

## WCCA 2009 Program

<b>Sunday, June 21<sup>st</sup></b>		
4:30	6:00	<b>Welcome Reception</b>
		Networking event in the exhibit hall open to all participants
<b>Monday, June 22<sup>nd</sup></b>		
8:30	9:30	<b>ASABE Keynote</b>
<b>Control, Data Acquisition, Monitoring and Sensing (Room: Crystal 3)</b> Chair: Dennis Watson, USA		
9:40		<b>An Online Humidity Transducer Based on Near-infrared Radiation</b>
		Diogo K. Takayama , José A. de França, Dari O. Toghinho Filho , Maria B. de Moraes França, and Marcelo G. Canteri, Brazil
10:00		<b>Anemometer 3D Based on Ultrasound</b>
		Marcela H. Koyama, Rodger V. Pereira, Tiago P. da Silva, José A. de França, Marcelo G. Canteri, and Dari O. Toghinho Filho, Brazil
10:20		<b>System of Microstations of Data Acquisition for Wireless Monitoring of the Microclimate in Crop Areas</b>
		José A. de França, Edson L. Burgo Júnior, Marcela H. Koyama, Rodger V. Pereira, Marcelo G. Canteri , and Maria B. de Moraes França, Brazil
10:40		<b>BREAK</b>
11:00		<b>Developing a Wireless Infrared Thermometer with a Narrow Field of View</b>
		Susan A. O'Shaughnessy, Martin A. Hebel, and Steven R. Evett, USA
11:20		<b>Evaluation of Sensor Readability and Thermal Relevance for RFID Temperature Tracking</b>
		C. Amador, and J.P. Emond, USA
11:40		<b>Low Cost Technology Applied to Thermometry of Grains</b>
		Marcelo Ferrasa, Marco Antonio Martin Biaggioni, and Marcelo Giovaneti Canteri, Brazil
12:00		<b>Real-time Water Potential Assessment Based on Electrical Signaling in Higher Plants.</b>
		Luis A. Gurovich, Chile
12:20		<b>LUNCH (on your own)</b>

<b>Control, Data Acquisition, Monitoring and Sensing (Room: Crystal 3)</b>		
Chair: Emaeil Nadimi, Denmark		
2:40		<b>Automatic Monitoring of Turkeys: A Vision-Based Approach to Detect and Analyse the Behaviour of Turkeys in Transport Cages Based on Ellipse Fitting</b>
		Ahmad Poursaberi, Anette Wichman, Claudia Bahr, Laura Hänninen, Matti Pastell, and Daniel Berckmans, Belgium
3:00		<b>Synchronized Recording of Pressure Distribution and Posture for Automatic Lameness Detection in Dairy Cattle</b>
		Arno Pluk, Claudia Bahr, Ahmad Poursaberi, Willem Maertens, Annelies Van Nuffel, Jurgen Vangeyte, Bart Sonck, and Daniel Berckmans, Belgium
3:20		<b>Estimating Broiler Breeder Welfare Using Image Analysis</b>
		Irenilza A. Naas, Marcus Laganá, and Mario Mollo Neto, Brazil
3:40		<b>BREAK</b>
4:00		<b>PlayStation3 vs Pentium PC for Optical Fruit Calibration</b>
		Nicolás Narria and Per Bj. Bro, Chile
4:20		<b>Automatic Inspection Using Machine Vision for Food Safety Control</b>
		Chun-Chieh Yang, Kuanglin Chao, and Moon S. Kim, USA
4:40		<b>SMART Irrigation System Controllers</b>
		Edward M. Norum and Diganta Adhikari, USA
<b>Education and Learning (Room: Crystal 4)</b>		
Chair: Masahiko Nagai, Japan		
9:40		<b>A Framework of Collective Intelligence for Building Virtual Agriculture Knowledge Repository and Services</b>
		Masahiko Nagai, Naiyana Sahavechaphan, Vasuthep Khunthong, Asanee Kawtrakul, and Ryosuke Shibasaki, Japan
10:00		<b>Lyra Virtual World Environment (Lyra VWE): Educational Applications in Agriculture and Natural Resources</b>
		Howard W. Beck, USA
10:20		<b>Advantages of Open Source Based e-learning Tools in the Collaboration and Training in the Agricultural Education</b>
		Miklós Herdon, László Várallyai, and Peter Lengyel, Hungary
10:40		<b>BREAK</b>
11:00		<b>Developing High quality On-line Learning Environments</b>
		Fedro Zazueta, USA
11:20		<b>Multidisciplinary Aspects of Learning Information Technology in Accredited Agricultural Education Programs</b>
		Miklós Herdon and László Várallyai, Hungary

11:40		<b>Online Learning Resources on Agricultural Topics: the Case of Organic Agriculture &amp; Agroecology</b>
		Nikos Manouselis, Nikos Palavitsinis, and Xenofon Tsilibaris, Greece
12:00		<b>LUNCH (on your own)</b>
<b>Web Services, Portals, Internet and Web 2.0 Applications (Room: Crystal 4)</b> Chair: Nikos Manouselis, Greece		
2:40		<b>The Role of Intermediaries in the Success of Electronic Claiming for Farm Subsidies in Hungary</b>
		Miklós Herdon and Mihály Csótó, Hungary
3:00		<b>Specification of SOA Components and Web Services to Integrate Ecological Niche Modelling Systems and IABIN-PTN</b>
		R. L. Stange, B. Buani, F. S. Santana, P. L. P. Correa, A. R. Hirakawa, and A. M. Saraiva, Brazil
3:20		<b>Reengineering Research Organizations with Web 2.0 Tools</b>
		Humphrey Keah, Kenya
3:40		<b>BREAK</b>
<b>Food Safety Control/Tracking-Tracing (Room: Crystal 4)</b> Chair: Miklós Herdon, Hungary		
4:00		<b>Integrative Information Management Across Different Surveillance Areas: The Power of Classification Systems and a Need for Institutional Change</b>
		Johannes Otto, Matthias Frost, and Reiner Doluschitz, Germany
4:20		<b>Tracking Pests and Plant Diseases through Space and Time Using Geo-tagged Digital Images</b>
		Jiannong Xin, Carrie L. Harmon, Pete Vergot III, and Huafeng Jin, USA
4:40		<b>Towards Developing a Edible Fungi Factory HACCP MIS Based on RFID Technology</b>
		Wang Yunsheng, Wan Changzhao, Cheng Jihong, Guo Qian, Yang Juan, and Zhao Jingyin, China
<b>Modeling and Simulation (Room: Crystal 5)</b> Chair: Remigio Berruto, Italy		
9:40		<b>AQUARIUS: A Simulation Program for Evaluating Water Quality Closure Rules for Shellfish Industry</b>
		Conte, F. S. and Ahmadi, A., USA
10:00		<b>Assessment of Water Quality Calibration Criteria for Field-Scale Water Quality Model</b>
		Sang Min Kim, Choung Hyun Seong, and Seung Woo Park, Korea
10:20		<b>Development of a Distributed Artificial Neural Network for Hydrologic Modeling</b>
		R.A. Logsdon, S.G. Bajwa, and V. Vibhava, USA

10:40		<b>BREAK</b>
11:00		<b>Investigation of Head Loss along Drip Emitter Channel by Using Computational Fluid Dynamics</b>
		Lu Gang, Wei Qingsong, Liu Jie, Shi Yusheng, and Dong Wenchu, China
11:20		<b>Modeling Top Soil Erosion and Mass Failures in Steep Agricultural Slopes: Integrating WEPP and a Landslide Model</b>
		Thomas A. Cochrane and Govind Acharya, New Zealand
11:40		<b>Simulate Regional PM10 Dust Dispersion from Agricultural Tilling Operations Using Hysplit4</b>
		Junming Wang, Ted W. Sammis, David R. Miller, April L. Hiscox, David Granucci, Britt Holmén, and John Kasumba, USA
12:00		<b>Three-dimensional Digital Model of Maize Canopy</b>
		Renato Frasson, USA
12:20		LUNCH (on your own)
<b>Modeling and Simulation 2 (Room: Crystal 5)</b>		
Chair: Irenilza Naas, Brazil		
2:40		<b>Applying Control Volume Finite Element for Modelling Direct Injection Boom Spraying Flow</b>
		Abdellah El Aissaoui, Frederic Lebeau, Marie-France Destain, and Karim Houmy, Morocco
3:00		<b>Computer Simulation of Thermal Processing for Canned Food Sterilization</b>
		R. Radrigán and J.A. Cañumir, Chile
3:20		<b>Combined Use of Simulation Modeling and Linear Programming for Logistic Design of the Slurry Distribution Systems</b>
		Patrizia Busato and Remigio Berruto, Italy
3:40		<b>BREAK</b>
4:00		<b>Mining Derived Weather Forecast Variables for Crop Disease Risk Prediction</b>
		Jason Smith, Kathleen M. Baker, and Robert Trenary, USA
4:20		<b>SOC &amp; SOA in Ecological Niche Modelling and Agribusiness: Discussion and Case Studies</b>
		Fabiana Soares Santana and Antonio Mauro Saraiva, Brazil
4:40		<b>Predicting the Impact of Supplemental Phytase, Wheat and Phosphorus on the Performance of Layin Hen</b>
		Forghany, Z., Davarynejad, M., and Zartash, L., Iran

## Tuesday, June 23rd

### WCCA Keynote Address (Room: Tahoe)

8:30	9:30	<b>Food Quality, Carbon Footprint, or Fair Trade: The Global IT Challenge</b>
		Gerhard Schiefer, Germany.

### Information Systems and Databases 1 (Room: Crystal 3)

Chair: Abbas Ahmadi, USA

9:40		<b>DiagText: A Text Mining Tool for Agriculture</b>
		S. M. F. S. Massruhá, K. X. S. de Souza, H. P. de Lima, R. Ricciotti, and A. D. L. Zanchetta, Brazil
10:00		<b>Principal Components Analysis in the Software Assisat-Statistical Attendance</b>
		Francisco de Assis Santos e Silva, and Carlos Alberto Vieira de Azevedo, Brazil
10:20		<b>Compare Different Methods for Extensibility of Measurement Results of Point Samples of the Soil Protection Information and Monitoring System</b>
		László Várallyai, Béla Kovács, and Miklós Herdon, Hungary
10:40		<b>BREAK</b>
11:00		<b>Bringing Farmers to the Market with 3-Reforms and 3-platform Technologies</b>
		Asanee Kawtrakul, Vasuthep Khunthong, Thanaphat Suksaengsri, Patcharee Varasai, Amporn Poyai, Seksan Sartsatit, Anan Pusittigul, Kanok Lohapiyaphan, Srayut Tongnoy, Duangkaeo Pokawattana, and Werachai Narkwiboonwong, Thailand
11:20		<b>Towards Cyberinfrastructure for Multi-scale Crop Disease Early Warning Systems</b>
		Kathleen M. Baker, Beth Plale, Ilya Zaslavsky, and Suresh Marru, USA
11:40		<b>Developing Agricultural Research Information Systems: The Experience of the Global Forum on Agricultural Research</b>
		Ajit Maru, Mark Holderness, and Valeria Pesce, Italy
12:00		<b>LUNCH</b> (ASABE Update and Recognition Lunch)

### Information Systems and Databases 2 (Room: Crystal 3)

Chair: Howard Beck, USA

2:40		<b>Dynamic Mapping, a Flash Solution</b>
		Huafeng Jin and Jiannong Xin, USA
3:00		<b>RPP - Rainfall Processing Program</b>
		F. S. Conte and A. Ahmadi, USA
3:20		<b>Rural Amenity Survey and Evaluation</b>
		Oh, Yun-Gyeong, Choi, Jin-Yong, Bae, Seung-Jong, Lee, and Sang-Hyun, Korea
3:40		<b>BREAK</b>

<b>Geographic Information Systems (Room: Crystal 3)</b>		
Chair: Marcelo Canteri, Brazil		
4:00		<b>Analyzing the Spatial Centrality of Rural Villages for Green-Tourism Using GIS and Social Network Analysis-Focusing on Rural Amenity and Human Resources</b>
		Sang-Hyun Lee, Jin-Yong Choi, Seung-Jong Bae, and Yun-Gyeong Oh, Korea
4:20		<b>Study on Approaches of Land Suitability Evaluation for Crop Production Using Geographic Information System</b>
		Li Linyi, Zhao Jingyin, Yuan Tao, and Liu Zhaoli, China
4:40		<b>GIS-based Impact Assessment of Climate Change for Cropland Suitability in Korea</b>
		Min-Won Jang, Suk Young Hong, and Yi Hyun Kim, Korea
<b>Precision Agriculture &amp; Wireless Sensor Networks 1 (Room: Crystal 4)</b>		
Chair: Ajit Maru, Italy		
9:40		<b>Designing, Modeling and Controlling a Novel Autonomous Laser Weeding System</b>
		E. S. Nadimi, K. J. Andersson, R. N. Jørgensen, Jørgen Maagaard, Solvejg Mathiassen, and S. Christensen, Denmark
10:00		<b>Development of a Novel Safety System for Remote Plant Nursing Robots</b>
		Jakob J. Larsen, E. S. Nadimi, and Palle Hermansen, Denmark
10:20		<b>Simulated Slopes on a Test Rig Based Evaluating Continuous Cereal Yield Metering Accuracy</b>
		Akbar Sanaei, Iran
10:40		<b>BREAK</b>
11:00		<b>Topology of a Network for Wireless Transmission of Data for Use in Precision Agriculture</b>
		Alex L. Guedes, Maria B. de M. França, José A. de França, Marcela H. Koyama, and Marcelo G. Canteri, Brazil
11:20		<b>Study and Development of an Integrated System for Slurry Management Monitoring and Electronic Reports Drawing up in Cattle Breeding</b>
		F.M. Tangorra, S. Nava, E. Beretta, and M. Lazzari, Italy
11:40		<b>Advanced Distributed Monitoring System for Agriculture Based on Wireless Sensor Network Technology</b>
		Luca Bencini, Giovanni Collodi, Davide Di Palma, Antonio Manes, and Gianfranco Manes, Italy
12:00		<b>LUNCH (ASABE Update and Recognition Lunch)</b>
2:40		<b>Monitoring and Classifying the Behavior of a Herd of Sheep Using ad hoc Wireless Sensor Networks and Artificial Intelligence</b>
		E. S. Nadimi, R. N. Jørgensen, V. Blanes-Vidal, and S. Christensen, Denmark
3:00		<b>Wireless Sensor Network to Estimate Streamflow in Channel Networks</b>

		Christian Correa, Diego Rivera, and Sergio Villagrán, Chile
3:20		<b>Wireless Telemetry for Livestock Condition Monitoring</b>
		Kae Hsiang Kwong, Hock Guan Goh, Tsung Ta Wu, Bruce Stephen, Craig Michie, and Ivan Andonovic, UK
3:40		<b>BREAK</b>
<b>Traceability, Food Safety and Marketing (Room: Crystal 4)</b> Chair: Gerhard Schiefer, Germany		
4:00		<b>Effects of Antenna Position on Readability of RFID Tags in a Refrigerated Sea Container of Frozen Bread at 433 and 915 MHz</b>
		M. Laniel, J.P. Emond, and A.E. Altunbas, USA
4:20		<b>Quality Assurance and Traceability of Foods of Animal Origin – Major Findings from the Research Project IT FoodTrace</b>
		Reiner Doluschitz and Barbara Engler, Germany
4:40		<b>Study and Development of an Integrated Automatic Traceability System for the Bovine Meat Chain</b>
		S. Nava, F.M. Tangorra, E. Beretta, and M. Lazzari, Italy
<b>Workshop (Room: Crystal 5)</b>		
9:40	5:00	<b>Open Educational Resources and Learning Repositories for Agriculture, Food and Environment</b>
		Nikos Manouselis, Greek Research & Technology Network (GRNET), Greece Amee Godwin, Institute for the Study of Knowledge Management in Education (ISKME) and OER Commons, USA Jan Beniest, World Agroforestry Centre (ICRAF), Kenya
6:00	8:00	<b>INFITA Board Meeting</b> (Conference Suite 4)
<b>Wednesday, June 24th</b>		
<b>Decision Support Systems (Room: Crystal 3)</b> Chair: Israel Dundade, USA		
8:00		<b>A Web-based Decision Support System for Surface Irrigation Design. Software Development</b>
		José M. Gonçalves, André P. Muga, and Luis Santos Pereira, Portugal
8:20		<b>A Website for Delivering Key Date Information to Farmers in Support of Legal Compliance</b>
		M. Hennessy and N.M. Holden, Ireland
8:40		<b>From CyberBrain to Q&amp;A Services: A Development of Question-Answering Services System for the Farmer through the SMS</b>

		Asanee Kawtrakul, Mukda Suktarachan, Patthrawan Rattanamanee, Patrick Saint Dizier, Sudarin Rodmanee, Saovakon Laovayanon, Decha Jenkollop, and Anan Pusittigul, Thailand
9:00		<b>The Linear Programming Module of CAPRICORN Package: A Windows Program for Formulating and Evaluating Rations for Goats</b>
		A. Ahmadi and P.H. Robinson, USA
9:20		<b>Selecting a Cattle Food Supplier as a Group Decision-Making Problem</b>
		Zorica Srđević, Snežana Trivunović, Bojan Srđević, and Tihomir Zoranović, Serbia
9:40		<b>BREAK</b>
10:00		<b>Development of Decision Support System for Sustainable Crop and Water Management in Rainfed Areas in the Philippines</b>
		Orlando F. Balderama, Philippines
10:20		<b>Interfacing CCFARM Simulation Engine with Microsoft Excel's VBA Engine to Generate On-Demand Outputs</b>
		J. W. Oltjen, A. Ahmadi, A.J. Romera, and D.J. Drake, USA
10:40		<b>Objective Evaluation of Walnut Cultivars by the Analytic Hierarchy Process</b>
		Zorica Srdjevic, Bojan Srdjevic, and Kosana Suvocarev, Serbia
<b>Adoption, Extension and Rural Development (Room: Crystal 4)</b>		
Chair: Jiannong Xin, USA		
8:00		<b>The Open Academy for Philippine Agriculture (OPAPA): Enhancing Extension Services to the Farmers of Northern Philippines through Information and Communication Technologies (ICT)</b>
		Orlando F. Balderama, Philippines
8:20		<b>The e-readiness of Hungarian Farmers</b>
		Mihály Csótó, Hungary
8:40		<b>Web Customer Care: An Empirical Analysis of Italian Wine Companies</b>
		Riccardo Vecchio, Italy
9:00		<b>Rinfo- a One Stop Information System for Rural Development- a Prototype</b>
		J. Adinarayana, D. Sudharsan, and A K Tripathy, India
9:20		<b>Brand-Variety Performance Information System for Crops in India: A Study and Design for Cotton</b>
		Vasant P. Gandhi, India
9:40		<b>BREAK</b>
<b>Farm Management (Room: Crystal 4)</b>		
Chair: Elsa S. Sepúlveda, USA		
10:00		<b>Managing My Total Acre: An Integrated Systems Approach to Farm Management</b>
		Pradip K. Das, Beth A. Holmes, and Greg E. Knoblauch, USA

10:20		<b>The Role of I-SCADA System and Specialized Software in Energy and Water Efficiency on a 104 Square km2 (40 ml2) Large-Scale Drip Irrigated Agro-Forestry Farm, USA.</b>
		Nabil Mohamed, USA
10:40		<b>An Agricultural Field Work Management System for Rural Farmers in Sri Lanka</b>
		P.K.S.C. Jayasinghe, Masao Yoshida, and Takemi Machida, Japan
<b>Workshop (Room: Crystal 5)</b>		
8:00	11:00	<b>Computational Intelligence Applied to Low Cost Automated Agricultural Systems: A Fuzzy Logic Approach</b>
		Ariangelo Hauer Dias, Alaine Margarete Guimarães and Ivo Mário Mathias UEPG - State University of Ponta Grossa, Brazil
11:00	12:00	<b>CLOSE and WCCA Business Meeting</b>
12:00	2:40	<b>LUNCH (ASABE Awards Luncheon)</b>

## Technical Tours

T1

### **TOUR - Slot Machine Manufacturer**

Monday, June 22 - 5:30PM-7:30PM

Join us for a tour of the facilities of International Gaming Technology, one of the leading gaming machine manufacturers. This is the company that developed such favorites as the video poker machine; the Red, White and Blue and Double Diamond slot machines; and the most popular gaming machine of all time: Wheel of Fortune progressive slots. See their manufacturing processes and hear how they develop new games.  
COST: \$30.00

T3

### **TOUR - Tyco/Clarkson**

Tuesday, June 23 - 2:00PM-5:30PM

Participate in this tour to gain a better understanding of manufacturing, processing and fabrication of mining, food processing and flow control valve.  
COST: \$30.00

T2

### **TOUR-Bently Agrowdynamics Ranch and Bently Biofuels Biodiesel Plant**

Wednesday, June 24 - 8:00AM-4:00PM

A tour of Bently Agrowdynamics and Bently Biofuels offers a unique look at progressive farming, ranching, and recycling in Western Nevada with the added bonus of being located in the beautiful Carson Valley.

Tour Stops: Bently Agrowdynamics is Mr. Bently's agricultural production company, encompassing over 56,000 acres. Over 5,700 acres are improved alfalfa and small grain farmland under center pivot and portable solidset sprinkler utilizing multiple water sources, including direct runoff, reservoir storage, groundwater, and treated municipal effluent. The cattle division is a cow-calf operation of over 1,900 cows. Also integral to the operation is a 20,000 ton per year compost production facility which recycles municipal biosolids, wood waste, and greenwaste into fertilizer.

Bently Biofuels is a biodiesel manufacturer with a 500,000 gallon per year batch style plant designed to use multiple feedstocks, primarily yellow grease. Fuel is sold wholesale in bulk and retail at their own Biofuels gas station, which only sells biodiesel and ethanol blends. All Bently Agrowdynamics equipment and vehicles also run on custom biodiesel blends, which vary depending on the season.

COST: \$60.00 (Lunch is included)