

# FIFTH CONFERENCE OF ASIAN FEDERATION FOR INFORMATION TECHNOLOGY IN AGRICULTURE

## BANGALORE, INDIA

### INVITATION

We are greatly honoured to cordially invite you to participate in the fifth conference of the Asian Federation for Information Technology in Agriculture (AFITA 2006) to be held from November 9-11, 2006, at the National Science Seminar Complex, Indian Institute of Science, Bangalore, India.

Agriculture continues to be the major occupation of Asian communities. In recent years, IT sector is growing exponentially and offers an immense potential for its synergistic effect on the growth of all sectors including agriculture. Rapidly expanding population and dwindling natural resource base in Asia and steady trade liberalization, necessitate harmonious integration of IT and agriculture. The challenge ahead is to explore the opportunities provided by the IT revolution to ensure a vibrant, responsive, sustainable and productive agriculture.

There is an urgent need of not only securing livelihoods of rural and urban poor but also for catering to the regional and global demands both in quantity and quality. Digital divide between not only rich and poor but also between men and women needs to be bridged for harvesting the benefits of IT towards achieving rural prosperity. Future research, development and policies should take into account all these issues. The onus is on the researchers and policy makers to maintain a holistic approach to IT and agriculture rather than looking at them in isolation.

AFITA 2006 provides a platform to dwell on all the issues of vital importance for achieving rural prosperity in all the Asian countries.

### To contact us :

**Dr. V.C.Patil**

Organising Secretary, AFITA 2006  
President, INSAIT and  
Professor and Head,  
Department of Agronomy,  
University of Agricultural Sciences, Dharwad - 580 005  
Karnataka State  
INDIA.

Tel: 0091-836-2440366

Fax: 0091-836-2440366

Email:

[afita2006@yahoo.com](mailto:afita2006@yahoo.com)

[vcpatiluasd@yahoo.com](mailto:vcpatiluasd@yahoo.com)

[shashidhar.kumbar@gmail.com](mailto:shashidhar.kumbar@gmail.com)

Website: <http://www.insait.org>

Home | [Theme](#) | [Topics](#) | [Papers](#) | [Full Paper Submission](#) | [Events / Dates](#) | [Registration](#) | [Inauguration](#) | [Collaborators](#) | [About Bangalore](#) | [Accommodation](#) | [About AFITA](#) | [Form](#) | [Committees](#) | [Contact](#) | [AOS Workshop](#) | [MAS Workshop](#) | [Related Links](#) | [Tours](#) | [ebooks](#)

# FIFTH CONFERENCE OF ASIAN FEDERATION FOR INFORMATION TECHNOLOGY IN AGRICULTURE BANGALORE, INDIA

## THEME

The main theme of the Conference is

*Agricultural Information Technology for Rural Development*

## TOPICS OF THE CONFERENCE

- WTO, rural economies and ICT policies for rural development
- Education, extension and library services
- RS and GIS applications for agriculture and precision farming
- Decision support systems for biotic and abiotic stresses
- Agricultural resources data banks and data mining
- e-agribusiness, traceability and virtual agri-markets
- Weather prediction models for profitable agricultural production
- Use of ICT in natural resources management
- Sensors, grid, web and communication systems
- Agricultural Resources Information Systems
- e-governance standards / metadata & data standards in agriculture

The working language of the conference is English.

## **CALL FOR PAPERS**

Contributed papers reflecting the conference theme are invited. Indicate the topic under which the paper should be included.

### **Abstract submission**

You are requested to send an abstract of your paper not exceeding 300 words in MS word 2000 version. All abstracts should be written in English. Electronic version of the abstract should be sent by e-mail as an attachment along with filled in pre-registration form.

## **FULL PAPER SUBMISSION**

The participants of AFITA 2006 are hereby requested to send their full papers not exceeding eight A4 size pages through the template provided below. The paper may be submitted in the MSWORD (\*.doc) file format to email address [afita2006@yahoo.com](mailto:afita2006@yahoo.com).

Please see the sample paper given below for reference.

## **EVENTS**

### **IMPORTANT DATES**

Pre-registration : March 31, 2006

Second announcement : February 28, 2006

Abstract submission deadline : May 15, 2006

Announcement of paper acceptance : May 31, 2006

Full paper submission deadline : July 31, 2006

Registration starts : July 15, 2006

Final announcement : August 31, 2006

Early Registration deadline : September 30, 2006

## **REGISTRATION**

We welcome early registration via the **ONLINE REGISTRATION FORM** provided through following webpage link.

For [ONLINE REGISTRATION](#) please click over this webpage link.

### **Registration Fees**

| Participants              | Overseas (US\$) |          | Indian (Rs.) |          |
|---------------------------|-----------------|----------|--------------|----------|
|                           | Scientists      | Students | Scientists   | Students |
| Before September 30, 2006 | 200             | 75       | 3000         | 1500     |
| After September 30, 2006  | 300             | 100      | 4000         | 2000     |

The fee covers conference proceedings and related materials, lunch, coffee and tea during the conference on all the three days.

### **Inauguration**

On November 9th, 2006 at 11=30 AM

### **COLLABORATORS**

The following National & International Organizations have already consented to collaborate in organizing AFITA 2006.

- Food and Agriculture Organization of the United Nations (FAO)
  - European Federation of Information Technology in Agriculture (EFITA)
  - American Society of Agricultural Engineers (ASAE)
  - Pan-America Federation for Information Technology in Agriculture (Pan AFITA)
  - International Association of Agricultural Information Specialists (IAALD)
  - Japanese Society of Agricultural Informatics (JSAI), Japan
  - United Nations Educational, Scientific and Cultural Organization (UNESCO)
  - International Commission of Agricultural Engineering: CIGR. Commission International du Genic Rural
  - Asian Institute of Technology (AIT), Thailand
  - Japan International Research Center for Agricultural Sciences (JIRCAS)
  - Rural Development Administration (RDA), Korea
- 
- Indian Council of Agricultural Research, New Delhi, India
  - Government of Karnataka, India
  - University of Agricultural Sciences, Dharwad, India
  - University of Agricultural Sciences, Bangalore, India.
  - Karnataka State Remote Sensing Applications Centre, Bangalore, India
  - Department of IT, Government of India
  - Department of Science & Technology, Government of India

- M.K.Hubli Sugar Factory, Belgaum, Karnataka
- Canara Bank
- Monsanto India
- ISRO, Bangalore
- CSIR, Government of India
- Antrix Corporation
- NABARD, Mumbai, India
- Union Bank of India
- Potash & Phosphate Institute of Canada-India Programme
- Institution of Agricultural Technologists, Bangalore, India
- Indian Institute of Technology (IIT), Mumbai, India
- Renuka Sugars, Belgaum, Karnataka
- Doodhaganga Sugar Factory, Chikkodi, Belgaum, Karnataka

## ABOUT BANGALORE

*Garden City... Silicon Valley of India... Fastest growing city in SE Asia... A place to come back home... Mini*

*Subcontinent* Bangalore, located on the southern Deccan Plateau, is the capital of the State of Karnataka. The city, home to over 6 million people, is India's fifth largest. As a thriving business center, focusing on information technology (IT), Bangalore is considered the IT capital of India. Often called the "Silicon Valley of India", Bangalore has a concentration of software technology related activity, which is similar to that of the Silicon Valley in California. Bangalore accounts for 45 % of India's software exporters worth US \$ 5.4 billion. City is also called the 'Biotech City'.

This Garden City has well – laid out parks, gardens, long avenues of blossoming trees and salubrious climate. Founded in 1537 by a local Chieftain Kempe Gowda, Bangalore has changed dramatically over the years.

**Bangalore** is special in every respect –There are numerous 'not-to-be-missed' sights in Bangalore like the magnificent Vidhana Soudha, sprawling Cubbon Park, Colourful Lalbagh etc. Beautiful parks, Avenues, Old and New Buildings, Museums, Theatres, above all the Cultured People – a standing testimony for Secular INDIA.

## Vidhana Soudha

One of the most prominent landmarks of the city, is a magnificent granite structure housing both the Legislative Chambers of the State Government. This building is

standing tribute to the Indian Temple architecture and the Pride of Bangalore.

### Lalbagh

The exotic garden, laid out by Hyder Ali in 1760, spanning an area of 240 acres in the heart of Bangalore, is amongst India's most beautiful botanical parks. This holds the key to major contribution in maintaining the City's healthy environment for generations.

### Palace of Tipu Sultan

Palace of the "**Tiger of Mysore**" **TIPU SULTAN** is one of the most remarkable Islamic buildings in the city, this two storeyed ornate wooden palace has been converted into a museum and is a mine of information about the glorious period of Hyder Ali and Tipu Sultan.

### Bull Temple

The Bull Temple is famous for the myth it carries and an awesome monolithic deity of Nandi, the celestial bull, carved out in the typical Dravidian style of architecture. The sheer size of the monumental structure measuring 4.57 metres in height and 6.10 metres in length, is breathtakingly real.

### Museum

Museum is a tribute to the person who saw and appreciated the creativity in nature, **Sir M. Vishveshwaraiah**, one of the architects of modern India. It contains diverse information on the contribution of science and technology to human welfare and industrial development.

### Ulsoor Lake

This lake being one of the eight lakes built by **Kempe Gowda** around then Bangalore is spread over an area of 1.5 sq.km. Dotted with picturesque tiny islands, it provides a welcome break from busy sightseeing and shopping. One can take boat rides or just watch the cool ripples of the exotic lake.

## ABOUT AFITA

The Asian Federation for Information Technology in Agriculture (AFITA) was formed on January 24, 1998 in Wakayama city, Japan. AFITA is an autonomous, non-political, non-governmental, non-profit making Association.

### The members of AFITA are

- Japanese Society of Agricultural Informatics.
- Korean Society for Agricultural Information.
- Chinese Society of Agricultural Information.
- Thai Agricultural Information Network.
- Indian Society of Agricultural Information Technology (INSAIT).
- Indonesian Society for Agricultural Information.

### The Institutional associate members are

- Malaysia Agriculture Research and Development Institute.
- Philippine Council for Agriculture, Forestry and Natural Resources Research and Development.
- Informatics Centre for Agriculture and Rural Development, Vietnam.
- Agriculture land use and GIS, Timor-Leste

There are also individual associate members from Bangladesh, Mongolia, Pakistan, Lao PDR, and Bhutan.

The first AFITA conference was held in Japan, in 1998. The second, third and fourth AFITA conferences were held in Korea, China and Thailand during the years 2000, 2002 and 2004, respectively.

## Organizing Committees

## Programme Schedule

For more details about the programme schedule of AFITA2006 please click over the following webpage link ;

### Programme Schedule of AFITA 2006

1

## **AFITA-2006**

**FIFTH INTERNATIONAL CONFERENCE OF THE ASIAN FEDERATION FOR INFORMATION TECHNOLOGY IN AGRICULTURE**

**NOVEMBER 9-11, 2006**

**BANGALORE, INDIA**

### ***PROGRAMME SCHEDULE***

**DAY-1 Thursday, November 9, 2006**

**Venue: JN TATA Auditorium**

08:00-10:00 **Breakfast**

10:00-11:30 **Registration and Poster mounting**

11:30-13:00 **Inaugural Programme**

13:00-14:00 **Lunch**

**Theme I: WTO, rural economies and ICT policies for rural development**

**Venue: JN TATA Auditorium (14:00 – 17:30)**

14:00-14:30 Strategic Selection for Rural Informationalization in China towards the years 2010/2020.

Fangquan Mei (CHINA)

14:30-15:00 Farmers' Information Requirements in the Age of Mobile Computing.

Bhushan, Brij (INDIA)

15:00-15:30 Information and Communication Technologies for linking Agricultural Research,

Extension and Education institutions.

Rama Rao, D., Sandhya Shenoy, N. and Murthy, G.R.K (INDIA)

15:30-16:00 **Tea Break and Poster Viewing**

16:00-16:30 Distributed Collaboration Model for Rural Development Planning.

Adinarayana, J., Tewari, G., Sami, A. and Sudharsan, D. (INDIA)

16:30-17:00 ICT Innovations in Realistic Form and Applications in Developmental Agriculture:

Reconciliatory Views on India's Potential for Building a Digital Ecosystem for Knowledge Diffusion in Rural India.

Dipankar Saha, Javid Iqbal Mir and Naik, R.K. (INDIA)

17:00-17:30 Building A Learning Agro-Food System For Rural Development In Small Farming

Countries.

Peng, Tso-Kwei and You-li Hseih (TAIWAN)

*(Theme I to be continued next day.....)*

2

**DAY-1 Theme II: Education, extension and library services**

**Venue: Seminar Hall A (14:00 – 17:30)**

14:00-14:30 Construction and Operation of Knowledge Management System in Agricultural Research Institutions.

Li Sijing (CHINA)

14:30-15:00 e-Sagu: An IT-Based Personalized Agricultural Extension System-A Prototype Experience.

Reddy, K.P., and G.V. Ramaraju (INDIA)

15:00-15:30 Indian National Digital Library for Agriculture (INDLA): A proposal for e-resources sharing.

Jain, S.P. and Gorla, S. (INDIA)

15:30-16:00 **Tea Break and Poster Viewing**

16:00-16:30 Development and Testing of Computer Assisted Instructional Modules in Agricultural Extension Education.

Ganesamoorthi, S., Narayana Gowda, K. and Gangadharappa, N.R. (INDIA)

16:30-17:00 Towards Community Information Administration Using Digital Systems  
Narintorn Boonbrahm and Chaliaw Boonman (THAILAND)

17:00-17:30 The Study On The Chinese - Korean Translation Modernization and The Construction on Digital Database of The Korean Agricultural Old Books.

Lee, Kilseob and Sung Seung-Hee (KOREA)

*(Theme II to be continued next day)*

17.30-18.30 **INSAIT General Body meeting**

**Theme III: Remote Sensing and GIS applications for agriculture and precision farming**

**Venue: Seminar Hall B (14:00 – 18:30)**

14:00-14:30 GIS, Time Management and Expert Database as Part of an Integrated Agro-Software Solution.

Mayer, Walter DI (AUSTRIA)

14:30-15:00 Measurement and analysis of digital divide using the GIS tool.

Nakamura, Norihiro (JAPAN)

15:00-15:30 Geo-Spatial Resource Database for Carrying Capacity Based Resource Planning –

Remote sensing and GIS Approach.

G.P. Obi Reddy, A.K. Maji, Jagdish Prasad, V. Ramamurthy and I.K. Ramteke (INDIA)

15:30-16:00 **Tea Break and Poster viewing**

16:00-16:30 Monitoring Crop Acreage in Shorapur taluk of Upper Krishna Command using

Remote Sensing techniques

G.S. Dasog, Tejaswini, N.B., V.B.Kuligod, I. Rashmi and H.M.Pradeep (INDIA)

16:30-17:00 Crop Acreage and Production Estimation of Chilli (*Capsicum annum L.*) through

Remote Sensing in Northern Karnataka.

S.S.N. Malleshwari, V.C.Patil and C.P. Chandrashekhar (INDIA)

3

**DAY-1**

17:00-17:30 Application of remote sensing and geographic information system in conceptual

planning for drainage line treatment and water harvest structures in Bagalkot district

of Karnataka State.

B.P Lakshmi Kanth, H. Honnegowda, A.K. Rangaswamappa, A. Ashoka Reddy and G.Venkatesh (INDIA)

17:30-18:00 Soil Suitability Evaluation for Rice and Performance of Rice Genotypes on Suitable

Land units in Coastal Agro Eco system of Karnataka, India

G. S. Dasog, P. L. Patil, V. Mini, B. L. Harikrishna, and K.M.Anegundi (INDIA)

18:00-18:30 Role of remote sensing and geographical information system in Prioritization for soil

conservation and agricultural point of view of Dikrong River Basin (India)

Baby Tabassum (INDIA)

*(Theme III to be continued next day)*

**Theme IV: Decision support systems for biotic and abiotic stresses**

**Venue: Seminar Hall C (14:00 – 18:00)**

14:00-14:30 A Navigation System for Appropriate pesticide use: System development and

application in Japan.

Teruaki Nanseki and Koji Sugahara (JAPAN)

14:30-15:00 Design and Development of a Rice Combine Harvester Instrumentation System for

Crop Yield and Field Performance Mapping

Yap Yoke Kin , Azmi Yahya, S.S. Jamuar, Rashidah Ruslan, Laili Nordin and Mariamni Halid (MALAYSIA)

15:00-15:30 Designing of Linux based Groundnut Germplasm Resource Information System

(GRIS) using Java technology.

Samanth Kumar, V.V, D. Shanthi Sophia and K. Rajgopal (INDIA)

15:30-16:00 **Tea Break and Poster viewing**

16:00-16:30 Philippine rice production efficiency: A stochastic frontier approach.

Nino T. Pate and Tina Tan-cruz (PHILIPPINES)

16:30-17:00 A fuzzy and abductive framework for clinical problem - solving tasks of treatment in agriculture.

Silvia Massruha, Sandra Sandri, Jacques Wainer and Marcelo A.B.Morandi (BRAZIL)

17:00-17:30 Decision support to farmers on heterogeneous farming aspects through IT environment.

Yuriy Chaplinsky, Olena Subbotina, Ram Bahal and Monika Wason (UKRAINE)

17:30-18:00 Perceptions of stakeholders on the applicability of Information technology enabled

poultry expert system - A comparative analysis.

Thammi Raju, D, B. Sudhakar Rao, S.T.Viroji Rao and M. Srinivasa Reddy (INDIA)

19:00 -21:00 **Dinner**

4

**DAY-2: Friday, November 10, 2006**

8:00-9:00 **Breakfast**

**Theme I (Continued...) : WTO, rural economies and ICT policies for rural development**

**Venue: JN TATA Auditorium (9:00 -10:30)**

9:00-9:30 Priorities for Agricultural Research, Development and ICT Adoption Remain a Challenge.

Gelb, E. (ISRAEL)

9:30-10:00 Computer Application of a Community Database System for Livelihood Enhancement in Rural Areas.

Boonman Chaliaw (THAILAND)

10:00-10:30 Use of ICT for supply Chain management of Fertilizers.

Hasan, I. and Sharma, Y.D (INDIA)

10:30-11:00 **Tea Break and Poster viewing**

**Theme VIII: Use of ICT in natural resource management**

**Venue: JN TATA Auditorium (11:00-15:30)**

11:00-11:30 Inexpensive field Monitoring system with Field server.

Hirozumi, T., Mishima, R. I, T , Nakanishi, K., Hashimoto, A. and T. Kameoka (JAPAN)

11:30-12:00 Impact of e-Sagu (I T Based Personalized Agro-advisory System) in Reducing Cost

of Cultivation of Cotton Crop – A Case Study.

Gopala Swamy, S. V. S., Reddy, S.S.Y., Reddy, G.S.S and Reddy, P.K (INDIA)

12:00-12:30 AgProtect - An Information Technology based Information Dissemination System for

Crop Protection.

Batra, K.H., Chandrasekaran, S. K., Bandyopadhyay, Pillai, M. S., Kapur,S., Singh,C., Gandhi, S., Gupta, S. and Goel, R. (INDIA)

12:30-13:00 Information Technology Tools in Rubber Cultivation.

Nageswara Rao, D.V.K., Nair, P.V., Edwin Prem and Nazeer, M. A. (INDIA)

13:00-14:00 **Lunch Break**

14:00-14:30 Computer Based Water Allocation to Water Users Associations- A Model for Water

Management Officials.

Shirahatti, S.S., Ayyanagowdar, M. S. and Polisgowdar, B.S. (INDIA)

14:30-15:00 Reaching Millions of Farmers through Adoption of Hybrid Systems

Approach of

Information Technology at Farmers Call Centres.

Narayana Swamy, S. (INDIA)

15:00-15:30 Intelligent techniques and Modern analytical tool coupling in standardization of

traditional system of medicine.

Jayaram Kumar, K. (INDIA)

15:30-16:00 **Tea Break and Photo**

5

**DAY-2:**

**Theme VII: Weather prediction models for profitable agricultural production**

**Venue: JN TATA Auditorium (16:00-17:00)**

16:00-16:30 Meteorological drought classification using Normalized Difference Vegetation Index.

Baimoung, S., Waranuchit, W., Prakanrat, P., Amatayakul, N., Sukhanthamat, Yuttaphan, Pyomjamsri, A. and Panprom, M. (THAILAND)

16:30-17:00 Rainfall modeling under climatic conditions of Bhilwara: A case study.

Chhajed, N., Prasad, M., Sharma, A. and Bhakar, S.R. (INDIA)

**Theme II (continued...): Education, extension and library services**

**Seminar Hall A (9:00-10:30)**

9:00-9:30 Transfer of Agricultural Information through Communication Super Highway.

Bahal, R. (INDIA)

9:30-10:00 Application of Information Technology for Effective Transfer of Farm Technology –  
A Study of Ryot Sampark Kendras (Rsks) in Northern Karnataka  
R. S. Poddar, D. P. Biradar, S. S. Patil, Vijaya Hosamani and Mallikarjun Hasanabadi  
10:00-10:30 Interactive Multimedia Compact Disc: An Innovative Approach to Disseminate Farm Technology to Farm Women.  
Anandaraja, N., Rathakrishnan T., Durai Singh R. and M. Ramasubramanian (INDIA)

10:30-11:00 **Tea Break and Poster viewing**

**Theme IX: Sensors, grid, web and communication systems**

**Seminar Hall A (11:00-17:00)**

11:00-11:30 A web-based expert system for diagnosis of nutritional deficiencies in Sugarcane.

Silvia Maria, Renato s de Deus, Adriana Delfino dos Santos, Fabio da Silva and Sergio A. Braga Cruz (BRAZIL)

11:30-12:00 Web-based Soybean Disease Diagnosis and Management System.  
Savita Kolhe and Gupta, G. K. (INDIA)

12:00-12:30 An in-depth look at the Rich Internet Applications Frameworks  
Petraq Papajorgi and Ninomia, S. (USA)

12:30-13:00 Classification of Soybean seeds by Color Image Analysis.  
Kotabagi, S., Desai, B.L., Linganagouda, K., Patil V.C., Shashidhar, K.C., Gupta, S., Patil, S., Kulkarni, Asha,, . and Hukkeri, Z.(INDIA)

13:00-14:00 **Lunch Break**

14:00-14:30 Non-destructive detection of Grains Damaged by stinkbugs using Image Processing

Kubota and Nakano (Japan)

14:30-15:00 Agent System for providing seamless Management to web-based Monitoring System.

Fukatsu, T., Hirafuji, M. and Kiura, T. (JAPAN)

6

## **DAY 2**

15:00-15:30 Developing a Virtual Test Environment for Scalability of Field Servers.  
Takuji Kiura, Tokihiro Fukatsu and Masayuki Hirafuji (JAPAN)

15:30-16:00 **Tea Break and Photo Theme**

16:00-16:30 An Educational Resource for Grid Computing Based Hydraulic Simulation.  
Sepúlveda Bustos, E.S., Zazueta, F.S. and Bucklin R.A. (USA)

16:30-17:00 The Utility Web Applications for MetBroker.  
Kei Tanaka (JAPAN)

17:00-17:30 Using UML to Model Web-Based Applications: A Case Study of Routing System

Petraq Papajorgji

**Theme III (continued...): RS and GIS applications for agriculture and precision farming**

**Venue: Seminar Hall B (9:00-10:30)**

9:00-9:30 Watershed Management through Remote Sensing and GIS Technologies  
U.K.Shanwad, V.C.Patil, H.Honne Gowda and K.Ashok Reddy (INDIA)

9:30-10:00 Application of GIS (Geography Information System) in Land Suitability Assessment

and Application Extent of Promising Rice Varieties: A Case Study in Soc Trang Province, Vietnam.

Vo Quang Minh, Le viet Dung, Huynh Ngoc Dan and Singh, V.P (VIETNAM)  
10:00-10:30 Assessment of Changes in Soil Fertility Status over Seasons by GIS  
Technique in  
Coastal Agro- Ecosystem of Karnataka, India  
G.S.Dasog, P.L.Patil, V.mini, Dhanya Mathews.,B.L.Harikrishna K.M.Anegundi and  
N.B.Tejaswini (INDIA)  
10:30-11:00 **Tea Break and Poster viewing**  
**Theme V: Agricultural resources data banks and data mining**  
**Venue: Seminar Hall B (11:00-15:00)**  
11:00-11:30 National Agricultural Research Database of India: Current status and future  
vision  
Hans Raj, Vijender Singh and Mitali Ghosh Roy (INDIA)  
11:30-12:00 Research and Development of Business Analysis and Planning System  
using Textmining-  
system for Farmers.  
Seiichi Takigishi and Takami Machida (JAPAN)  
12:00-12:30 Collecting data from field server via an internet satellite simulator.  
Kiura, T., Fukatsu, T., Hirafuji, M. and Ninomiya, S. (JAPAN)  
12:30-13:00 Field Monitoring System Development and Applications in Taiwan Poultry  
and  
livestock Management  
Y-N Wan, S-J Chou, C-C Chen, S-M Yu (TAIWAN)  
13:00-14:00 **Lunch Break**

7

14:00-14:30 Construction of data resources and design and application of search system  
in  
Chinese Feed Network Database.  
Xiong Ben-hai, Pang Zhi-hong and Luo Qing-yao (CHINA)

## **DAY 2**

14:30-15:00 Construction of Network database on animal genetic resources in China.  
LUO Qing-yao, XIONG Ben-hai, MA Yue-hui, PANG Zhi-hong (CHINA)

## **Theme X: Precision Nutrient Management Systems**

### **Venue: Seminar Hall B (15:00-18:30)**

15:00-15:30 FIRM: Nutrient Management Decision Support System for Appropriate use  
of

Fertilizers and Amendments in Agriculture.

Nagendra Rao, T. (INDIA)

16:00-16:30 A Nutrient decision support system (NuDSS) software for irrigated rice.

Witt, C, Fairhurst, TH., Sheehy, JE., Dobermann, A., Gfroerer-Kerstan, A. and  
Pasuquin, J.N. (PHILIPPINES)

16:30-17:00 Precision Nutrient Management – Mosaic Perspective

Surender S. Roperia, Dan Froehlich and Joe Hauwiller (INDIA)

17:00-17:30 Soil Health Sustenance Tools to Ensure Balanced Fertilization -DSSIFER  
and Soil

Health Card

Thiyageshwari, R. Natesan, P. Murugesu Boopathi, C. Paulraj and S. Natarajan  
(INDIA)

17:30-18:00 Spatial Variability in Soil Physico-chemical Properties and Nutrient Status in  
an

Intensively Cultivated Village of West Bengal

P. Sen and K. Majumdar (INDIA)

18:00-18:30 A Decision Support System for Nutrient Management in Rice (NRSR) By V. Ganesan (INDIA)  
18:30-20:00 **Cultural Programme**  
*(Venue: Auditorium, Karnataka Veterinary, Animal Husbandry and Fisheries University, Hebbal Campus, Bangalore – 560 024)*  
20:30-22:00 Dinner

8

**DAY 3 Saturday, November 11, 2006**

**Theme VI: E-agribusiness, traceability and virtual agri-markets**

**Venue: Seminar JN TATA Auditorium (09:00-10:30)**

09:00-09:30 Approach for Realising Tracking and Tracing Schemes - Principles and Initiatives.

Gerhard Schiefer (GERMANY)

9:30-10:00 Effective distribution traceability system for Agricultural products based on RFID

technology.

Koji Sugahara, Kazunori Sato, and Yoshinobu Kono (JAPAN)

10:00-10:30 Value of Food Safety Information

Ching-kai Hsiao and Chi-Cheng Chen (TAIWAN)

*(Theme VI to be continued after Valedictory function)*

**10:30-11:00 Tea Break**

**11:00-12:00 Valedictory Function (Tentative)**

**Theme VI (continued...): E-agribusiness, traceability and virtual agri-markets**

**Venue: Seminar JN TATA Auditorium (12:00-13:00)**

12:00-12:30 Traceability systems for Agri-products in Korea.

Cheol – Hi Lee (KOREA)

12:30-13:00 The First agro-tourism and Ag-business service network in Taiwan-EZ call.

Min Chung Yang, Shu-Huei Chen, Chao-Feng Chu, Mi-Jr Ying, Shih-Ying Huang (TAIWAN)

**13:00-14:00 Lunch Break**

**14:00-15:00 Plenary Theme**

**15:00-16:00 Panel discussion**

**16:00-16:30 AFITA General Assembly**

**16:00-17:00 Tea**

9

**DAY 2 Friday, November 10, 2006**

**AOS WORKSHOP**

**Session I: Welcome speech and Introduction**

**Seminar Hall C (9:00-10:00)**

9:00-9:30 The Agricultural Ontology Service and its vision

Johannes Keizer, Food and Agricultural Organization (FAO, Italy)

9:30-10:00 Introduction of participants

**Session II: Knowledge acquisition methods**

**Seminar Hall C (10:00-12:30)**

10:00-10:30 Rough Set based Decision Tree for Identifying Vulnerable and Food Insecure

Households

Rajni Jain, NCAP, Pusa, New Delhi (India)

10:30-11:00 **Tea Break and Poster viewing**

11:00-11:30 Organizing and Implementing on the Thesauri Mapping Project

Chang Chun, Agricultural Information Institute, Chinese Academy of Agricultural Sciences (CAAS, China)

11:30-12:00 The OWL model for comprehensive knowledge acquisition

Johannes Keizer, Food and Agriculture Organization (FAO, Italy)

12:00-12:30 Ontology development and use for efficient information input and retrieval

Augustine, Monsanto Research Center, Bangalore, India; & Monsanto, Creve Coeur, St. Louis, USA.

12:30- 13:00 **Photo**

13:00-14:00 **Lunch**

**Session III: Ontology applications**

**Seminar Hall C (14:00-18:00)**

14:00-14:30 Ontology-Based Agricultural Scientific Data Integration in OGSA-DAI Environment

Man Guo, China Academy of Agriculture Science

14:30-15:00 Incorporating ARGOVOC in DSpace-based Agricultural Repositories

Devika P. Madalli, Documentation and Research Training Centre of Indian Statistical

15:00-15:30 Dynamic Integrations of Crop Data and Corresponding Meteorological Data based on

a Standardised Data Exchange Framework.

Seishi Ninomiya, Atsushi Yamakawa and Xinwen Yu (JAPAN)

10

15:30-16:00 **Tea Break and Poster viewing**

**DAY 2 AOS Workshop** continued.....

16:00-16:30 OntoViz: Visualizing Ontologies and Thesauri Using Layout Algorithms

Prabhakar T.V, Indian Institute of Technology Kanpur (India)

16:30-17:00 Networked Ontology Project for Fisheries Alert System

Gauri Salokhe, Food and Agriculture Organization (FAO, Italy)

17:00-17:30 Designing the Team-oriented Ontology Management System with Ajax Technology

Ze Li The Institute of Sci-Tech Information, Guangdong Academy of Agricultural Sciences (GDAAS-IST), China

17:30-18:00 Heuristic Approach for Automatic Metadata Capture of E-books

ARD Prasad, Documentation and Research Training Centre of Indian Statistical Institute

18:30-20:00 **Cultural Programme**

**(Venue: Auditorium, Karnataka Veterinary, Animal Husbandry and Fisheries University, Hebbal**

**Campus, Bangalore – 560 024)**

20:30-22:00 **Dinner**

11

**DAY 3 Saturday, November 11, 2006**

**Session IV: The AOS workbench and further collaboration**

**Venue: Seminar Hall C (09:00-10:30)**

9:00-9:30 Examples of FAO ontology applications

Gauri Salokhe, Food and Agriculture Organization (FAO, Italy)

9:30-10:00 AOS Workbench

Gauri Salokhe, Food and Agriculture Organization (FAO, Italy)

10:00-10:30 Discussion on further development of AOS workbench and Collaboration possibilities

Johannes Keizer, Food and Agriculture Organization (FAO, Italy)

**10:30-11:00 Tea Break**

**11:00-12:00 Valedictory Function**

09:00-10:30 **WORKSHOP on Modeling Agricultural Systems Using an MDA Approach**

**& Venue: Seminar Hall A (09:00-11:00)**

12:00-13:00

Organised by: Institute of Food and Agricultural Sciences, University of Florida USA, Cemagref, France; NARC, National Agriculture and Food Research Organization, Japan.

The goal of this workshop is to present to agricultural audiences a new and promising modeling approach. Attendees will be provided with materials and open source software to continue the study of this approach at their leisure and are advised to bring their own laptops.

9:00-10:30 **WORKSHOP by IAALD (International Association of Agricultural Information**

**& Specialists) Venue: Seminar Hall B (09:00-11:00)**

12:00-13:00

**13:00-14:00 Lunch Break**

**14:00-15:00 Plenary Theme**

**15:00-16:00 Panel discussion**

**16:00-16:30 AFITA General Assembly**

**16:00-17:00 Tea**

## **CONTACT ADDRESS**

Dr. V.C.Patil

Organising Secretary, AFITA 2006

President, INSAIT and

Professor and Head, Department of Agronomy,

University of Agricultural Sciences,

Dharwad-580 005, Karnataka, INDIA.

Tel: 0091-836-2440366

Fax: 0091-836-2440366

Email:

[afita2006@yahoo.com](mailto:afita2006@yahoo.com)

[vcpatiluasd@yahoo.com](mailto:vcpatiluasd@yahoo.com)

[shashidhar.kumbar@gmail.com](mailto:shashidhar.kumbar@gmail.com)

Website: <http://www.insait.org>

SEVENTH AGRICULTURAL ONTOLOGY SERVICE (AOS) WORKSHOP ON  
**ONTOLOGY-BASED KNOWLEDGE DISCOVERY: USING METADATA AND  
ONTOLOGIES FOR IMPROVING ACCESS TO AGRICULTURAL INFORMATION**

IN COLLABORATION WITH THE FIFTH CONFERENCE OF THE ASIAN FEDERATION  
FOR INFORMATION TECHNOLOGY IN AGRICULTURAL (AFITA - 2006)

**BANGALORE, INDIA  
9-10 NOVEMBER 2006**

## INTRODUCTION

The goal of the Seventh AOS workshop is to provide a platform for implementers to demonstrate how ontologies can extract and acquire additional knowledge from **existing agricultural information systems**. It aims to bring together research communities, **with special focus on agriculture**, whose members are interested in efficiently capturing knowledge and in creating representations and formalizations that can be useful for reasoning and knowledge discovery.

*The topics of interest include (but are not limited to):*

- Automatic and semi-automatic metadata generation
- Decision-support tools
- Knowledge acquisition methods
- Knowledge elicitation techniques
- Knowledge extraction techniques
- Knowledge representation techniques (in ontologies)
- Metadata and accurate knowledge mark-up
- Ontology application
- Ontology learning
- Ontology life cycle
- Ontology modelling
- Question-answering systems
- Rules in ontologies

## INTRODUCTION

### Background

The benefits of ontologies can only be fully exploited if they are used efficiently within information systems for extraction or discovery of 'embedded' knowledge. In today's exponentially growing information world, there is a mounting need to extract the most important information in the shortest possible time. It has become vital to have systems that are able to provide the most relevant results, while sieving through mushrooming information systems, websites, publications, forums, blogs etc. Although cataloguing and indexing resources are important steps, it is becoming increasingly difficult to accomplish these tasks due to the lack of skilled personnel, the cost of cataloguing and the rapid growth of the available information resources.

Considerable work has been done to date in the area of knowledge capture through the use of subject and process ontologies in **the agricultural domain**. The AOS project covers, under its name, ontologies on Food and Nutrition, Food Safety, Animal and Plant Health, Fisheries, etc., each of which captures knowledge in a specific domain area of agriculture. The complete multilingual AGROVOC Thesaurus, in the process of being made available in the form of an ontology, is rich with translations, synonyms and relations. All of these ontologies have been used in information systems to provide improved access to information. However, much of this can be further enhanced through the efficient use of ontologies for extracting the unknown and hidden pieces of knowledge, not only for providing efficient search results to the users but also for iteratively improving the ontology itself. We can achieve this only through the explicit formalization of domain knowledge through its elicitation from experts and by linking the ontologies to actual or instance data.

The activities of the AOS initiative are documented at: <http://www.fao.org/aims>

### **Important dates:**

### **Paper submission:**

All papers should be written in English. Electronic version (MS Word) of the paper should be uploaded via: <http://caitian.cn:7001/lianong/en/send.jsp>

### **Publication:**

Accepted papers will be published within the AFITA 2006 conference proceedings. At least one author of an accepted paper must register for the AFITA 2006 conference before the deadline for camera-ready copies of the papers (26 June 2006). Otherwise the paper will not be published.

### **Workshop programme committee:**

- ◇ Howard Beck, University of Florida, USA
- ◇ Jayantha Chaterjee, Indian Institute of Technology Kanpur, India
- ◇ Johannes Keizer, Food and Agriculture Organization of the United Nations, Italy
- ◇ Gauri Salokhe, Food and Agriculture Organization of the United Nations, Italy
- ◇ Dagobert Soergel, University of Maryland, USA
- ◇ Zhong Wang, Guangdong Academy of Agricultural Sciences, China

### **PROGRAMME SCHEDULE**

**DAY-1**                      **Date:**    **Thursday, November 9, 2006 (see AFITA 2006 programme)**

**Venue: Indian Institute of Science *Hall A***

**DAY-2**

**Date: Friday, November 10, 2006**

**Venue: Indian Institute of Science**

8:00-9:00

Breakfast

**Session I: Welcome speech and Introductions**

9:00-9:30

The Agricultural Ontology Service and its vision  
Johannes Keizer, Food and Agricultural Organization (FAO, Italy)

9:30-10:00

Introduction of participants

**Session II: Knowledge acquisition methods**

10:00-10:30

Rough Set based Decision Tree for Identifying Vulnerable and Food Insecure Households  
Rajni Jain, NCAP, Pusa, New Delhi (India)

10:30-11:00

**Tea Break and Poster viewing**

11:00-11:30

Organizing and Implementing on the Thesauri Mapping Project  
- Chang Chun, Agricultural Information Institute, Chinese Academy of Agricultural Sciences (CAAS, China)

**Session III: Knowledge acquisition methods (*continued*)**

11:30-12:00

The OWL model for comprehensive knowledge acquisition  
Johannes Keizer, Food and Agriculture Organization (FAO, Italy)

12:00-12:30

Ontology development and use for efficient information input and retrieval  
Augustine, Monsanto Research Center, Bangalore, India; & Monsanto, Creve Coeur, St. Louis, USA.

13:00-14:00

**Lunch and Photo session**

**Session IV: Ontology Applications**

14:00-14:30

Ontology-Based Agricultural Scientific Data Integration in OGSA-DAI Environment  
- Man Guo, China Academy of Agriculture Science

14:30-15:00

Incorporating ARGOVOC in DSpace-based Agricultural Repositories  
Devika P. Madalli, Documentation and Research Training Centre of Indian Statistical

15:00-15:30

Dynamic Integrations of Crop Data and Corresponding Meteorological Data based on a Standardised Data Exchange Framework.  
Seishi Ninomiya, Atsushi Yamakawa and Xinwen Yu (JAPAN)

15:30-16:00

**Tea Break and Poster viewing**

16:00-16:30

OntoViz: Visualizing Ontologies and Thesauri Using Layout Algorithms  
- Prabhakar T.V, Indian Institute of Technology Kanpur (India)

16:30-17:00

Networked Ontology Project for Fisheries Alert System

- Gauri Salokhe, Food and Agriculture Organization (FAO, Italy)
- 17:00-17:30 Designing the Team-oriented Ontology Management System with Ajax Technology
  - Ze Li The Institute of Sci-Tech Information, Guangdong Academy of Agricultural Sciences (GDAAS-IST), China
- 17:30-18:00 Heuristic Approach for Automatic Metadata Capture of E-books
  - ARD Prasad, Documentation and Research Training Centre of Indian Statistical Institute
- 20:00-21:30 **Dinner**

**Day-3**                    **Date: Saturday, November 11, 2006 (see AFITA 2006 programme)**  
**Venue: Indian Institute of Science Hall A**

- 8:00-9:00 Breakfast
- Session I: The AOS workbench and further collaboration**
- 9:00-9:30 Examples of FAO ontology applications
  - Gauri Salokhe, Food and Agriculture Organization (FAO, Italy)
- 9:30-10:00 AOS Workbench
  - Gauri Salokhe, Food and Agriculture Organization (FAO, Italy)
- 10:00-10:30 Discussion on further development of AOS workbench and Collaboration possibilities
  - Johannes Keizer, Food and Agriculture Organization (FAO, Italy)
- 10:30-11:00 **Tea Break**

## **Workshop on Modeling Agricultural Systems Using an MDA Approach**

IN COLLABORATION WITH THE FIFTH CONFERENCE OF THE ASIAN FEDERATION  
 FOR INFORMATION TECHNOLOGY IN AGRICULTURAL (AFITA - 2006)

**BANGALORE, INDIA**  
**10-11 NOVEMBER 2006**

### **An Introduction to Précised Modeling of Agricultural Systems**

IFAS, University of Florida USA, Cemagref, France and NARC, Japan are organizing a workshop titled "Modeling Agricultural Systems Using an MDA Approach". The goal of this workshop is to present to Agricultural audiences a new and promising modeling approach.

Hands on will be provided therefore attendees are advised to bring their own laptops. Attendees will be provided with materials and open source software to continue the study of this approach at their leisure. The workshop will contain:

A short introduction to basic Object-Oriented concepts and their UML notations.

- **Basic principles of the Object-Oriented paradigm**
  - ◆ Abstraction
  - ◆ Encapsulation
  - ◆ Polymorphism
  - ◆ Modularity
  - ◆ Hierarchy
  
- **Basic concepts of the object-oriented paradigm and the corresponding UML notations**
  - ◆ Class
  - ◆ Object
  - ◆ Attributes
  - ◆ Operations
  - ◆ Interface
  - ◆ Component
  - ◆ Package
  - ◆ Subsystem
  - ◆ Relationship
  
- **UML diagrams**
  - ◆ The use case diagram
  - ◆ The class diagram
  - ◆ Collaboration diagram
  - ◆ State diagram
  
- **UML model of a simple system - the online registration system**
  - ◆ The use case model
  - ◆ Class diagrams
  - ◆ Collaboration diagrams
  - ◆ Software developed in Java
  
- **Using UML profiles to model spatial systems in agriculture**
  - ◆ Adapting UML to spatial systems
  - ◆ Modeling of spatial objects in an agricultural system for
    - sewage sludge spreading management in France
  
- **The Object Constraint Language (OCL)**
  - ◆ Precise definition of environmental rules with OCL
  - ◆ Checking automatically if a dataset complies with
    - Environmental rules.
  - ◆ Survey of the different open source tools
    - Supporting OCL

- **A short introduction to The Model Driven Architecture Approach (MDA)**

- ◆ The role of MDA in the software industry
- ◆ MDA a model-centric approach
- ◆ Platform Independent Models (PIM)
- ◆ Platform Specific Models (PSM)
- ◆ Automatic code generation
- ◆ Simple example of system construction in MDA

Ample examples from the domain of Agriculture are provided. The same set of examples will be used to illustrate presented concepts. A small project will be constructed representing a summary of all concepts introduced during the workshop.

### Workshop Plan

#### Title:

Modeling Agricultural Systems Using an MDA Approach

#### Organizers:

Institute of Food and Agricultural Sciences, University of Florida USA,  
Cemagref, France

NARC, National Agriculture and Food Research Organization, Japan

The **goal** of this workshop is to present to agricultural audiences a new and promising modeling approach. Attendees will be provided with materials and open source software to continue the study of this approach at their leisure and are advised to bring their own laptops.

#### The workshop will contain:

- ◆ A short introduction to Object-Oriented Paradigm
- ◆ Basic principles of the Object-Oriented Paradigm
- ◆ Basic concepts of the Object-Oriented Paradigm
- ◆ A short introduction to Unified Modeling Language (UML)
  - \* Representation in UML of Object-Oriented concepts
  - \* Relationships
  - \* Basic UML diagrams

- ◆ A short introduction to Object Constraint Language (OCL)
  - \* OCL basics
  - \* Overview of OCL constructs
  - \* Modeling with constraints
  
- ◆ Basic principles of the Modeling Driven Architecture (MDA)
  - \* Platform independent models
  - \* Platform specific models
  - \* Automatic code generation

Ample examples from the domain of Agriculture are provided. The same set of examples will be used to illustrate presented concepts. A small project will be constructed representing a summary of all concepts introduced during the workshop.

### RELATED LINKS

Indian Society of Agricultural Information Technology  
<http://www.insait.org>

### PRE AND POST CONFERENCE TOURS

For more details on [PRE AND POST CONFERENCE TOURS](#) facilities from Bangalore please click over this webpage link.

Pre & Post Conference Tours ::

- [Southern Spice Tour \(5 Days\)](#)
- [Temple Tour of India \(5 Days\)](#)
- [Wildlife Tour \(4 Days\)](#)
- [Golden Goa \(Bangalore/Goa/Bangalore\)](#)
- [Cave Tour \(Bangalore/Aurangabad/Mumbai\)](#)
- [Golden Triangle \(Bangalore/Delhi/Agra/Jaipur/Delhi\)](#)

### E Books