes**
Faith McCreary, Marla Gomez, Cindy Pickering, Susan Michalek, Anne McEwan, Deidre Ali
Intel Corporation, Oregon, USA; Emerson Network Power, Ohio, USA
- 3. Spatial-Temporal Characterization of an Urban Environment Using Twitter**
Víctor R. Martínez Palacios, Víctor M. González
Instituto Tecnológico Autónomo de México (ITAM), Mexico City, Mexico

The Second International Symposium on Big Data and Data Analytics in Collaboration (BDDAC 2014) Tuesday, May 20 10:20-12:20

- 1. Large-scale Entity Extraction and Probabilistic Record Linkage**
Flavio Villanustre, Reed Elsevier
LexisNexis Risk Solutions, Georgia, USA
- 2. sCooL: A System for Academic Institution Name Normalization**
Ferosh Jacob, Faizan Javed, Meng Zhao, Matt Mcnair
CareerBuilder.com, Georgia, USA
- 3. Deep Linguistic Analysis based NLP for Accurate Sentiment Analysis in Social Media**
Antonio Valderrabanos, Enrique Torrejon
BITEXT, Madrid, Spain
- 4. Handling Class Imbalance in Customer Behavior Prediction**
Nengbao Liu, Wei Lee Woon, Zeyar Aung, Afshin Afshari
Masdar Institute of Science and Technology, Abu Dhabi, United Arab Emirates
- 5. Defining Architecture Components of the Big Data Ecosystem**
Yuri Demchenko, Cees de Laat, Peter Membrey
University of Amsterdam, The Netherlands; Hong Kong Polytechnic University, Hong Kong SAR, China

The Fifth International Collaborative Robots and Human Robot Interaction (CR-HRI 2014)

Tuesday, May 20 13:20-15:20 & Tuesday, May 20 15:40-17:00

- 1. Socializing Co-Robots: Incorporating Users and Situated Interaction in the Design of Collaborative Robots**
Selma Šabanović (Invited)
School of Informatics and Computing, Indiana University - Bloomington, Indiana, USA
- 2. Alignment or Collaboration? How Implicit Views of Communication Influence Robot Design**
Kerstin Fischer
IFKI - University of Southern Denmark, Denmark
- 3. Human-Like Motion of a Humanoid in a Shadowing Task**
Yasser Mohammad, Toyooki Nishida

Assiut University, Egypt; Kyoto University, Japan

4. SafeRobots: A Model-Driven Approach for Designing Robotic Software Architectures

Arunkumar Ramaswamy, Bruno Monsuez, Adriana Tapus
ENSTA-ParisTech, Palaiseau, France; VeDeCom Institute, Versailles, France

5. Studying Verbal Feedback in Human Collaborations to Inform Robot Speech Production

Aaron St. Clair, Maja Matarić
University of Southern California - Los Angeles, California, USA

6. PopArm: A Robot Arm for Embodying Video-Mediated Pointing Behaviors

Yuya Onishi, Kazuaki Tanaka, Hideyuki Nakanishi
Osaka University - Suita, Osaka, Japan

The Fourth International Symposium on Security in Collaboration Technologies and Systems (SECOTS 2014)

Tuesday, May 20 10:20-12:20 & Tuesday, May 20 13:20-15:20

1. CollAC: Collaborative Access Control

Stan Damen, Jerry den Hartog, Nicola Zannone
Technische Universiteit Eindhoven, The Netherlands

2. A Non-Technical XACML Target Editor for Dynamic Access Control Systems

Bernard Stepien, Amy Felty, Stan Matwin
University of Ottawa, Ontario, Canada; Dalhousie University, Nova Scotia, Canada

3. Securing Cognitive Radio Networks against Belief Manipulation Attacks via Trust Management

Onur Savas, Gahng Seop Ahn, Julia Deng
Intelligent Automation, Inc., Rockville, MD 20855, Maryland, USA

4. Addressing Privacy Issues in Location-based Collaborative and Distributed Environment

Andrea Saracino, Daniele Sgandurra, Dayana Spagnuolo
Istituto di Informatica e Telematica -Consiglio Nazionale delle Ricerche (CNR), Italy; Universidade Federal de Santa Catarina, Brazil

5. REDIR: Automated Static Detection of Obfuscated Anti-Debugging Techniques

Adam J. Smith, Robert F. Mills, Adam R. Bryant, Gilbert L. Peterson, Michael R. Grimalia
Air Force Institute of Technology; Cyber Research Laboratory - Riverside Research, Ohio, USA

6. Mobile Malware Security Challenges and Cloud-Based Detection

Nicholas F. Penning, Michael Hoffman, Jason Nikolai, Yong Wang
Dakota State University - Madison, South Dakota, USA

7. Enhanced Mobile Security Using SIM Encryption

Nader Nassar, Richard Newhook, Grant Miller
CIO Lab - Somers, IBM Corporation, New York; CIO Lab – Egg Harbor City, IBM Corporation, New Jersey;
CIO Lab - Arvada, IBM Corporation, Colorado, USA

8. MobileGuardian: A Security Policy Enforcement Framework for Mobile Devices

Yong Wang, Karthik Vangury, Jason Nikolai
Dakota State University - Madison, South Dakota, USA

9. EMV-TLS, A Secure Payment Protocol for NFC Enabled Mobiles

Pascal Urien
Telecom ParisTech, Paris, France

10. Pay2You Places: The Mobile Payment with Geo-location

Marc Pasquet, Ndiaga Faye, Joan Reynaud

Laboratoire GREYC, UNICAEN (Université Normande, France), ENSICAEN, CNRS, Caen, France

Intelligent Human-Machine Interfaces, Multimodality and Collaborative Interaction

Tuesday, May 20 15:30-17:00

1. Device Ecologies to Support Collaborative Learning in Classrooms

Emma Mercier

(Invited)

University of Illinois at Urbana-Champaign, Illinois, USA

2. Cross-Device Transfer in a Collaborative Multi-Surface Environment without User Identification

Stacey D. Scott, Guillaume Besacier, Phillip J. McClelland

University of Waterloo, 200 University Ave, Waterloo, ON, Canada

3. Acting Together by Mutual Control: Evaluating a Multimodal Interaction Concept for Cooperative Driving

Markus Zimmermann, Stefan Bauer, Niklas Lütteken, Iris Maria Rothkirch, Klaus Bengler

Institute of Ergonomics, Technische Universität München, Germany

POSTER SESSION & RECEPTION

Tuesday, May 20 17:40-21:00

POSTER PAPERS

1. Information Exchange and Fusion in a Collaborative Environment using Semantic Information Requirements

Joshua M. Powers, Keith D. Shapiro, David S. Monk

Securboracion Inc., Florida, USA; CST Corporation, Scott AFB, Illinois, USA

2. An Effective Approach Using Eco-feedback to Motivate Energy Conservation Behaviors

Hieu Huynh Chi

Ostfold University College, Halden, Norway

3. Saving Energy with Pleasure: Designing EnergyRace Web Application

Ksenia Dmitrieva

Ostfold University College, Halden, Norway

4. Promoting Energy Efficient Behavior through Energy-related Feedback

Que Tran

Ostfold University College, Halden, Norway

5. Collaborative System to Investigate Mental Models: the Information Architecture Automatic Tool (IAAT)

Cristina Olaverri-Monreal, Joel Goncalves

Technische Universitt Mnchen, Germany

6. A New Scheme to Evaluate the Accuracy of Knowledge Representation in Automated Breast Cancer Diagnosis

Juan Shan, Lin Li

Pace University, New York, USA; Murray State University, Kentucky, USA

7. Disaster Relief Management and Resilience Using Photovoltaic Energy

Salahuddin Qazi, William Young

State University of New York Institute of Technology, New York, USA; SUN Tree Consulting, Florida, USA

TECHNICAL POSTERS

1. **From Microscope to Computer: Using Facebook to Assist Medical Laboratory Scientists in Nigeria Access and Navigate eLearning Courses**
Jarret Cassaniti, Lisa Mwaikambo, Rebecca Shore, Nandini Jayarajan
 Center for Communication Programs, Johns Hopkins University, Maryland, USA
2. **Semantic Search & Integration to Climate Data**
Ranjeet Devarakonda, Giriprakash Palanisamy, Line C. Pouchard, Biva Shrestha
 Oak Ridge National Laboratory, Tennessee, USA
3. **Triggering Creativity through Semantic Cross-domain Web Crawling and Routing**
 Francesco Taglino, Fabrizio Smith
 Institute for System Analysis and Computer Science, CNR, Rome, Italy
4. **Integration of Emerging Learning Technologies in Secondary Schools: A Burkina Faso Case Study**
Romarie R. Zongo
 University of Minnesota – Twin Cities, Minnesota, USA
5. **Visualization of Energy Consumption: Motivating for a Sustainable Behaviour Through Social Media**
Caroline Sofie Olsen
 Østfold University College, Halden, Norway

INDUSTRIAL POSTERS

1. **TBA**
 TBA
 (TBA)

WEDNESDAY, MAY 21, 2014

Collaborative Logistics, Planning, Services, and Management of Business Processes Wednesday, May 21 8:00-10:00

1. **Production, Takt and Lead Time Variation: Production Planning and Tardiness Probabilities in Small-Lot Casting**
Steinar Kristoffersen
 Møreforskning Molde AS, Norway
2. **Creating Value through Supplier Development: The Case of a Fish Feed Supplier to the Aquaculture Industry**
Gabriele Hofinger Jünge
 Møreforskning Molde AS, Norway
3. **Collaborative Engineering: A Framework for Engineering-to-order Companies**
 Pavan Kumar Sriram, Erlend Alfnes, Steinar Kristoffersen
 Norwegian University of Science and Technology (NTNU), Trondheim, Norway; Møreforskning AS Molde, Norway
4. **IT-enabled Collaborative Case Management - Principles and Tools**
Sebastian Huber, Matthias Lederer, Freimut Bodendorf
 Institute of Information Systems, University of Erlangen-Nuremberg, Germany
5. **Business Process Assignment and Execution in Mobile Environments**
Tao Peng, Chi-Hung Chi, Annamaria Chiasera, Giampaolo Armellin, Marco Ronchetti, Cristina Matteotti, Cristhian Parra, Aleksey Oleksiy Kashytsa, Gabriele Bonadiman
 University of Trento, Italy; Centro Ricerche GPI, Trento, Italy; GPI, Trento, Italy; CSIRO, Hobart, Australia

Mobile Systems and Wireless Sensor Networks for Collaboration Wednesday, May 21 13:20-15:20

1. Collaborative Sensing and Control in Large-Scale Transportation Systems

Tian He,
University of Minnesota – Twin Cities, Minnesota, USA

2. Cross-Layer Medium Access and Data Collection in Wireless Sensor Networks

Mohamed Hefeida
University of Illinois at Chicago, Illinois, USA

3. A Secure Wake-up Scheme for Low Power Wireless Sensor Nodes

Oliver Stecklina, Stephan Kornemann, Michael Methfessel
IHP Microelectronics GmbH, Frankfurt, Germany

4. An Efficient Lossless Data Reduction Algorithm for Cluster Based Wireless Sensor Network

Syed Misbahuddin, Mahjabeen Tahir, Samia Aijaz Siddiqui
Bahria University - Karachi Campus and Sir Syed University of Engineering and Technology, Karachi, Pakistan

5. Mobile Application for Household Energy Consumption Feedback Using Smart Meters: Increasing Energy Awareness, Encouraging Energy Savings, and Avoiding Energy Peaks

Simon Pettersen Nguyen
Ostfold University College, Halden, Norway

Intelligent Agents and Multi-Agent Systems for Collaboration Wednesday, May 21 15:20-17:20

1. Adopting Pedestrian Navigation Techniques for Multi-Robot Coordination

Stephen J. Guy (Invited)
University of Minnesota - Twin Cities, Minnesota, USA

2. Event-based Awareness Promotion for Distributed Collaborative Activities

Guoray Cai, Bo Yu
Pennsylvania State University, Pennsylvania, USA

3. Social Implications of Agent-based Planning Support for Human Teams

Wenchao Jiang, Joel E. Fischer, Chris Greenhalgh, Tom Rodden, Sarvapali D. Ramchurn, Feng Wu, Nicholas R. Jennings
University of Nottingham, U.K.; University of Southampton, U.K.

4. A Decentralized Behavioral Model for Collective Foraging Problem

Ouarda Zedadra, Nicolas Jouandeau, Hamid Seridi, Antonio Guerrieri, Giancarlo Fortino
LabSTIC Laboratory, 8 May 1945 University, Guelma, Algeria; Laboratoire d'Informatique Avancée de Saint-Denis (LIASD), Paris 8 University, Saint-Denis, France; DIMES - Università della Calabria, Italy

Collaborative Knowledge Management and Discovery Wednesday, May 21 8:00-10:00

1. An XMT-based Approach for Long-Term Preservation of Digital Videos based on the Extensible MPEG-4 Textual Format

Alexander Uherek, Sonja Maier, Uwe M. Borghoff
Universität der Bundeswehr München, Neubiberg, Germany

2. Knowledge Discovery in Collaborative Design Projects

Xinghang Dai, Matta Nada, Duceilier Guillaume

Tech-cico and LASMIS, Université de Technologie de Troyes, Troyes, France

3. A Methodology for Building Log of Collaboration Processes

Claudia Diamantini, [Laura Genga](#), Domenico Potena, Giuseppa Ribighini
Università Politecnica delle Marche, Ancona, Italy

4. Semantics-based Social Media for Collaborative Open Innovation

[Fabrizio Smith](#), Francesco Taglino
Institute for System Analysis and Computer Science (IASI) - CNR, Roma, Italy

5. An Integrated System for Social Information Discovery

Claudia Diamantini, [Domenico Potena](#), Alessandro Sabelli, Samuele Scattolini
Università Politecnica delle Marche, Ancona, Italy; Mediamente Consulting s.r.l., Empoli, Italy

Collaborative e-Learning, Crowdsourcing, and Education
Wednesday, May 21 13:20-15:20

1. Useful Views of Student Artifacts and Activities: Supporting Student Use of an Open-ended Exploratory Construction Tool in the Classroom

[Kristin K. Lamberty](#)
University of Minnesota - Morris, Minnesota, USA

2. Collaborative m-Learning Practice Using Educ-Mobile

[Susana Isabel Herrera](#), Cecilia Veronica Sanz
National University of Santiago del Estero, Santiago del Estero, Argentina; National University of La Plata, La Plata, Argentina

3. Targeted Question Answering on Smartphones Utilizing App Based User Classification

Yavuz Selim Yilmaz, Bahadir Ismail Aydin, [Murat Demirbas](#)
State University of New York - Buffalo, New York, USA

4. How Quiz-based Tools Can Improve Students' Engagement and Participation in the Classroom

[Delfina Malandrino](#), Ilaria Manno, Giuseppina Palmieri, Vittorio Scarano, Giovanni Filatrella
Università degli Studi di Salerno, Fisciano (SA), Italy; Università degli Studi del Sannio, Benevento, Italy

5. An Architecture for Co-designing Participatory and Knowledge-intensive Serious Games: ARGILE

[Nour El Mawas](#)
Laboratoire d'Informatique de l'Université du Maine (LIUM), Laval, France

Peer-to-Peer Networks for Collaboration and Social Computing
Wednesday, May 21 15:20-17:20

1. Enhancing Collaborative Peer-to-Peer Systems using Resource Aggregation and Caching

[Anura P. Jayasumana](#)
Colorado State University - Fort Collins, Colorado, USA

2. Secure Distributed Data Structures for Peer-to-Peer-based Social Networks

Jens Janiuk, [Alexander Mäcker](#), Kalman Graff
University of Paderborn, Germany; University of Düsseldorf, Germany

3. Exploiting Sleep-and-Wake Strategies in the Gnutella Network

Salvatore Corigliano, [Paolo Trunfo](#)
DIMES, University of Calabria, Rende (CS), Italy

4. Evaluation of Video Streaming Performance over Peer-to-Peer Network

Shafquat Ali Memon, [Syed Raheel Hassan](#), Nisar Ahmed Memon

WORK-IN-PROGRESS

Wednesday, May 21 8:00-10:00

1. Web 2.0 Within Organisations Bridging the Gap between KM Technology Centred and People Centred Approaches

Fayez Alqahtani, Jason Watson, Helen Partridge
King Saud University, Riyadh, Saudi Arabia

2. VDL-based Iconic Co-annotation in Crisis Management

Xiaoyue Ma, Mohamed Sediri, Nada Matta, Jean-Pierre Cahier
Xidian University, Xian, Shaanxi, China; Université de Technologie de Troyes, Troyes, France

3. Towards an Inclusive Virtual Dressing Room for Wheelchair-Bound Customers

Anthony L. Brooks, Eva Petersson Brooks
Aalborg University, Esbjerg, Denmark

4. Use of the Analogy Reasoning and Experience Feedback for Decision Support in Crisis Situation

Mohamed Sediri, Nada Matta, Sophie Loriette, Alain Hugerot
ICD/TechCICO - Université de Technologie de Troyes, France; Aube Emergency Department, Troyes, France

Second International Workshop on Collaboration Technologies and Systems in Healthcare and Biomedical Fields (CoHeB 2014)

Wednesday, May 21 13:20-15:20 & 15:40-17:20

1. Collaborating Across Telemedicine Specialties for Improved Cancer Care

Elizabeth A. Krupinski (Invited)
Department Medical Imaging, University of Arizona -Tucson, Arizona, USA

2. TBA

TBA

TBA

3. A Medical Domain Collaborative Anomaly Detection Framework for Identifying Medical Identity Theft

Apurva Mohan
Integrated Security Technologies, Honeywell ACS Labs, Minnesota, USA

4. A Home-based Telerehabilitation Randomized Trial for Stroke Care: Effects on Falls Self-Efficacy and Satisfaction with Care

Neale R. Chumbler, Xinli Li, Patricia Quigley, Miriam C. Morey, Dorian Rose, Patricia Griffiths, Jon Sanford, Helen Hoenig
University of Georgia - Athens, Georgia, USA; US Department of Veterans Affairs National Surgery Office, Denver, Colorado, USA; James A. Haley VAMC (151R), HSR&D/RRD Center of Excellence: Maximizing Rehabilitation Outcomes, Tampa, Florida, USA; Durham VA Medical Center Older Americans Independence (Pepper) Center, Duke University School of Medicine, Durham, North Carolina, USA; College of Public Health and Health Professions, Gainesville, Florida, USA; Atlanta Dept of Veterans Affairs RR&D, Center for Visual and Neurocognitive Rehabilitation Birmingham/Atlanta GRECC & Emory University School of Medicine, Division of General Medicine & Geriatrics, Atlanta, Georgia, USA; Atlanta Dept. of Veterans Affairs RR&D, Center for Visual and Neurocognitive Rehabilitation Center for Assistive Technology, College of Architecture, Georgia Tech University, Atlanta, Georgia, USA; Physical Medicine & Rehabilitation Service, Durham VA Medical Center, Durham, North Carolina, USA

5. When Technology Alone is Not Enough: A Discussion of a Struggling Telepsychiatry Project and Lessons from Model Programs

Carolyn Lauckner, Pamela Whitten, Bree Holtz
Michigan State University, Michigan, USA; University of Georgia, Georgia, USA

6. **A Novel Personal Health Network for Patient-Centered Chemotherapy Care Coordination**
Katherine K. Kim, Janice Bell, Sarah Reed, Jill G. Joseph, Richard Bold, Kimberlie L. Cerrone, Daniel Altobello, Joydip Homchowdhury
University of California - Davis, California, USA; Tiatros Inc., California, USA
7. **A Similarity Measurement of Clinical Trials Using SNOMED - A Preliminary Study**
Duo (Helen) Wei, Tiara Campbell (Will be presented by Juan Shan)
The Richard Stockton College of New Jersey, Galloway, New Jersey, USA
8. **An Internet of Things Resource for Rehabilitation**
Anthony Lewis Brooks, Eva Petersson Brooks
Aalborg University, Esbjerg, Denmark

THURSDAY, MAY 22, 2014

International Symposium on Collaborative Analysis and Reasoning Systems (CARS 2014)
Thursday, May 22 10:20-12:00 & 13:40-15:50

1. **Collaborative Analysis in the Intelligence Community: Research Opportunities**
Rita M. Bush
IARPA, Office of the Director of National Intelligence, Washington, D.C., USA
2. **Collaborative Architecture for Analysis: Models of Hypothesis Structure and Coordination Mechanism**
Stanley J. Rosenschein
BranchTime Technologies, Palo Alto, California USA
3. **Wikis, Semantics, and Collaboration**
Mark Greaves
National Security Directorate, Pacific Northwest National Laboratory, Washington, USA
4. **Thinking from the System Architecture: A Better Methodology for Capture of Collaborative Knowledge**
Thomas McDermott, Jack Zentner, Nicholas Bollweg
Georgia Tech Research Institute, Georgia, USA
5. **Ganging Up on Big Data: Computer-Intermediated Collaborative Analysis**
Mark Stefik, Hoda Eldardiry
Palo Alto Research Center (PARC), California, USA
6. **User-Centered Design Guidelines for Collaborative Software for Intelligence Analysis**
Jean Scholtz, Alex Endert
Visual Analytics, National Security Division, Pacific Northwest National Laboratory, Washington, USA
7. **TBA**
TBA
TBA
8. **Roundtable Discussion**
Rita M. Bush (Moderator)
IARPA, Office of the Director of National Intelligence, Washington, D.C., USA

The Fourth International Workshop on Cloud Services and Web 2.0 Technologies for Collaboration (CSWC 2014)

Thursday, May 22 10:20-12:00 & 13:40-15:00

1. Opportunities for Data-Driven Cloud-based Mobile Optimization

William Myott, Thao Nguyen, Abhishek Chandra, George Karypis, [Jon Weissman](#)
University of Minnesota-Twin Cities, Minnesota, USA

2. Feel Free to Cache: Towards an Open CDN Architecture for Cloud-based Content Distribution

[Zhi-Li Zhang](#)
University of Minnesota-Twin Cities, Minnesota, USA

3. Nebula: Distributed Edge Cloud for Data-Intensive Computing

Mathew Ryden, Kwangsung Oh, [Abhishek Chandra](#), Jon Weissman
University of Minnesota-Twin Cities, Minnesota, USA

4. A Cloud-based Solution for Public Administrations: The Experience of the Regione Marche

Daniele Spiga, Enrico Fattibene, Matteo Manzali, Davide Salomoni, Valerio Venturi, Paolo Veronesi, Livio Fano, Andrea Valentini, Gian Mario Bilei, Hassen Riahi, Lorian Storchi, Claudia Diamantini, [Domenico Potena](#), Giuseppa Ribighini, Emanuele Storti, Damiano Falcioni, Daniele Fani, Barbara Re, Cinzia Amici, Serenella Carota, Francesco Cirillo, Maria Laura Maggiulli, Andrea Sergiacomi, Donatella Settimi
CERN, Geneva, Switzerland; INFN CNAF, Bologna, Italy; Physics and Geology Department, University of Perugia, Perugia, Italy; INFN Perugia, Perugia, Italy; Department of Information Engineering, Marche Polytechnic University, Ancona, Italy; School of Science and Technology, University of Camerino, Camerino, Italy; Regione Marche, Ancona, Italy

5. Collaborative Marketplaces for eScience: A Medical Imaging Use Case

Mengsong Zou, Javier Diaz-Montes, [Ivan Rodero](#), Manish Parashar, Ioan Petri, Omer Rana, Xin Qi, David J. Foran
Rutgers University, New Jersey, USA; Cardiff University, U.K.; Rutgers University - Robert Wood Johnson Medical School, New Jersey, USA; Rutgers Cancer Institute of New Jersey, USA

6. SE+KNN: A Quality of Service Assessment Method to Handle Multiple Attributes

[Hmood Al-Dossari](#), Jianhua Shao
King Saud University, Riyadh, Saudi Arabia; Cardiff University, Cardiff, United Kingdom

7. End-to-End QoS Mapping and Aggregation for Selecting Cloud Services

[Raed Karim](#), Chen Ding, Ali Miri, Xumin Liu
Ryerson University, Ontario, Canada; Rochester Institute of Technology, New York, USA

The Second International Workshop on Collaboration in Emergency Response and Disaster Management (ERDM 2014)

Thursday, May 22 10:20-12:00 & 13:40-14:35

1. Ontology based Efficient Teamwork Strategies for Web based Agents in Rescue and Relief Operations

Asifa Altaf, [Sarmad Sadik](#)
National University of Science and Technology, Pakistan

2. An Internet of Things Ontology for Earthquake Emergency Evaluation and Response

Luca Spalazzi, [Gilberto Taccari](#), Andrea Bernardini
Università Politecnica delle Marche, Ancona, Italy

3. A Review on Ground Penetrating Radar Technology for the Detection of Buried or Trapped Victims

Lorenzo Crocco, [Vincenzo Ferrara](#)
IREA - Institute for Electromagnetic Sensing of the Environment and CNR, Naples, Italy; DIET, Sapienza University of Rome, Italy

4. Satellite Assisted Underwater Radio Communication for Emergency Services

[M. Umar Khan](#), Andres Marin Lopez
CAST, COMSATS Institute of IT, Pakistan; Universidad Carlos III, Madrid, Spain

5. Modelling The Communication between Emergency Actors in Crisis Management

Amina Saoutal, Jean-Pierre Cahier, Nada Matta
Université de Technologie de Troyes, Troyes, France

6. A Software Framework for Patient Data Handling in Emergencies and Disasters

Robert Olson, Junaid A. Zubairi, Anatoliy Biliciler
State University of New York - Fredonia, New York, USA

Virtual Environments and Collaboration Applications

Thursday, May 22 14:35-15:50

1. Understanding Data through Collaboration: Developing Collaboration Support Tools for Expert Artists and Scientists

Daniel Keefe
University of Minnesota – Twin Cities, Minnesota, USA

2. Scientific Collaboration in Virtual Environments: The Western Consortium Watershed Analysis, Visualization, and Exploration (WC-WAVE) Project

Sergiu Dascalu
University of Nevada – Reno, Nevada, USA

3. Multi-Objective Optimization of Dead-Reckoning Error Thresholds for Virtual Environments

Jeremy R. Millar, Douglas D. Hodson, Gary B. Lamont, Gilbert L. Peterson
Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA

DOCTORAL DISSERTATION COLLOQUIUM

Thursday, May 22 15:00-15:50

1. A Federated Cloud of Things for Emergency Management

Gilberto Taccari
Università Politecnica delle Marche, Ancona, Italy
Dissertation Adviser: Luca Spalazzi
Discussant and Respondent: **TBA**

2. TBA

TBA
Dissertation Adviser: **TBA**
Discussant and Respondent: **TBA**