

Medicinal Plant Metabolic Engineering

Toni Kutchan, Donald Danforth Plant Science Center

Tea Break

Golden Mustard: a biotechnological approach in addressing Vitamin A deficiency

Sanjay Saxena, TERI, New Delhi

Bioprospecting for Novel Compounds of Therapeutical and Agricultural Use

R. S. Satyan, MSSRF, Chennai

Q&A Panel Discussion

October 6, 2006

9.00 - 11.00 am Panel VI: Biotechnology: Looking Toward the Future

Moderator: Prof. M. S. Swaminathan, Chairman, MSSRF

Indian Perspectives of Agri-Biotechnology

Swapan Datta, Kolkata University

Promise and Paradox: The Future of Agricultural Biotechnology

Nina Fedoroff, Pennsylvania State University

Biotechnology and Biodiversity

R. Valaramathi, MSSRF, Chennai

Q&A Panel Discussion

11.00 - 11.30 am Tea

11.30 - 12.30 pm Poster Sessions

12.30 - 1.30 pm Lunch

1.30 - 3.30 pm Student Dialogue: Looking Toward the Future

Moderator: George Atkinson, Science and Technology Adviser, U.S. Department of State

Open Dialogue Discussions
Speaker Panel for Sessions 1 - 3

Tea Break

Open Dialogue Discussions
Speaker Panel for Sessions 4 - 6

3.30 - 4.00 pm Closing Ceremony

Concluding Remarks

Prof. MS Swaminathan, Centre for Research on Sustainable Agricultural and Rural Development

George Atkinson, Science and Technology Adviser, U.S. Department of State

Meeting Adjournment



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Global Dialogues on Emerging Science and Technology
POLICY AND GLOBAL AFFAIRS

GDEST India - U.S. Workshop on Agricultural Biotechnology for the Global Public Good

Co-sponsored by the National Academy of
Agricultural Sciences of India
and the U.S. National Academies

4-6 October 2006
Chennai, India

PROGRAMME

Venue:

Triple Helix Auditorium

Central Leather Research Institute

(Council of Scientific & Industrial Research)

Adyar, Chennai 600 020 India

THE NATIONAL ACADEMIES

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NATIONAL ACADEMY OF
AGRICULTURAL SCIENCES



M.S. Swaminathan Research Foundation

Center for Research on Sustainable Agriculture and Rural Development

October 4, 2006

- 8.30 - 9.30 am Registration of Participants
- 9.30 am Opening Ceremony
- 10.10 - 10.30 am Tea Break
- 10.30 - 12.30 am **Panel I: Mechanisms of Plant Defence: Pathogens and Diseases**
Moderator: Akhilesh Tyagi, Univ. of Delhi, South Campus
Emerging Perspectives on Plant Innate Immune Response
Dinesh Kumar, Yale University
- Analysis of rice blast disease**
Bharat B. Chattoo, M. S. Univ., Baroda
- HC-Pro Suppression of RNA Silencing: Mechanistic Studies**
Vicki Vance, University of South Carolina
- Engineering crops for resistance to biotic stress**
P. Balasubramanian, TNAU, Coimbatore
- Induction of systemic resistance in sugarcane: Elucidation of defence mechanism against red rot by signal molecules**
R. Viswanathan, Sugarcane Breeding Research Institute, Coimbatore
- Q&A Panel Discussion**
(To include all five speakers)
- 12.30 - 1.30 pm Lunch
- 1.30 - 2.30 pm Poster Session
- 2.30 - 5.00 pm **Panel II: Comparative Genomics**
Moderator: Dinesh Kumar, Yale University
- Genes to Genomes: Searching options for Genetic Enhancement of Plants**
Akhilesh Tyagi, Univ. of Delhi, South Campus
- Comparative Analysis and Genome Tool Development in Maize**
Brad Barbazuk, Donald Danforth Plant Science Center

Comparative genomic analysis for Drought and Blast Responsive Genes from QTL regions of rice (*Oryza sativa* L.) and finger millet (*Eleusine coracana*) genotypes
Shailaja Hitalmani, Univ. of Agril Sciences, Bangalore

Molecular Genomics Strategies for Improving Water-Stress Tolerance of Cereals and Legumes in the Semi-Arid Tropics

Dave Hoisington, ICRISAT-Patancheru

Mapping of Yield Enhancing QTLs from wild rice *O. nivara*

K. Kaladhar, Directorate of Rice Research, Hyderabad

Q&A Panel Discussion

5.00 - 6.00 pm Poster Session

6.00 - 8.00 pm Public Media Forum

Moderator: Prof. V. L. Chopra

Dr. Swapan Datta

Prof. B. B. Chattoo

Dr. S. Balaravi

Brad Barbazuk, Donald Danforth Center

Vicki Vance, University of South Carolina

October 5, 2006

9.00 - 11.30 am **Panel III: Abiotic Stress Environments**
Moderator: Prof. Bharat B. Chattoo

Understanding and Improving Plant Abiotic Stress Tolerance

Jian-Kang Zhu, University of California at Riverside

Bioengineering of Crops for Enhanced yields under abiotic stress environment

K.C. Bansal, IARI, New Delhi

Wheels Within Wheels: Systems Approaches to Stress Tolerance Engineering

Hans J. Bohnert, University of Illinois, Urbana-Champaign

Tea Break

Engineering Crops for Problem Soils

Ajay Parida, MSSRE Chennai

Superoxide dismutase and peroxidase enzymes in cytosolic, mitochondrial and chloroplast extracts of water stresses sugarcane

B. Sajitha, Sugarcane Breeding Institute, Coimbatore

Q&A Panel Discussion

11.30 - 12.30pm Poster Session

12.30 - 1.30 pm Lunch

1.30 - 4.00 pm **Panel IV: Bioenergy: Plants and Future Energy Prospects**

Moderator: Nina Fedoroff, Pennsylvania State

University

Biomass as a Sustainable Bioenergy Option

Renu Swarup, Dept. of Biotechnology, Govt. of India

Biomass Conversion to Products via Thermo-Chemical Processes

Michael Roberts, Gas Technology Institute

Production of Hydrogen by algae and bacteria: A short survey

Aditi Pant, NCL, Pune

A Research and Market Pathway to Realize the Potential of Biofuels

Thomas D. Foust, National Renewable Energy Laboratory

Tea Break

Phytoremediation as a tool for reclamation of tannery polluted Soil

V. Saktivel, Bharatidasan University, Trichy

Q&A Panel Discussion

4.00 - 6.30 pm **Panel V: Metabolic Engineering - Biofortification and Pharmacology**

Moderator: Dr. Swapan Datta

Maize Genomics: New Tools and Complexities for Metabolic Engineering

Patrick Schnable, Iowa State University

Genomics Era to Bring Nutritional Security

Asis Datta, Director, NCPGR