

## **Scientist Profile**

**1. Name of the Scientist:** SYED SARFARAZ HASAN

**2. Biodata:**

**(a) Position/designation:** Senior Scientist

**(b) Email:** hasan\_iisr@yahoo.com

**(c) Telephone No. (O):** -

**(d) Date of Birth:** 26<sup>th</sup> December, 1972

**(e) Joining date in ICAR:** 16<sup>th</sup> December, 1997

**(f) Discipline & Specialization:** Computer Application in Agriculture  
Knowledge Based System / Expert System

**(g) Training and advance exposure in the area of work:**

- Agricultural Research Management Training from NAARM, Hyderabad
- Short Course on Remote Sensing and GIS in Spatial Information Management and Mining in  
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- Short Course on Land Use Classification and Remote Sensing in  
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**3. Contribution to the Scientific advancement (5-6 bullets)**

- Developed CaneDES, a web based expert system for disorder diagnosis in sugarcane.
- A framework for development of web based expert system with usability concern has been developed using Agent-Oriented methodology (MAS-CommonKADS), Model-View-Controller architecture and Optimization approaches.
- Developed software for estimation of optimum sample size for evaluation and prediction of cross performance.
- State of art IISR Network and Internet facilities has been established at the institute.
- Developed institute website ([www.iisr.nic.in](http://www.iisr.nic.in)), Intranet, Information KIOSK, etc.
- Web-based application software has been designed and developed for storage and reporting of meteorological data recorded at IISR, Lucknow.

**4. Current area of research**

Knowledge based system, Web technologies

**5. Research project**

- Geographic Information System of sugarcane and sugar in India (Ongoing)
- Development of data mining and presentation tools in sugarcane (Ongoing)
- Development of Decision Support Tools in Sugarcane Cultivation
- Data Warehouse on Sugarcane Production System
- Compilation, Analysis & Documentation of long term weather database in relation to sugarcane crop culture
- Estimation of Optimum Sample Size for evaluation and prediction of cross performance

## **6. Future planning of research**

- Development of Expert System in sugarcane cultivation
- Mobile based Advisory Services for sugarcane farmers
- Data Warehouse and Mining for decision support to sugarcane / sugar industry
- Geographical Information System based analysis of sugarcane and sugar industry in India

## **7. Publications (Best five)**

Hasan S S, Isaac R K (2011). An integrated approach of MAS-CommonKADS, Model View Controller and web application optimization strategies for web-based expert system development. *Expert Systems with Applications (ELSEVIER)* 38 (2011) 417-428

Hasan S S, Solomon S, Baitha A, Singh M R, Sah A K, Kumar R, Shukla S K. (2014). CaneDES: A Web-Based Expert System for Disorder Diagnosis in Sugarcane. *SugarTech (SPRINGER)*. DOI 10.1007/s12355-014-0341-2.

Hasan S S, Isaac R K (2008). ICT based information dissemination system to improve sugarcane crop productivity in India. *Sugarcane International*, Sept/Oct 2008, vol 26, No. 5, pp 22-25

Kumar Sanjeev, Hasan S S, Singh P K, Pandey D K, Singh J (2010). Interpreting the effects of genotype x environment interaction on cane and sugar yields in sugarcane based on the AMMI model. *Indian J. Genet.*, 69(3) 225-231.

Hasan S S, Bajpai P K, Kumar Rajesh, Sah A K, Kumar Sanjeev (2009). Knowledge management in sugarcane cultivation. *Journal of Communication Studies*. Vol XXVI 3, pp 3-11