

# International Symposium on Renewable Feedstock for Biofuel and Bio-based Products

*-The roles of fiber crops: kenaf, jute, hemp, flax, and allied*

August 11-13, 2010, Austin, Texas, USA

## Opening Session

**Keynote Address - USA Renewable Energy Initiative: The Path Forward, *Chris Cassidy*, National Business Renewable Energy Advisor, USA**

## Track 1—Biobased Products from Plant Fibers

**Keynote Address - Green Biomaterials for Enhanced Sustainability in Biofuel Industries: New Value-added Uses of Lignin as Novel Industrial Products, *Amar K. Mohanty*, Premier's Research Chair in Biomaterials & Transportation, Director, Bioproducts Discovery & Development Centre, University of Guelph, Canada**

**Keynote Address - Application of Natural Fiber (Jute) Products, *Sudripta Roy*, Secretary General, International Jute Study Group, Bangladesh**

## Track 2—Production, Harvesting, and Processing of Kenaf and Allied Fibers

**Keynote Address - Kenaf: Production, Potential, and Promises, *Charles Webber*, Senior Agronomist, USDA, USA**

## Track 3 – International Collaboration

**Keynote Address - The World Needs Genuine Internationalists to Solve Regional and Global Problems: Our Efforts in Shikoku, Japan, *Kazuhiko Sameshima*, Professor Emeritus, Japan Kenaf Association, Japan**

## Track 4 – Fiber Crops as Feedstock for Renewable Energy

**Keynote Address - Generating Bioproducts and Bioenergy from Fibrous Biomass, *Roger Ruan*, Professor, Director, Center for Biorefining, University of Minnesota, USA**

## Track 5 – Environmental Benefits of Using Non-wood Fibers

**Keynote Address - Kenaf and Allied Fibers: Environmental, Social and Economic Opportunities and Challenges, *Thomas Rymysza*, President, Vision Paper, USA**

## Case Study

**Keynote Address - Low Cost and High Yield Kenaf Pulp for Paper Industry: A Case Study of A Kenaf Market Pulp Mill Project in Vietnam, *Eric Xu*, Principal Scientist/Manager, Pilot Plant / R&D Laboratory, Andritz Inc., USA**

## August 10, Tuesday

Arrival of Participants  
1:00pm—5:00pm Registration Open  
Registration Open

## August 11, Wednesday

## Opening Session

Moderator: **Jonathan Chen**, Professor, The University of Texas at Austin, USA

- 08:30—08:40 Welcome - The University of Texas at Austin, *Sheldon Ekland-Olson, Interim Director, School of Human Ecology*
- 08:40—08:50 Welcome and Housekeeping - *CCG International Inc., Frank Liu*
- 08:50—09:00 Opening Remarks—*Sudripta Roy, Secretary General, International Jute Study Group, Bangladesh*
- 09:00—09:10 Opening Remarks—*Liang Meng, Deputy Director, International Development Committee for National Ecological Industry, China*
- 09:10—09:50 Keynote Address—**USA Renewable Energy Initiative: The Path Forward**, *Chris Cassidy, National Business Renewable Energy Advisor, USA*
- 09:50—10:00 Q&A for Keynote Speaker
- 10:00—10:25 Coffee/Tea Break

### **Track 1—Biobased products from Plant Fibers**

Moderator: **Amar K. Mohanty**, Premier's Research Chair in Biomaterials & Transportation, Director, Bioproducts Discovery & Development Centre, University of Guelph, Canada

- 10:25—11:00 Keynote Address—**Green Biomaterials for Enhanced Sustainability in Biofuel Industries: New Value-added Uses of Lignin as Novel Industrial Products**, *Amar K. Mohanty*
- 11:00—11:20 **Utilization of Kenaf (*Hibiscus cannabinus*) and Non-food Fibre Crops in Swaziland for Bio-based and Biofuel Products Development**, *Mike Masarirambi et al., University of Swaziland, Swaziland*
- 11:20—11:40 **Sustainable Bio Fibers: The Next Generation of Building Materials**, *Ronald D. Rutherford et al., The Shemya Group, LLC, USA*
- 11:40—12:00 **Naturally Designed Strong, Tough and Renewable Biocomposites**, *Sunny M. Ogbomo et al., University of North Texas; USDA, Oklahoma, USA*
- 12:00—13:30 Lunch Break
- 13:30—13:50 **Study of Sunnhemp Fiber: Thermal and Mechanical Properties in Comparison with Kenaf, and Jute Fibers**, *Ayou Hao et al., The University of Texas at Austin, USA*
- 13:50—14:10 **Ligno-cellulosic Jute Fibers with Enhanced Tensile Strength and Durability for Potential Manufacture of Geotextiles**, *Prosenjit Saha et al., Indian Institute of Technology, India*
- 14:10—14:30 **From Breeding to Products - Developing New, Sustainable Flax Value Chains**, *Linda Braun and Maria Wellisch, Saskatchewan Flax Development Commission, Natural Resources Canada, Canmet ENERGY, Canada*
- 14:30—14:50 **Strategic Competitiveness of Kenaf Investment in High Value Products & Applications in Malaysia** *Mohd. Shahwahid H.O. et al., Universiti Putra Malaysia, Malaysia*
- 14:50—15:10 Coffee/Tea Break

Moderator: **Billie J. Collier**, Dean, College of Human Sciences, Florida State University

- 15:10—15:45 Keynote Address—**Application of Natural Fiber (Jute) Products**, Sudripta Roy, International Jute Study Group, Bangladesh
- 15:45—16:05 **Bagasse and Bamboo: Functional Sustainability for the Fitness Apparel Industry**, Sara Stewart Stevens, University of Texas at Austin, USA
- 16:05—16:35 **Polymer Nanocomposites with Nanowhiskers Isolated from Coir, Banana, Curaua and Pineapple Fibres**, Alcides Lopes Leao et al., Sao Paulo State University, Brazil; Mahtama Gandhi Universit, India
- 16:35—16:55 **Banana Fibre Based Bonded Fabrics in Automobile Carpeting**, A.W.Kolhatkar et al., Jawaharlal Darda Institute of Engineering & Technology, India
- 16:55—17:05 **Bio-composites of Sesbania Fibers in Polyvinyl Alcohol: Effect of Chemical, Biological, and Enzymatic Retting on Fibers and Its Composites**, Shailesh Vidhate et al., University of North Texas, USA
- 17:05—17:25 **New Approach for Converting Waste Bagasse Into Regenerated Cellulose Fiber**, Wei Jiang et al, The University of Texas at Austin, USA
- 17:25—17:45 **Fibre to Fashion from Ramie-A Promising Fibre for Woven and Knitted Textiles**, Syamal Kumar Dey et al., National Institute of Research on Jute and Allied Fibre Technology, India
- 19:00-21:00 Reception (Salon AB)

## August 12, Thursday

### **Track 2—Production, Harvesting, and Processing of Kenaf and Allied Fibers**

Moderator: **Charles Webber**, Agronomist, USDA, USA

- 08:30—09:05 Keynote Address—**Kenaf: Production, Potential, and Promises**, Charles Webber
- 09:05—09:25 **Sustainable, Large Scale Feedstock Purchasing and Processing of Oilseed Flax**, Joseph Hogue and Maria Wellisch, Schweitzer-Mauduit Canada Inc., Sustainable Conversion of Bioresources, Natural Resources Canada, Canmet ENERGY, Canada
- 09:25—09:45 **Bast Fibre Processing by Van Dommele Engineering**, Steven Amelynck et al., Van Dommele Engineering, Belgium
- 09:45—10:05 **Potential of Sunn Hemp for Southeast USA Cropping Systems**, Philip J. Bauer et al., USDA-ARS, Coastal Plains Soil, Water, and Plant Research Center, USA
- 10:05—10:20 Coffee/Tea break
- 10:20—10:40 **Kenaf (*Hibiscus cannabinus* L.) Varieties**, Charles L. Webber III et al., USDA, ARS, SCARL, International Kenaf Association, USA
- 10:40—11:00 **Using Regression Analysis of Farm Survey Data to Identify Packages of Agronomic Practices that Produce Superior Flax Yields on the Canadian Prairies**, Alvin Ulrich, Biolin Research/SaskFlax, Canada
- 11:00—11:20 **Status and Prospects on Global Jute and Kenaf Production**, Pingping Fang, Fujian

*Agriculture and Forestry University, China*

- 11:20—11:40 **Newly Developed Kenaf Varieties in China**, *Jianming Qi, Fujian Agriculture and Forestry University, China*
- 11:40—12:00 **Enzymatic Solution Bioprocessing of Biomass**, *John Collier et al., Florida State University, USA*
- 12:00—13:30 Lunch Break
- 13:30—13:50 **An Estimation of Hemp Fibre and Hemp Seed Demand in South Africa**, *Moses Mlangeni, University of Johannesburg, South Africa*
- 13:50—14:10 **Modification of Oxi-jute Through N-substituted Acrylamide Grafting: Process Optimization and Physical Properties**, *G. M. Arifuzzaman Khan and Md. Shamsul Alam, Islamic University, Bangladesh*

### **Track 3 – International Collaboration**

*Moderator: Kazuhiko Sameshima, Professor Emeritus, Japan Kenaf Association, Japan*

- 14:10—14:45 Keynote Address: **The World Needs Genuine Internationalists to Solve Regional and Global Problems – Our Efforts in Shikoku, Japan**, *Kazuhiko Sameshima,*
- 14:45—15:05 **The Kenaf Research Farm – Using Kenaf to Produce Low-cost Housing Materials for Developing Countries**, *June D. Littler, Stop Global Warming, Inc., USA*
- 15:05—15:25 **Approach for Kenaf Industry Take-Off**, *Eliezer Eshet, Kenaf Green Industries, Israel*
- 15:25—15:50 Coffee/Tea Break
- 15:50—16:10 **Exploiting Kenaf (*Hibiscus cannabinus*) for Economic Growth in Nigeria: Prospects and Constraints**, *Agbaje, G.O, Obafemi Awolowo University, Nigeria*
- 16:10—16:30 **Opportunities and Strategies of Chinese Ramie Industry Development**, *Yu-Chen Jie et al., Hunan Agriculture University, China*
- 16:30—16:50 **The Efforts of the Raw Materials Research and Development Council in Promoting Kenaf Development in Nigeria**, *M.M Adamu and Ahmed A, Raw Materials Research and Development Council, Nigeria*
- 16:50—17:10 **Role of IJSG in Promoting Jute as Natural Fiber**, *Dewan Sayeedul Hassan, International Jute Study Group, Bangladesh*

## **August 13, Friday**

### **Track 4 – Fiber Crops as Feedstock for Renewable Energy**

*Moderator: Roger Ruan, Professor, Director, Center for Biorefining, University of Minnesota, USA*

- 08:30—09:05 Keynote Address—**Generating Bioproducts and Bioenergy from Fibrous Biomass**, *Roger Ruan*
- 09:05—09:25 **PPFM Bacterial Inoculant Increases Yields and Biomass of Crops Used for Biofuel and Plant Products**, *Richard M. Carlton, CST Growth, LLC, USA*
- 09:25—09:45 **Mixed Hydrocarbon Production from Synthesis Gas Over Bi-functional Catalyst**,

*Fei Yu, Mississippi State University, USA*

- 09:45—10:05 **GIANT KING™ GRASS For Biomass Electricity Generation, Biogas Production & Cellulosic Biofuels**, *Carl Kukkonen, VIASPACE Inc., USA*
- 10:05—10:30 Coffee/Tea Break
- 10:30—10:50 Hemp and Kenaf as Potential Feedstock for 2<sup>nd</sup> Generation Bio-ethanol in Southern Europe**, *Alessandro Zatta et al., Agricultural Faculty of University of Bologna, Bologna*
- 10:50—11:10 **Production of Biodiesel from Renewable Resources Using Immobilized Lipase**, *Soham Chattopadhyay et al., Indian Institute of Technology, India*
- 11:10—11:30 **Potential Energy of the Components of the Straw of Cane Sugar**, *Luis Carlos Dalben, et al., Agricultural Company Rio Claro, University of São Paulo State, Brazil*
- 11:30—11:50 **Jatropha Curcas Oil: A Future Source of Biodiesel**, *Siddharth Jain and M.P. Sharma, Indian Institute of Technology, India*
- 11:50—13:00 Lunch Break

*Moderator: Jonathan Chen, Professor, The University of Texas at Austin, USA*

- 13:00—13:20 **Bio-Fuel Production, Processing, and Marketing: Jatropha, Camelina, Canola, and Kenaf**, *Bill Vasden, Jr., USCJO, Inc., USA*
- 13:20—13:40 **Ethanol Production by Yeast Cultures Using Hydrolysed Rice Straw**, *Shanker, S. and K. Chaudhary, Guru Jambheshwar University, India*
- 13:40—14:00 **Seeding Rate Effects on Ethanol Production in Corn and Sorghum**, *Sunil Bansal et al., Kansas State University and Mariano Marcos State University, USA*
- 14:00—14:20 **Energy Estimate of Municipal Solid Waste Not Recyclable**, *José Evaristo Gonçalves, et al., Universidade Estadual Paulista Julio de Mesquita Filho, Brazil*

### **Track 5 – Environmental Benefits of Using Non-wood Fibers**

*Moderator: Thomas Rymsza, President, Vision Paper, USA*

- 14:20—14:55 Keynote Address—**Kenaf and Allied Fibers: Environmental, Social and Economic Opportunities and Challenges**, *Thomas Rymsza*
- 14:55—15:15 **Efforts to Make Jute as A Renewable Natural Resource for Environmental Cleaning and Various Industrial Applications**, *Jayant Meshram et al., Central Research Institute for Jute and Allied Fibres, India*
- 15:15—15:40 Coffee/Tea Break
- 15:40—16:00 **Biodegradation of Coconut Fibers and Sisal in Compositing System**, *Vera Lucia Pimentel Salazar et al., Paulista Agency for Agribusiness Technology, Universidade Estadual Paulista Julio de Mesquita Filho, Brazil*
- 16:00—16:20 **Energy and Environmental Optimization of Briquettes Made from Waste from Municipal Solid Waste and Eucalyptus Grandis**, *José Evaristo Gonçalves, et al., Universidade Estadual Paulista Julio de Mesquita Filho, Brazil*
- 16:20—16:40 **The Effects of Acid Catalysis in Hot Water Pre-extraction on Soda-AQ Pulping of**

**Kenaf Whole Stem, Hossein Resalati et al., Gorgan University of Agricultural Sciences and Natural Resources, Iran**

**Case Study**

16:40—17:20 **Low Cost and High Yield Kenaf Pulp for Paper Industry: A Case Study of A Kenaf Market Pulp Mill Project in Vietnam, Eric Xu, Principal Scientist/Manager, Pilot Plant / R&D Laboratory, Andritz Inc., USA**

17:20—17:40 Discussions on Vietnam Project

18:30—20:00 **Dinner (Salon AB)**

**Poster Session (Open August 11-13)**

1. **IJSG and Its Role in Promoting Jute as Natural Fiber**, Md. Faruque Hossain, *International Jute Study Group, Bangladesh*
2. **Monoculture and Polyculture Production of Kenaf and Sunn Hemp**, Charles L. Webber III et al., *USDA, ARS, SCARL, USA.*
3. **Kenaf Harvest Decision Matrix or How Should I Harvest Kenaf?** Charles L. Webber III et al., *USDA, ARS, SCARL, USA.*
4. **Kenaf and Bioremediation in Azerbaijan**, Vugar V. Bashirov et al., *Azerbaijan State Agrarian University, Azerbaijan; Kenaf USA LLC, Advantage Technologies LLC, USDA, ARS, SCARL, USA; Goldvision Consultancy, Singapore;*
5. **Construction of Genetic Linkage Map for Kenaf Using SRAP, ISSR and RAPD Markers**, Meixia Chen et al., *Key Laboratory of Ministry of Education for Genetics, Anhui Agricultural University; Institute of Bast Fiber Crops, China*
6. **Study on Construction of a Genetic Linkage Map of Jute Using SRAP Markers**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
7. **The construction of Genetic Linkage Map by Composite Molecular Marker in Jute**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
8. **The Transfer Breeding of Kenaf L23A CMS and the Research of the Utilization of Heterosis**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
9. **Proteomics of Cytoplasmic Male Sterile Line L23A and the maintainer line L23B on Kenaf**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
10. **Screening the Tanghuaqu and the Study on Technique of Converting Kenaf to Ethanol**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
11. **Studies on Enriching LA and Synthesizing CLA from “Jinguan No.1” Kenaf Seeds Oil**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
12. **Studies on Fatty Acid Component Analysis and Enriching Process of Linoleic Acid from Kenaf Seed Oil**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
13. **Physical and Chemical Properties and Refining Process of Kenaf Seed Oil**, Jianmin Qi et al., *Fujian Agriculture and Forestry University, China*
14. **Fall Harvest of Kenaf, Sunhemp, and Sorghum as Potential Bioenergy Crops in North Dakota**, Marisol Berti et al., *North Dakota State University, USA*
15. **The preliminary study on genetics and proteomics of photo periodical insensitive Kenaf Mutant**, Jiantang Xu et al., *Key Laboratory of Ministry of Education for Genetics, Breeding and Multiple Utilization of Crops, China*
16. **Agrobacterium-mediated transformation of Ramie (Boehmeria nivea (L.) Gaud) by male sterility**

**gene (barnase)**, *Bo Wang and Dingxiang Peng, Huazhong Agricultural University, China*

17. **Industry Status and Prospect of Synthetic Fibre Product from Chinese Ramie in Primitive Ecology**, *Qihui Pan, Jianxi Institute of Fiber Crops, China*
18. **A New Technique for Making Paper Pulp from Non-wood Fibers**, *Liang Meng et al., International Development Committee for National Ecological Industry, China*
19. **The Application of Urea Hydrogen Peroxide in the Oxidation Degumming of Ramie**, *Chongwen Yu et al., Donghua University, China*