

The Twenty-Ninth International Florida Artificial Intelligence Research Society Conference

Program of Events



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**May 16-18, 2016
Hilton Key Largo Resort
Key Largo, Florida, USA**

The 29th International Florida Artificial Intelligence Research Society Conference



Welcome from the Conference Chairs

Welcome to the 29th International FLAIRS conference and to wonderful Key Largo, Florida! FLAIRS-29 continues the tradition of previous FLAIRS conferences with a high quality program. The call for papers attracted 195 paper submissions (44 to the general conference and 151 to the special tracks), and 36 poster abstracts. Special tracks are a vital part of the FLAIRS conferences, with 16 being held at FLAIRS-29. All papers were reviewed by at least three reviewers, and were coordinated by the program committees of the general conference and the special tracks. The accepted submissions include 102 full papers (25 from the general conference and 77 from the special tracks), 20 short papers presented as posters (5 from the general conference and 15 from the special tracks), and 24 poster abstracts.

In addition to the diverse assortment of papers, one of the highlights of the program are the invited speakers. Our General Conference Invited Keynote Speakers are Sumi Helal (University of Florida, USA), Matthew Johnson (Florida Institute for Human & Machine Cognition, USA), and Kristin Tolle (Microsoft Research Outreach, USA). In addition, our Special Track Invited Speakers are Diana Inkpen (University of Ottawa, Canada), Christophe Gonzales (University Paris 6, France), and Xingquan Zhu (Florida Atlantic University, USA).

This program is the product of the collaboration and hard work of several people, whom we consider ourselves fortunate to have worked with. We are grateful to the efforts of the special track coordinator, Vasile Rus, and to all special track organizers and their committees, whose work resulted in an outstanding and diverse set of talks that span numerous areas within AI. Thanks also go to Bill Eberle for organizing and administering the conference, and for the Florida Artificial International Research Society for maintaining the conference series.

We have been looking forward to the conference and also to be meeting in Key Largo. The Hilton Key Largo Resort is located on 12.5 acres of tropical forest on the edge of the Florida Everglades, just a short drive from Miami. We hope you find the conference enriching and that you find time to explore what Key Largo has to offer.

Again, welcome to FLAIRS-29. We are glad you are able to join us this year!

*Ingrid Russell & Zdravko Markov
FLAIRS-29 Program Chairs*

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Case-Based Reasoning

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Intelligent Learning Technologies

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Natural Language Processing of Ancient Languages

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Recommender Systems

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Semantic, Logics, Information Extraction and AI

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Social Media Analytics

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Uncertain Reasoning

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Conference Invited Speakers

Monday, May 16, 9:00am – 10:00 am

Kristin Tolle

Microsoft Research

Collaborative Research Analytics: Computer Science and Data Science Projects Designed to Meet Global Challenges

Abstract: Microsoft Research Labs is a core computer science laboratory with research cutting across nearly every domain from theory and security to ambient intelligence and quantum computing. In order to do data science and within domain analytics, it takes partnering and collaboration for us to advance the state of the art in our research areas as well as our collaborators – particularly in regards to global challenges that threaten our communities, country and world. This talk will focus on several cross organizational research collaborations that specifically touch on global challenges with the potential for significant societal impact.

Biographical Sketch: Kristin M. Tolle, Ph.D. is the Director of the Data Science Initiative in Microsoft Research Labs-part of the Technology and Research organization at Microsoft in Redmond, Washington. Since joining Microsoft in 2000, Dr. Tolle has acquired numerous patents and worked for several product teams including the Natural Language Group, Visual Studio, and the Microsoft Excel Team. After joining Microsoft Research Outreach program in 2006, she has initiated and managed several scientific research initiatives, from biomedical computing and environmental science, to more traditional computer and information science programs around natural user interactions and data management. She has successfully managed several critical research development projects such as the Microsoft Translator Hub and the Environmental Science Services Toolkit. Dr. Tolle is co-editor and author, with Tony Hey and Stewart Tansley, of one of the earliest books on data science, *The Fourth Paradigm: Data Intensive Scientific Discovery*. Her current focus is on reducing time to scientific discovery by leveraging cloud-based advanced analytics and educating next generation data scientists.

Tuesday, May 17, 9:00am – 10:00 am

Matthew Johnson

Florida Institute for Human & Machine Cognition

No AI is an Island

Abstract: As we pursue more advanced intelligent capabilities, it is advisable to remember that just as “no man is an island” the same can be said about any technology. The original Donne poem points out the interdependence in humanity and that human beings do not thrive when isolated from others. Similarly technology does not thrive in isolation from people. It is most successful when it properly supports its own interdependence with people. This talk will speak to both the challenge and the opportunity afforded by remembering that no AI is an Island.

Biographical Sketch: Dr. Matthew Johnson is a research scientist who has worked at the Florida Institute for Human and Machine Cognition since 2002. He received his B.S. in Aerospace Engineering from the University of Notre Dame, a M.S. in Computer Science from Texas A&M – Corpus Christi, and his PhD in Computer Science through Delft University of Technology in the Netherlands. Prior to working for IHMC, he flew both fixed and rotary wing aircraft in the Navy, retiring after 20 years of service. He has worked on numerous projects including the Oz flight display for reducing the cognitive workload in the cockpit, Augmented Cognition for improving human performance, and several human-robot coordination projects for both NASA and the Department of Defense. He has worked on advanced robotic control projects such as the DARPA Little Dog project developing walking algorithms for a quadruped robot on rough terrain and the IHMC lower body humanoid developing low-gravity walking gaits for NASA. Most recently, he played a leadership role in IHMC’s 2nd place finish at the international robotics competition known as the DARPA Robotics Challenge. Matthew’s research interest focuses on improving performance in human-machine systems through design of more effective human-machine teamwork.

Wednesday, May 18, 9:00am – 10:00 am

Sumi Helal

University of Florida

Pervasive Intelligence – Bridging the Gap between Theory and Practice in Smart Spaces

Abstract: Driven by a technological revolution offering low-power many things and wireless almost everything, we could, in only a decade, envision and prototype impressive smart space systems that improve quality of life, enhance awareness of resources and the environment, and enrich users' experience. But prototyping is one thing; actual real-world deployments are another. Many challenges must be faced when a production-grade pervasive system is targeted for deployment. I will focus on two challenges in this keynote: programming smart spaces under uncertainty and managing and saving energy in large-scale deployments. Sensor data, models through which richer sentience is abstracted, in addition to other elements in the smart space, are all of limited accuracy which contributes to the uncertainty problem. Programming of smart space applications under uncertainty is difficult and poses a greater, end-goal challenge, in which support for “safe” programming must be achieved. Another source of uncertainty is the user, e.g., in the context of “human actuation” in which cyber influence is used to actuate and persuade the user to take an action, perform an activity, or to embrace or change a behavior. The variable responses to cyber persuasion are a common source of uncertainty that must be addressed. I will discuss the uncertainty problems that we faced in the Gator Tech Smart Home (GTSH) project – a real-world deployment at the University of Florida. I will also present our approach and contributions to solving these problems. I will then address energy management in large-scale deployments such as smart cities and will show how the problem intensifies when multiple sentience abstractions are concurrently supported (e.g., raw sensor data, contexts, events, activities, and phenomena clouds). I will present our dual sentience-efficiency/energy-efficiency approach and show how it is superior to energy-efficiency alone. In addressing both challenges, I will point to open problems or problems that are difficult for me and my team to solve.

Biographical Sketch: Sumi Helal is Professor in the CISE Department at the University of Florida, and Director of its Mobile and Pervasive Computing Laboratory. He is co-founder and Director of the Gator Tech Smart House, a large project that aims to identify key barriers and corresponding technological solutions to making the Smart Home concept a common place (creating the “Smart Home in a Box” concept). He has recently been awarded a Finland Distinguished Professorship - FiDiPro (2011-2014) and a Senior Visiting Fellow at the Institute of Advanced Studies at the University of Bologna, Italy. His active areas of research focus on pervasive and ubiquitous systems and their human-centric applications. Specifically he and his research team investigate middleware, programming models and methodologies, and architectural issues to define and support the entire lifecycle of smart spaces including city-scale deployments. More recently, he and his students have been exploring architectural and ecosystem issues surrounding the emerging IoT. From 2001-2007, Professor Helal served as Director of Technology Development of the University of Florida Rehabilitation Engineering Research Center (RERC) on Aging and Independence. He is co-founder of the IEEE Pervasive Computing magazine and has served on its editorial board from 2002 to 2014. He recently served as IEEE Pervasive Computing's Associate Editor-in-Chief. He currently serves as the Editor-in-Chief of IEEE Computer, the Computer Society's flagship and premier publication. He founded two startups: Phoneomena, Inc. (2002-2007) and Pervasa, Inc., (2006-2011) and is inventor or co-inventor on 9 published US patents. Professor Helal is a Fellow of the IEEE.

Special Track Invited Talks

Monday, May 16, 1:45 pm – 2:25 pm

Diana Inkpen, University of Ottawa, Canada

Special Track on Applied Natural Language Processing

Title: Natural Language Processing for Social Media

Abstract: There is a large amount of information that can be extracted automatically from social media messages. Natural Language Processing (NLP) for social media texts could be used in various contexts such as detecting criminal or terrorist activities, monitoring healthcare, predicting public behavior from social media, and increasing public safety. The talk will be based on the recently published book (Farzindar and Inkpen, 2015), as well as several recent conference publications (Ghazi et al., 2010, Ji et al. 2015, Ji and Inkpen 2015). First, we will discuss techniques for adapting traditional NLP method to this kind of texts. Then, we will survey the wide range of tasks and applications already developed in this research field. Finally, we will focus on some of them in particular, such as detecting the topics discussed by the users, the opinions and emotions expressed, and the events and the locations mentioned. For the latter one, we will look in depth at methods and state-of-the-art results. Detecting locations from Twitter messages can be useful in business, marketing and defense applications. There are two types of locations that we are interested in: location entities mentioned in the text of each message and the physical locations of the users. For the first type of locations, we detected expressions that denote locations and we classified them into names of cities, provinces/states, and countries. We approached the task in a novel way, consisting in two stages. In the first stage, we trained Conditional Random Field models with various sets of features. We collected and annotated our own dataset for training and testing. In the second stage, we resolved cases when more than one place with the same name exists, by applying a set of heuristics. For the second type of locations, we put together all the tweets written by a user, in order to predict his/her physical location. Only a few users declare their locations in their Twitter profiles, but this is sufficient to automatically produce training and test data for our classifiers. We experimented with two existing datasets collected from users located in the U.S. We propose a deep learning architecture for the solving the task, because deep learning was shown to work well for other natural language processing tasks, and because standard classifiers were already tested for the user location task. We designed a model that predicts the U.S. region of the user and his/her U.S. state, and another model that predicts the longitude and latitude of the user's location. We found that stacked denoising auto-encoders are well suited for this task, with results comparable to the state-of-the-art.

Biographical Sketch: Diana Inkpen is a Professor at the University of Ottawa, in the School of Electrical Engineering and Computer Science. Her research is in applications of Computational Linguistics and Text Mining. She organized seven international workshops and she was a program co-chair for the AI 2012 conference. She is in the program committees of many conferences and an associate editor of the Computational Intelligence and the Natural Language Engineering journals. She was an invited speaker for AI 2015 and SimBig 2015. She published a book on Natural Language Processing for Social Media (Morgan and Claypool Publishers, Synthesis Lectures on Human Language Technologies), 8 book chapters, more than 25 journal articles and more than 90 conference papers. She received many research grants, including intensive industrial collaborations.

Monday, May 16, 1:45 pm – 2:25 pm

Xingquan Zhu, Florida Atlantic University, USA

Special Track on Data Mining

Title: Mining Complex Structure and Rich-Content Data

Abstract: Many applications are featured with large scale complex data with rich content information and interconnect relationships. Examples include text categorization, chemical compound structure classification, and social media user profiling etc. Because both content and structure information are playing important roles, data mining tasks, such as similarity calculation, clustering, and classification need to leverage the structure and content features for optimal performance gain. This talk will present several works we have recently proposed to tackle the fast learning for text and graph classification, and networked data profiling by using co-clustering. We will start with texts which have rich content and are context sensitive. To enable fast text classification, we will propose a context-preserving hashing to calculate similarities between texts with preserved context information. After that, we will advance the problem to graph classification where each graph has complex structure information. To enable learning for multiple graph classification tasks, we will formulate a new multi-task graph classification (MTG) problem, where multiple graph classification tasks are jointly regularized to find discriminative structure features shared by all tasks for learning. Finally, we will address the problem of handling rich content and complex structure data, by carrying out co-clustering for networks. We will propose a consensus factorization approach to simultaneously factorize information from three aspects, network topology structures, instance-feature content relationships, and feature-feature correlations. The consensus factorization ensures that the final cluster structures are consistent across information from the three aspects with minimum errors.

Biographical Sketch: Xingquan Zhu is an associate professor in the Department of Computer & Electrical Engineering and Computer Science, Florida Atlantic University. His research interests mainly include data mining, machine learning, and bioinformatics. Since 2000, he has published more than 200 refereed journal and conference papers in these areas, including two Best Paper Awards and one Best Student Paper Award. Dr. Zhu was a recipient of Australian Future Fellowship in 2010, and is a distinguished visiting professor (eastern scholar) at the Shanghai Institutions of Higher Learning. He is an associate editor of the IEEE Transactions on Knowledge and Data Engineering (2014 - date), and is currently serving on the editorial board for several international journals, including Journal of Big Data, International Journal of Social Network Analysis and Mining SNAM, and Network Modeling Analysis in Health Informatics and Bioinformatics Journal. He was as a program committee co-chair for the 14th IEEE International Conference on Bioinformatics and BioEngineering (BIBE-2014), IEEE International Conference on Granular Computing (GRC-2013), 23rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI-2011), and the 9th International Conference on Machine Learning and Applications (ICMLA-2010). He also served as a conference co-chair for ICMLA-2012.

Tuesday, May 17, 10:15 am – 10:55 am

Christophe Gonzales, University of Paris 6, France

Special Track on Uncertain Reasoning

Title: Learning Uncertainty Models for Non-stationary Processes

Abstract: Many real-world applications involve discrete-time stochastic processes. When their underlying probability distributions are stationary, i.e., they remain constant over time, graphical models such as dynamic Bayesian networks (DBNs) are usually well suited to represent them. In this case, there is an abundant literature on their learning. However, when distributions evolve over time, which is the case for instance in video event recognition, social networks, gene regulation networks or road traffic analysis, learning is much more difficult and few learning.

Biographical Sketch: Christophe Gonzales is Professor at Sorbonne Universities, University Pierre and Marie Curie, France. He received his Ph.D. degree in Computer Science at University Pierre and Marie Curie in 1996, in the field of Decision Theory. His research interests include Artificial Intelligence, notably Graphical Models, Decision Making, and Visual Tracking. He is also co-founder of the aGrUM graphical model library project. He is currently working on extensions of Bayesian networks to represent uncertainties in non-stationary processes with continuous and discrete random variables, with applications in visual tracking and cybersecurity.

Reception and Awards

Monday, May 16, 6:00pm – 9:00pm

Join us for dinner and presentations of the Best Paper, Best Student Paper, and Best Poster awards, and the Douglas D. Dankel II Award for service to the Florida Artificial Intelligence Research Society (FLAIRS).

Nominees for Best Paper:

Session 6A: General Track – Learning, Tuesday 10:15am
A Scalable Unsupervised Deep Multimodal Learning System
Shameer Iqbal and Daniel Silver

Session 11A: Semantic, Logics, Information Extraction and AI, Tuesday 1:45pm
On Similarities Between Workflow Verification and Grammar Checking
Roman Barták and Vladislav Kubon

Session 6D: Autonomous Robots and Agents, Tuesday 10:15am
Selecting Vantage Points for an Autonomous Quadcopter Videographer
Rey Coaguila, Gita Sukthankar and Rahul Sukthankar

Nominees for Best Student Paper:

Session 8B: Intelligent Learning Technologies, Tuesday 4:00pm
Improving Argument Mining in Student Essays by Learning and Exploiting Argument Indicators versus Essay Topics
Huy Nguyen and Diane Litman

Session 3B: Applied Natural Language Processing, Monday 2:25pm
Determining the Quality of a Student Reflective Response
Wencan Luo and Diane Litman

Session 6B: Applied Natural Language Processing, Tuesday 11:15am
Direct Object Omission as a Sign of Conceptual Defaultness
Louis Hickman, Julia Taylor and Victor Raskin

Recipients of the Douglas D. Dankel II Award for service to the Florida Artificial Intelligence Research Society:

Diane Cook (Washington State University)
Larry Holder (Washington State University)

As a team, Diane Cook and Larry Holder have contributed significantly to FLAIRS over many years. Diane was the program chair of FLAIRS-11, and together Diane and Larry were the conference chairs of FLAIRS-18. Combined, Diane and Larry have been authors of 14 papers at FLAIRS. Their PhD students have presented many papers at FLAIRS, and some of those students have risen to leadership roles in FLAIRS. Diane and Larry continue their service to FLAIRS by organizing special tracks and serving on FLAIRS program committees.

FLAIRS Business Meeting
Wednesday, May 18, 3:00 pm – 4:00 pm

The FLAIRS business meeting is a chance for the FLAIRS attendees to discuss this year's conference as well as plans for future years. The organizers of FLAIRS-30, which will be held in May of 2017 in Marco Island, Florida, will be introduced. Everyone is welcome to attend.

Day 1: Monday, May 16, 2016

Monday, May 16, 8:45am – 10:00am

Session 1

FLAIRS-29 Welcome, 8:45am – 9:00am

Bill Eberle

Session 1A: Invited Talk (Room: Largo Ballroom)

Chair: Bill Eberle

9:00am

Kristin Tolle

Microsoft Research

Collaborative Research Analytics: Computer Science and Data Science Projects Designed to Meet Global Challenges

BREAK, 10:00am – 10:30am

Monday, May 16, 10:00am – 12:15pm (Posters will remain up until 1:00pm)

Session 2

Session 2A: Posters (Room: Bayview Ballroom)

Short Paper Posters – General Track

1. *Creation of a Student Research Environment in Artificial Intelligence with Industrial Involvement*
Sambit Bhattacharya, Bogdan Czejdo, John Martellaro, Aisha Bowe, Kajal Pancholi and Sue Hall
2. *Towards Real Time Detection of Learners' Help Seeking in Serious Games*
Ramla Ghali, Claude Frasson and Sebastien Ouellet
3. *Neighbourhood SAC for constraint satisfaction problems with non-binary constraints*
Richard Wallace
4. *Artificial Intelligence Testing*
Eric Neufeld and Sonje Finnestad
5. *Semi Unsupervised Clustering Using Reinforcement Learning*
Sourabh Bose and Manfred Huber

Short Paper Posters – Autonomous Robots and Agents Track

6. *Reward from Demonstration in Interactive Reinforcement Learning*
Syed Ali Raza, Benjamin Johnston and Mary-Anne Williams
7. *Trajectory adaptation of robot arms for head-pose dependent assistive tasks*
Rouhollah Rahmatizadeh, Pooya Abolghasemi, Amirhossein Jabalameli, Aman Behal and Ladislau Bölöni

Short Paper Posters – Applied Natural Language Processing Track

8. *Maximizing Appropriate Responses Returned by a Conversational Agent through the Use of a Genetic Algorithm for Feature Selection*
Jerome McClendon, Larry Hodges and Sekou Remy
9. *Handling Missing Words by Mapping Across Word Vector Representations*
Rajendra Banjade, Nabin Maharjan, Dipesh Gautam, Vasile Rus

Short Paper Posters – Uncertain Reasoning Track

10. *Causal Probabilistic Graphical Models for Decoding Effective Connectivity in functional Near InfraRed Spectroscopy*
Samuel Antonio Montero-Hernández, Felipe Orihuela-Espina, Javier Herrera-Vega and Luis Enrique Sucar
11. *Propositional Probabilistic Reasoning at Maximum Entropy Modulo Theories*
Marco Wilhelm, Gabriele Kern-Isberner and Andreas Ecke

Short Paper Posters – Intelligent Learning Technologies Track

12. *Intelligent Context-Aware Augmented Reality to Teach Students with Intellectual and Developmental Disabilities*
Christopher Reardon, Rachel Wright, David Cihak and Lynne Parker
13. *Smart Learning: Time-dependent Context-aware Learning Object Recommendations*
Christopher Krauss
14. *Learning Approaches in a 3D Virtual Environment for Learning Energy Generation from Renewable Sources*
Foteini Grivokostopoulou, Isidoros Perikos, Konstantinos Kovas and Ioannis Hatzilygeroudis

Short Paper Posters – Semantic, Logics, Information Extraction and AI Track

15. *Innovation Analytics using Mined Semantic Analysis*
Walid Shalaby and Wlodek Zadrozny

Short Paper Posters – Case-Based Reasoning Track

16. *Finding Explanations in Textual Reports*
Gleb Sizov, Pinar Ozturk and Kerstin Bach

Short Paper Posters – Knowledge-based AI Track

17. *An Ontology-based Mobile Application for Task Managing in Collaborative Groups*
Daniela Schmidt, Alison Roberto Panisson, Artur Silva Da Cunha Freitas, Rafael H. Bordini, Felipe Meneguzzi and Renata Vieira

Short Paper Posters – AI and Cyber Security Track

18. *Security Risk Aggregation based on Neural Networks - An empirically Validated Approach*
Alexander Beck and Stefan Rass

Short Paper Posters – AI in Games, Serious Games, and Multimedia Track

19. *Go-Ahead: Improving prior-knowledge heuristics by using information retrieved from Play-Out Simulations*
Gabriel Santos and Rita Julia
20. *The Believability Gene in Virtual Bots*
Mihai Polceanu, Antonio M. Mora, Jose L. Jimenez, Cedric Buche and Antonio J. Fernandez-Leiva

Poster Abstracts Only

21. *Evaluation Technique for Argumentation Architectures from the Perspective of Human Cognition*
Abdulrahman Alqahtani and Marius Silaghi
22. *Activity Transition Detection by Relative Density Ratio Estimation*
Samaneh Aminikhanghahi and Diane Cook
23. *Practical 3D Tracking Using Low-cost Cameras*
Roman Barták, Michal Koutný and David Obdrzalek
24. *Application of Paraconsistent Logic to Technology*
Jean-Yves Beziau
25. *Robustness in Abstract Argumentation Frameworks*
Stefano Bistarelli, Francesco Faloci, Francesco Santini and Carlo Taticchi
26. *Method to Validate Word Sense Disambiguation for Big Data*
Alan Black, Rosina Weber and Asta Zelenkauskaitė
27. *Evaluating and Enhancing Keystroke Dynamics Authentication*
Youssef Bou Issa, Taline Boyajian and Maroun Kousseify
28. *Distributed and Collaborative Sensing for Providing Situation and Option Awareness*
Tina Erlandsson, Carina Marcus and Per Boström
29. *Approximation Algorithms for Real-time Homeomorphic and Isomorphic Tree Matching*
D. Michael Franklin and Xiaolin Hu
30. *Flexible Machine Learning (ML-Flex) in the Veterans Affairs Clinical Personalized Predictions of Outcomes (Clinical3PO) System*
Lewis Frey, Leslie Lenert, Scott Duvall, Augie Turano, Brian Davis, Michael Matheny and Jonathan Nebeker
31. *Hybrid Approaches to Community Detection for Recommendation*
Robert Frye and David Wilson
32. *Identifying Condition-Action Statements in Medical Guidelines Using Domain-Independent Features*
Hossein Hematialam and Wlodek Zadrozny
33. *Discovering Students' Outcomes based on their Interactions in Online Learning Platform*
Fazel Keshtkar, Jordan Cowart, Andrew Crutcher and Ben Kingen
34. *Analysis of Word Order in Multiple Treebanks*
Vladislav Kubon, Marketa Lopatkova and Jiří Mirovský

35. *Personal Name Recognition in Sumerian Texts Using a Sign-based HMM*
Yudong Liu, Clinton Burkhart and Jamison Rose
36. *Establishing Extensible Evaluation Metrics from Crowdsourced Data*
Sarah Luger
37. *Designing a Fitness Function for a Human-Like Pac-Man Controller based on Neuroevolution*
Maximiliano Miranda, Antonio A. Sánchez-Ruiz and Federico Peinado
38. *A Real-time N-gram Approach to Choosing Synonyms Based on Context*
Brian Moore and Robert Mercer
39. *Evolutionary Strategies for Rays Cycle Mining*
John Ross and James Buckley
40. *Improvement of Emotion Detection Based on Hidden Markov Models*
Romeo Saad, Elio Gebrayel, Taline Boyajian and Youssef Bou Issa
41. *Generating Word Problems Similar to a Given Math/Physics Word Problem*
Savitha Sam Abraham and Sowmya S Sundaram
42. *Representing Adaptive Course Navigation in the Generalized Intelligent Framework for Tutoring*
Robert Sottolare and Keith Brawner
43. *Inconsistent Knowledge Integration with Bayesian Network*
Yi Sun and Yun Peng
44. *Combining Hand-Crafted Rules and Machine Learning Methods in Opinion Target Identification*
Kateřina Veselovská and Aleš Tamchyna

LUNCH, 12:15pm – 1:45pm

Monday, May 16, 1:45pm – 3:25pm

Session 3

Session 3A: General Track – Reasoning (Room: Largo I)

Chair: Michael Franklin

- 1:45 pm *Hoping for the Truth - A Survey of the TPTP Logics*
Geoff Sutcliffe and Francis Jeffrey Pelletier
- 2:05 pm *Iterated Abduction*
Joshua Eckroth
- 2:25 pm *Retrieving Adaptable Cases in Process-Oriented Case-Based Reasoning*
Ralph Bergmann, Gilbert Müller, Christian Zeyen and Manderscheid Jens
- 2:45 pm *Bayesian Network-based Extension for PGP, Estimating Petition Support*
Marius Silaghi, Song Qin, Toshihiro Matsui, Makoto Yokoo and Katsutoshi Hirayama
- 3:05 pm *A Dempster-Shafer Approach for Corrupted Electrocardiograms Signals*
Nicholas Napoli and Laura Barnes

Session 3B: Applied Natural Language Processing (Room: Largo II)

Chair: Fazel Keshtkar

- 1:45 pm *Special Track Invited talk: Natural Language Processing for Social Media*
Diana Inkpen
- 2:25 pm *Determining the Quality of a Student Reflective Response¹*
Wencan Luo and Diane Litman
- 2:45 pm *Identifying Thesis Statements in Student Essays: The Class Imbalance Challenge and Resolution*
Fattaneh Jabbari, Mohammad H. Falakmasir and Kevin D. Ashley
- 3:05 pm *Structural Sentence Similarity Estimation for Short Texts*
Weicheng Ma and Torsten Suel

Session 3C: Data Mining (Room: Largo III/IV)

Chair: David Bisant

- 1:45 pm *Special Track Invited Talk: Mining Complex Structure and Rich-Content Data*
Xingquan Zhu
- 2:25 pm *Global Discriminant Analysis for Unsupervised Feature Selection with Local Structure Preservation*
Xiucan Ye, Kaiyang Ji and Tetsuya Sakurai
- 2:45 pm *Learning Decision Trees from Histogram Data using Multiple subsets of Bins*
Ram Gurung, Tony Lindgren and Henrik Boström

¹ Best Student Paper Nominee

Session 3D: Artificial Intelligence for Big Data (Room: Coral Room)**Chair: Viviana Patti**

- 1:45 pm *Reducing Feature Set Explosion to Facilitate Real-World Review Spam Detection*
Michael Crawford, Taghi Khoshgoftaar and Joseph Prusa
- 2:05 pm *GECKA3D: A 3D Game Engine for Commonsense Knowledge Acquisition*
Erik Cambria, Tam Nguyen, Brian Cheng, Kenneth Kwok and Jose Sepulveda
- 2:25 pm *Term Ranker: A graph based re-ranking approach*
Tahir Khan, Yukun Ma and Jung-Jae Kim
- 2:45 pm *Sentiment Classification Using Negation as a Proxy for Negative Sentiment*
Bruno Ohana, Brendan Tierney and Sarah Jane Delany
- 3:05 pm *Enhancing Ensemble Learners with Data Sampling on High-Dimensional Imbalanced Tweet Sentiment Data*
Joseph Prusa, Taghi Khoshgoftaar and Naeem Seliya

BREAK, 3:30pm – 4:00pm**Monday, May 16, 4:00pm – 5:20pm****Session 4****Session 4A: General Track – Algorithms and Problem Solving
(Room: Largo I)****Chair: Geoff Sutcliffe**

- 4:00 pm *Hash Functions for Episodic Recognition and Retrieval*
Andrew Nuxoll, Scott Wallace, Alexandra Warlen, Allison Seibert, Kevin Bastien, Andrew Meyer, Emilia Vanderwerf and Robert Stiles
- 4:20 pm *Manipulation of Second-Order Copeland Elections: Heuristic and Experiment*
Ramoni Lasisi
- 4:40 pm *Smarter Sharing is Caring: Weighted Averaging in Decentralized Collective Transport with Obstacle Avoidance*
Vera Kazakova and Annie S. Wu
- 5:00 pm *Hybrid of Qualitative and Quantitative Knowledge Models for Solving Physics Word Problems*
Savitha Sam Abraham and Deepak Khemani

Session 4B: Applied Natural Language Processing (Room: Largo II)**Chair: Diana Inkpen**

- 4:00 pm *Semisupervised text classification using unsupervised topic information*
Rubén Dorado and Sylvie Ratté
- 4:20 pm *Automatic Classification of Poetry by Meter and Rhyme*
MARGENTO (Chris Tanasescu), Bryan Paget and Diana Inkpen

4:40 pm *Vector Based Techniques for Short Answer Grading*
Ahmed Magooda, Mohamed A. Zahran, Mohsen Rashwan, Magda Fayek and Hazem Raafat

Session 4C: Data Mining (Room: Largo III/IV)

Chair: David Bisant

4:00 pm *Adaptive Sampling and Learning for Unsupervised Outlier Detection*
Zhiruo Zhao, Chilukuri Mohan and Kishan Mehrotra

4:20 pm *Propositionalization for Unsupervised Outlier Detection in Multi-Relational Data*
Fatemeh Riahi and Oliver Schulte

4:40 pm *GPU-Accelerated Parameter Optimization for Classification Rule Learning*
Greg Harris, Anand Panangadan and Viktor Prasanna

5:00 pm *Parallelizing Instance-based Data Classifiers*
Imad Rahal, Emily Furst and Ramzi Haraty

**Session 4D: AI in Games, Serious Games, and Multimedia
(Room: Coral Room)**

Chair: Buche Cédric

4:00 pm *Neural Networks Learning the Concept of Influence in Go*
Gabriel Santos, Rita M. S. Julia, Matheus Aguiar and Marcos Saito

4:20 pm *Dynamic Difficulty Adjustment in Tetris*
Diana Lora, Antonio A. Sánchez-Ruiz, Pedro Antonio Gonzalez-Calero and Marco A. Gómez-Martín

4:40 pm *Supporting Social Skills Rehabilitation with Virtual Storytelling*
Cindy Even, Anne-Gwenn Bosser, Joao Ferreira, Cedric Buche, Florian Stéphan, Marc Cavazza and Christine Lisetti

5:00 pm *Creating a new Angry Birds Competition Track*
Rohan Verma, Jochen Renz and Gary Ge

Monday, May 16, 6:00pm – 9:00pm Reception & Awards

Location: Waves – North Beach

Best paper, Best Student Paper, Best Poster Awards, Douglas D. Dankel II Award for service to FLAIRS

Day 2: Tuesday, May 17, 2016

Tuesday, May 17, 8:45am – 10:00am

Session 5

FLAIRS-29 Updates, 8:45am – 9:00am

Bill Eberle

Session 5A: Invited Talk (Room: Largo Ballroom)

Chair: Ingrid Russell

9:00am

Matthew Johnson

Florida Institute for Human & Machine Cognition

No AI is an Island

BREAK: 10:00am – 10:15am

Tuesday, May 17, 10:15am – 11:55pm

Session 6

Session 6A: General Track – Learning (Room: Largo I)

Chair: Susan Haller

- 10:15 am *A Scalable Unsupervised Deep Multimodal Learning System²*
Shameer Iqbal and Daniel Silver
- 10:35 am *ART: An Availability-Aware Active Learning Framework for Data Streams*
Benjamin Shickel and Parisa Rashidi
- 10:55 am *Pollen Grain Recognition Based on a Multi-layers Features Decomposition Technique*
Amar Daood, Eraldo Ribeiro and Mark Bush
- 11:15 am *On Modeling the Interplay between Opinion Change and Formation*
Fei Yu and Eugene Santos
- 11:35 am *Towards a Computational Model of Human Opinion Dynamics in Response to Real-World Events*
Kallirroi Georgila and David Pynadath

Session 6B: Applied Natural Language Processing (Room: Largo II)

Chair: Fazel Keshtkar

- 10:15 am *Supervised Speech Act Classification of Messages in German Online Discussions*
Berken Bayat, Christopher Krauss, Agathe Merceron and Stefan Arbanowski

² Best Paper Nominee

- 10:35 am *Event Nugget Detection and Argument Extraction with DISCERN*
Greg Dubbin, Archna Bhatia, Bonnie J. Dorr, Adam Dalton, Kristy Hollingshead, Ian Perera, Suriya Kandaswamy and Jena D. Hwang
- 10:55 am *Towards Detecting Intra- and Inter-Sentential Negation Scope and Focus in Dialogue*
Rajendra Banjade, Nobal B. Niraula and Vasile Rus
- 11:15 am *Direct Object Omission as a Sign of Conceptual Defaultness³*
Louis Hickman, Julia Taylor and Victor Raskin

Session 6C: Uncertain Reasoning (Room: Largo III/IV)

Chair: Salem Benferhat

- 10:15 am *Special Track Invited Talk: Learning Uncertainty Models for Non-stationary Processes*
Christophe Gonzales
- 10:55 am *A Formal Model of Plausibility Monitoring in Language Comprehension*
Maj-Britt Isberner and Gabriele Kern-Isberner
- 11:15 am *Bayesian Network Inference with Simple Propagation*
Cory Butz, Jhonatan Oliveira, Andre Dos Santos and Anders Madsen
- 11:35 am *Bayesian Networks with Conditional Truncated Densities*
Santiago Cortijo and Christophe Gonzales

Session 6D: Autonomous Robots and Agents (Room: Coral Room)

Chair: Md Suruz Miah

- 10:15 am *Selecting Vantage Points for an Autonomous Quadcopter Videographer⁴*
Rey Coaguila, Gita Sukthankar and Rahul Sukthankar
- 10:55 am *Multiagent-Based Simulation of the Human Immune System: A study of the immune response and antimicrobial therapy in post-streptococcal glomerulonephritis*
Carlos Antonio Bastos, Alcione Oliveira, Maurilio Possi, Rodrigo Siqueira-Batista, Andreia Gomes, Luiz Alberto Santana and Fabio R Cerqueira
- 11:15 am *Learning Continuous State-Action Models for Humanoid Robots*
Astrid Jackson and Gita Sukthankar
- 11:35 am *Multi-Agent Area Coverage Control using Reinforcement Learning*
Adekunle Adepegba, Md Suruz Miah and Davide Spinello

³ Best Student Paper Nominee

⁴ Best Paper Nominee

LUNCH: 12:00pm – 1:45pm

Tuesday, May 17, 1:45pm – 3:25pm

Session 7

Session 7A: General Track – Learning (Room: Largo I)

Chair: Doug Talbert

- 1:45 pm *Discovering Spatio-Temporal Relationships Among Activities in Videos Using Relational Topic-Transition Model*
Dalwinder Kular and Eraldo Ribeiro
- 2:05 pm *Scalable Image Retrieval with Multimodal Fusion*
Yang Peng, Xiaofeng Zhou, Daisy Wang and Chunsheng Fang
- 2:25 pm *Inferring Contexts From Human Activities in Smart Spaces*
Jae Woong Lee and Sumi Helal
- 2:45 pm *Examining Healthcare Utilization Patterns of Elderly and Middle-Aged Adults in the United States*
Cilia Zayas, Zhe He, Jiawei Yuan, Mildred Maldonado-Molina, William Hogan, François Modave, Yi Guo and Jiang Bian
- 3:05 pm *Authorship Attribution Using Small Sets of Frequent Part-of-Speech Skip-grams*
Jean Marc Pokou, Philippe Fournier-Viger and Chadia Moghrabi

Session 7B: Intelligent Learning Technologies (Room: Largo II)

Chair: Keith Brawner

- 1:45 pm *Implementation Factors and Outcomes for Intelligent Tutoring Systems: A Case Study with Cognitive Tutor Algebra*
Stephen Fancsali, Steven Ritter, Michael Yudelson, Michael Sandbothe and Susan Berman
- 2:05 pm *Designing a Personal Assistant for Life-Long Learning (PAL3)*
Bill Swartout, Benjamin Nye, Arno Hartholt, Adam Reilly, Arthur Graesser, Kurt Vanlehn, Jonathan Wetzel, Matt Liewer, Fabrizio Morbini, Brent Morgan, Lijia Wang, Grace Benn and Milton Rosenberg
- 2:25 pm *Studying Watson Inside Out - A Cognitive Systems Course*
Michael Wollowski

Session 7C: Uncertain Reasoning (Room: Largo III/IV)

Chair: Gabriele Kern-Isberner

- 1:45 pm *A Collective Defence Against Grouped Attacks for Weighted Abstract Argumentation Frameworks*
Stefano Bistarelli, Fabio Rossi and Francesco Santini
- 2:05 pm *Multiplicative Factorization of Multi-Valued NIN-AND Tree Models*
Yang Xiang and Yiting Jin
- 2:25 pm *A Noisy-OR Model for Continuous Time Bayesian Networks*
Logan Perreault, Shane Strasser, Monica Thornton and John Sheppard

2:45 pm *Dialectical Characterization of Consistent Query Explanation with Existential Rules*
Abdallah Arioua and Madalina Croitoru

Session 7D: Autonomous Robots and Agents (Room: Coral Room)

Chair: Roman Barták

1:45 pm *Building redundancy in multi-agent systems using probabilistic action*
Annie Wu, Paul Wiegand and Ramya Pradhan

2:05 pm *Controlling the movement of robotic bodyguards for maximal physical protection*
Taranjeet Singh Bhatia, Gurkan Solmaz, Damla Turgut and Ladislau Boloni

2:25 pm *Feasibility Study of Multi-Agent Simulation at cellular level exclusively on GPU*
Alcione Oliveira and Paul Richmond

BREAK, 3:30pm – 4:00pm

Tuesday, May 17, 4:00pm – 5:40pm

Session 8

**Session 8A: General Track – Natural Language Processing
(Room: Largo I)**

Chair: Vladislav Kubon

4:00 pm *Leverage Dependency Regularization for Event Extraction*
Kai Cao, Xiang Li and Ralph Grishman

4:20 pm *Ranking Summaries for Informativeness and Coherence without Reference Summaries*
Abhishek Singh and Wei Jin

4:40 pm *Building User Interest Profiles Using DBpedia In A Question Answering System*
Jonathan Bergeron, Richard Khoury, Luc Lamontagne and Aron Schmidt

5:00 pm *CATCH: Injecting "Contextual and Timely Conversational Humor" into Lifelike Avatars*
Josiah Wong and Avelino Gonzalez

5:20 pm *Toward Designing a Realistic Conversational System: A Survey*
Awrad Mohammed Ali and Avelino Gonzalez

Session 8B: Intelligent Learning Technologies (Room: Largo II)

Chair: Keith Brawner

4:00 pm *Improving argument mining in student essays by learning and exploiting argument indicators
versus essay topics⁵*
Huy Nguyen and Diane Litman

4:20 pm *Dimension Extraction Analysis of Student Performance on Problems*
Anthony Bucci, R. Paul Wiegand, Amruth N. Kumar, Jennifer L. Albert and Alessio Gaspar

⁵ Best Student Paper Nominee

4:40 pm *Designing an Authorable Scenario Representation for Instructor Control over Computationally Tailored Narrative in Training*
Jeremiah Folsom-Kovarik, Angela Woods and Robert Wray

Session 8C: Uncertain Reasoning (Room: Largo III/IV)

Chair: Robert Mercer

4:00 pm *Testing Independencies in Bayesian Networks with i -Separation*
Cory Butz, Andre Dos Santos, Jhonatan Oliveira and Christophe Gonzales

4:20 pm *Minimal Tolerance Pairs for System Z -like Ranking Functions for First-Order Conditional Knowledge Bases*
Christoph Beierle, Tobias Falke, Steven Kutsch and Gabriele Kern-Isberner

4:40 pm *Causes for Query Answers from Databases, Datalog Abduction and View-Updates: The Presence of Integrity Constraints*
Leopoldo Bertossi and Babak Salimi

5:00 pm *Negated Min-based Possibilistic Networks*
Salem Benferhat, Faiza Haned and Zeddigha Ismahane

Session 8D: Recommender Systems (Room: Coral Room)

Chair: Carlos Seminario

4:00 pm *Meta-path Selection for Extended Multi-Relational Matrix Factorization*
Fatemeh Vahedian, Robin Burke and Bamshad Mobasher

4:20 pm *Incorporating Diversity in a Learning to Rank Recommender System*
Jacek Wasilewski and Neil Hurley

4:40 pm *On the Use of Opinionated Explanations to Rank and Justify Recommendations*
Khalil Muhammad, Aonghus Lawlor and Barry Smyth

5:00 pm *Preference-Aware POI Recommendation With Temporal and Spatial Influence*
Madhuri Debnath, Praveen Tripathi and Ramez Elmasri

5:20 pm *Nuking Item-based Collaborative Recommenders with Power Items and Multiple Targets*
Carlos Seminario and David Wilson

Day 3: Wednesday, May 18, 2016

Wednesday, May 18, 8:45am – 10:00am

Session 9

FLAIRS-30 Information, 8:45am – 9:00am

Ingrid Russell

Session 9A: Invited Talk (Room: Largo Ballroom)

Chair: Zdravko Markov

9:00am

Sumi Helal

University of Florida

Pervasive Intelligence – Bridging the Gap between Theory and Practice in Smart Spaces

BREAK, 10:00am – 10:15am

Wednesday, May 18, 10:15am – 11:55pm

Session 10

Session 10A: General Track – Planning (Room: Largo I)

Chair: Carlos Seminario

- 10:15 am *Coordinated Target Assignment and Route Planning for Air Team Mission Planning*
Tina Erlandsson
- 10:35 am *Domain Modeling for Planning as Logic Programming*
Roman Bartak and Jindřich Vondrážka
- 10:55 am *DoveTail - An abstraction for Classical Planning using a Visual Metaphor*
Maurício Cecílio Magnaguagno, Ramon Fraga Pereira and Felipe Meneguzzi

Session 10B: AI and Cyber Security (Room: Largo II)

Chair: Laurent Nana

- 10:15 am *RUDY Attack: Detection at the Network Level and its Important Features*
Maryam Najafabadi, Taghi Khoshgoftaar, Amri Napolitano and Charles Wheelus
- 10:35 am *An Evolutionary Trace Algorithm for Constructing Malware Lineages*
Alex Heinricher and Steven Jilcott
- 10:55 am *Evaluating Methods for Distinguishing Between Human-Readable Text and Garbled Text*
Jette Henderson, Daniel Frazee, Nick Siegel, Cheryl Martin and Alexander Liu

**Session 10C: Natural Language Processing of Ancient Languages
(Room: Largo III/IV)**

Chair: Yudong Liu

- 10:15 am *Hierarchy of characters in the Chinese Buddhist Canon*
John Lee and Tak Sum Wong
- 10:35 am *Semantic Parallelism in Classical Chinese Poems*
John Lee
- 10:55 am *Divergence from Syntax to Linear Order in Ancient Greek Lexical Networks*
Edoardo Maria Ponti
- 11:15 am *Recognizing Proper Names in UR III Texts through Supervised Learning*
Yudong Liu, James Hearne and Bryan Conrad

Session 10D: Applications of AI in Business and Industry (Room: Coral Room) Chair: Yang Xiang

- 10:15 am *Prioritization of Risky Chats for Intent Classifier Improvement*
Ian Beaver and Cynthia Freeman
- 10:35 am *Using L-Systems to Generate Fault Trees for Benchmarking & Testing*
Jeff Hanes and Paul Wiegand
- 10:55 am *Assessing Supply Chain Robustness through Stress Testing*
Slava Shekh and Luke Marsh
- 11:15 am *Comparative Methods and Analysis for Creating High-Quality Question Sets from Crowdsourced Data*
Sarah Luger and Jeff Bowles
- 11:35 am *A Dynamic Bayesian Network for Diagnosing Nuclear Power Plant Accidents*
Thomas Jones, Michael Darling, Matt Denman, Katrina Groth and George Luger

LUNCH: 12:00pm – 1:45pm

Wednesday, May 18, 1:45pm – 2:45pm

Session 11

**Session 11A: Semantic, Logics, Information Extraction and AI
(Room: Largo I)**

Chair: Ismail Biskri

- 1:45 pm *On Similarities Between Workflow Verification and Grammar Checking⁶*
Roman Barták and Vladislav Kubon
- 2:05 pm *TAO: System for Table Detection and Extraction from PDF Documents*
Martha O. Perez-Arriaga, Trilce Estrada and Soraya Abad-Mota

⁶ Best Paper Nominee

2:25 pm *Text Processing Chains: Getting Help from Typed Applicative Systems*
Marie Anastacio and Ismail Biskri

Session 11B: AI and Cyber Security (Room: Largo II)

Chair: Laurent Nana

1:45 pm *Suspiciously Structured Entropy: Wavelet decomposition of software entropy reveals symptoms of malware in the energy spectrum*

Michael Wojnowicz, Glenn Chisholm and Matt Wolff

2:05 pm *Meaning-Based Machine Learning for Information Assurance*

Courtney Falk and Lauren Stuart

2:25 pm *Data Authenticity and Integrity in Wireless Sensor Networks Based on a Watermarking Approach*

Farid Lalem, Muath Alshaikh, Ahcene Bounceur, Reinhardt Euler, Lamri Laouamer, Laurent Nana and Anca Pascu

Session 11C: Social Media Analytics (Room: Largo III/IV)

Chair: Eric Bell

1:45 pm *Exploiting Crowd-Based Imprecise Labels for Domain Focused Information Retrieval*

J. Cory Minitier, Vineet Mehta and Kavitha Chandra

2:05 pm *Necessity of Feature Selection when Augmenting Tweet Sentiment Feature Spaces with Emoticons*

Joseph Prusa, Taghi Khoshgoftaar and Amri Napolitano

2:25 pm *Comparing Approaches for Combining Data Sampling and Feature Selection to Address Key Data Quality Issues in Tweet Sentiment Analysis*

Joseph Prusa and Taghi Khoshgoftaar

3:00 pm – 4:00 pm FLAIRS BUSINESS MEETING (Largo Ballroom)

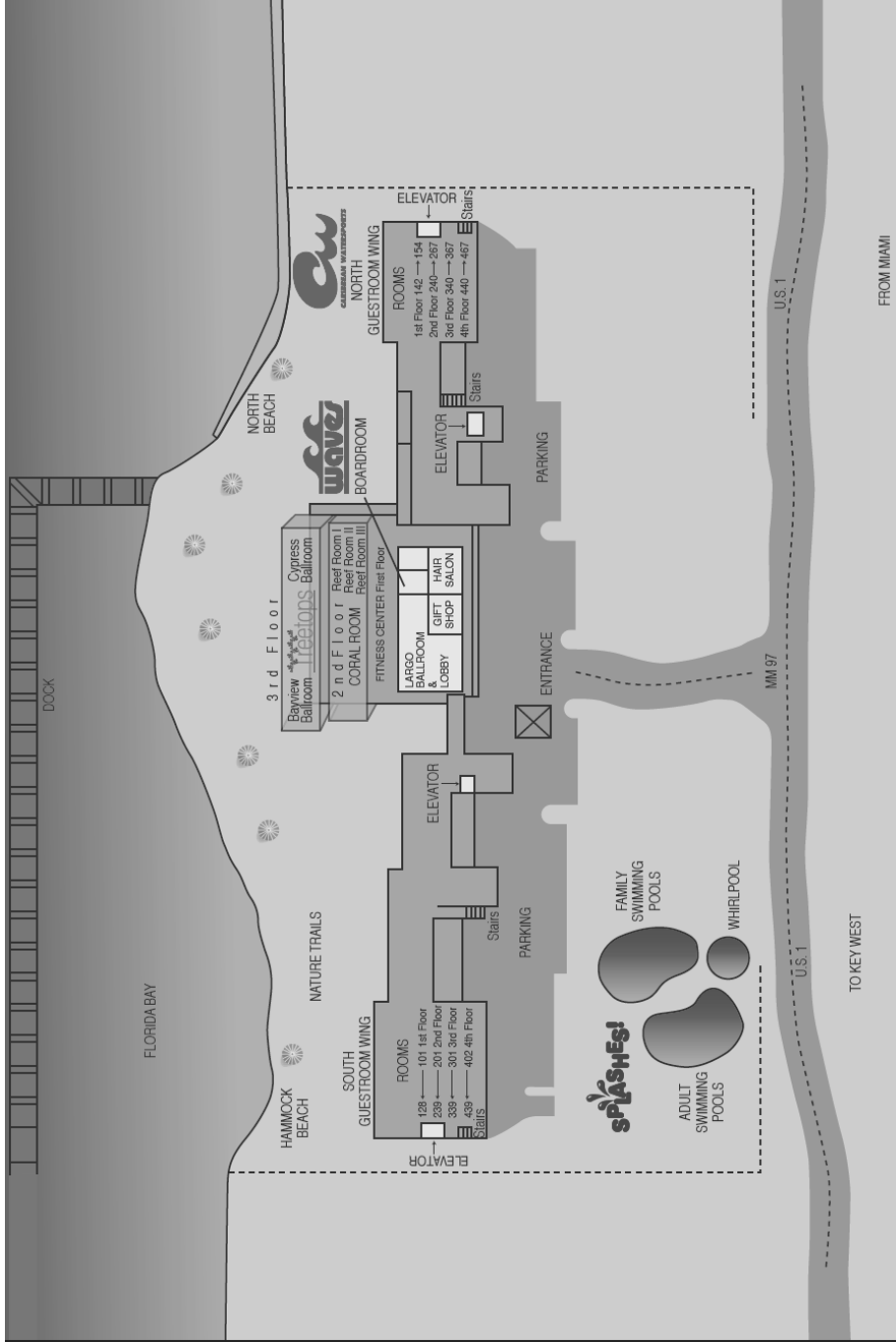
END OF FLAIRS-29

We hope that you enjoyed the conference and Key Largo!

Join us for FLAIRS-30 in Marco Island, Florida

<http://flairs-30.info>

Conference Center Map



FLAIRS-29 Conference at a Glance

Sunday, May 15, 2016						
Time	Largo Prefunction Area	Largo Ballroom	Largo I	Largo II	Largo III/IV	Bayview Ballroom
1:00 PM	Registration					
6:00 PM						Poster Preparation
Monday, May 16, 2016						
Time	Largo Prefunction Area	Largo Ballroom	Largo I	Largo II	Largo III/IV	Bayview Ballroom
8:00 AM	Registration	Continental Breakfast (Largo Terrace)				
8:45 AM		Welcome to FLAIRS-29				
9:00 AM		1A: Invited Talk - Kristin Tolle				
10:00 AM		Coffee Break				
10:30 AM						
12:15 PM		Lunch (Tree Top Bar and Grille)				
1:45 PM			3A: General Track - Reasoning (5)	3B: ANLP (4) **	3C: Data Mining (3) **	3D: AI for Big Data (5)
3:30 PM		Coffee Break	4A: General Track - Algorithms (4)	4B: ANLP (3)	4C: Data Mining (4)	4D: AI in Games (4)
4:00 PM						
5:00 PM		Dinner Reception & Awards (Waves - North Beach)				
6:00 PM						
Tuesday, May 17, 2016						
Time	Largo Prefunction Area	Largo Ballroom	Largo I	Largo II	Largo III/IV	Coral Room
8:00 AM	Registration	Continental Breakfast (Largo Terrace)				
8:45 AM		Daily Updates				
9:00 AM		5A: Invited Talk - Matthew Johnson				
10:00 AM		Coffee Break				
10:15 AM			6A: General Track - Learning (5)	6B: ANLP (4)	6C: Uncertain Reasoning (4)**	6D: Aut. Robots and Agents (4)
12:00 PM		Lunch (Tree Top Bar and Grille)				
1:45 PM			7A: General Track - Learning (5)	7B: Int. Learning Technology (3)	7C: Uncertain Reasoning (4)	7D: Aut. Robots and Agents (3)
3:30 PM		Coffee Break				
4:00 PM			8A: General Track - NLP (5)	8B: Int. Learning Technology (3)	8C: Uncertain Reasoning (4)	8D: Recommender Systems (5)
5:00 PM						
6:00 PM		Beach Party				
Wednesday, May 18, 2016						
Time	Largo Prefunction Area	Largo Ballroom	Largo I	Largo II	Largo III/IV	Coral Room
8:00 AM	Registration	Continental Breakfast (Largo Terrace)				
8:45 AM		FLAIRS-30 Information				
9:00 AM		9A: Invited Talk - Sumi Helal				
10:00 AM		Coffee Break				
10:15 AM			10A: General Track - Planning (3)	10B: AI and Cyber Security (3)	10C: NLP of Ancient Lang. (4)	10D: AI in Business (5)
12:00 PM		Lunch (Tree Top Bar and Grille)				
1:45 PM			11A: Semantic, Logics and AI (3)	11B: AI and Cyber Security (3)	11C: Social Media Analytics (3)	
3:00 PM		FLAIRS Business Meeting				
4:00 PM		END OF CONFERENCE				

NOTES:
 (R) - # papers and invited speakers for that track
 ** includes an invited speaker