S-1054 Multistate Cooperative Research Project Annual Meeting Minutes

Friday, November 10, 2017
Room 216, College of Consumer and Family Science,
University of Georgia, Athens, Georgia

Members Attending:

Administrative Advisor: Robert Shulstad
Clemson University: Srikanth Pilla
Colorado State University: Yan Vivian Li (through Skype)
Iowa State University: Chunhui Xiang
Mississippi State University: Charles Freeman
North Dakota State University: Andriy Voronov
University of Georgia: Patricia Annis, Gajanan Bhat, Sergiy Minko, Suraj Sharma,
University of Nebraska-Lincoln: Yiqi Yang
University of Wisconsin-Madison: Majid Sarmadi

Welcome and Box lunch

The meeting began at 12:30pm with box lunch kindly sponsored by Dr. Robert Shulstad.

Dr. Shulstad's welcome speech:

- Emphasized the importance of team effort, working together, functioning as s a team to address a specific topic.
- Encourage the team members to work together to develop joint proposals for any of the agencies.
- Annual report due 90 days from the annual meeting day (Nov. 10, 2017). The annual report of S-1054 project will be due on February 9, 2018. It is important to write the final report with the first two pages catching the attention of the reviewers. Do not use scientific words, make sure the grammar can be understood.
- Asking for extension of the project is no longer an opportunity. We need to submit a NEW proposal to continue of project.
- If the proposal submitted by the end of March, 2018, Dr. Shulstad will still be our administrative advisor and help us get the approval of the proposal by the reviewer committee.
- Invite industry people to join our proposal will strengthen our team.
- The proposal has to be approved by NIFA by Sept 30, 2018 to continue our project.
- There will be a new administrative advisor for the new proposal. Possible candidate will be a person from Tennessee who are closer to the area within the discipline.
- Dr. Shulstad's shared two reports for general consumers, "*Management of Pesticide Resistance*" (WEAR – 60 (2007-2012)) and "*Conserving Plant Genetic Resources*" (S-009 (2003-2013). USDA officer will contact the chair if they are excited for the project and ask the team to write a report for general consumers.

- Not much inside information about the federal budget available.
- "Textiles" is no longer in the area of USDA, we rely on agricultural products in our current proposal.

Questions and Answers:
Majid Sarmadi commented that there is a 50/50 chance of the approval of the project, if we have the proposal submitted by the end of March, 2018, Dr. Shulstad will still be here to approve the project. We will need to work together to get the proposal done on time!

Yiqi Yang asked whether the international universities and industry can participate the project. The answer is YES. The international universities and industry can be listed on the project, but they can not be funded by this project for traveling to attend the annual meeting.

Member Introduction

Suraj proposed to vote the approval of the new remembers: Andrigy Voronov from North Dukota State, and Srikanth Pilla from Clemson University. Yiqi second, all the members approved.

1. Gajanan Bhat, University of Georgia: nonwoven, fibers and composites, especially focused on spun-bonded nonwovens, his lab has nonwoven pilot equipment.
2. Sergiy Minko, University of Georgia: nanofibers and nanocellulose, biomedication- bionanofibers, nanocellulose-textile coating.
3. Andrigy Voronov, North Dukota State: Synthesis of polymers, applications in biomedical and drug delivery, synthesis of polymer from vegegeagble oil, coating, hydrophobic
4. Srikanth Pilla, Clemson University: biomechical, automobile, biorenewable material, has several USDA and NSF funded projects on renewable materials. renewable plant based, sustainability, nanocellulose based interior and exterior, research automobile research.
5. Suraj Sharma, University of Georgia: polymer, fibers, microencapsulation, biosynthesis, biopolyester, used for biomedical application, coating with nanocellulose. Energy harvesting fabrication.
6. Majig Sarmadi, University of Wisconsin-Madison: plasma chemistry, modify polymers, make surface of polymer compatible together. Making ramie compatible with polypropylene compatible, no phase separation, thermal plastics material, melt flow index. Recycling of water from textile industry, make the water reusable, the paper was published at AATCC. Could not detect any organic compound using photoelectronic.
7. Charles Freeman, Mississippi state university: develop based polymers from cotton seed to produce synthetic leather.
8. Patti Annuas, University of Georgia: collaborate with Suraj, working on microorganism from carpet.

9. Yiqi Yang, University of Nebraska-Lincoln: biobased materials for textile application, polysaccharide and protein, chicken feather to make fibers, reactive dyeing with oil (soybean oil, cotton seed oil, degradable) to eliminate salts. Poly(lactic acid) stereocomplexation.
10. Chunhui Xiang, Iowa State University: biobased and biodegradable fibers and composites, bacterial cellulose for sustainable textile materials. Fully biobased plastics with insecticide functionality.

Development of new proposal

Proposal Committee:
Co-chairs: Suraj Sharma and Srikanth Pilla
To submit the proposal by the end of March, 2018, each member needs to be commitment and contribute timely!!!

Major objectives:

1. Soft materials, soft goods,
   a) High performance biobased composites materials,
   b) Fabrics/Textiles
   c) Packaging
   d) biomaterials

2. Lifecycle, economics analysis
   a) Charles Freeman will contact a faculty from Oklahoma State University

3. Education for students and outreach, preparing new generation of renewable and biobased materials.
   a) undergraduate
   b) graduate
   c) outreach

Sub-objectives:

- Polymer science, high performance and sustainable, composite materials, Sustainable and renewable materials
- What product can help the agricultural, plant based oil, nanocellulose
- Used agricultural biproducts to develop new materials
- Do something to reduce the food price, lignins, grape seed (to create wine) and oil
- Purify lignin: high and low molecular weight, omega 3 low molecular weight
- Biobased materials: packaging, biocomposites, oil, cellulose, lignin, chemical cellulose
- Genetically modify a plant in a harsh environment,
- Cotton ginning – to nanocellulose
- Sweet potato starch to produce PLA
- Non-food application
- New applications of biobased materials to automobile drive the price increase of food

- Agricultural byproducts find better application
- Target multiple products, packaging, biomass
- Gin trash byproduct-short cotton fibers, leaves – convert to useful product, trash to cash. Current process of cotton ginning byproduct is to compound the gin trash as fertilizer.
- Convert wood hard board to wood pulp

Themes:
New generation advanced/commodity materials from agricultural-base- renewable materials

Ask members to add the sub-objectives to each category, then the chair will group all the sub-objectives and form small entities to work on each objectives.

Project discussion and research collaboration

- Within 90 days to submit the yearly report: Each state send the report to Chunhui Xiang by January 15, 2018. Chunhui will send a template and reminder for the report.
- Chunhui Xiang and Yan Vivian Li will lead to work on the two reports: yearly report and end of the project report.
- Submit the report to Dr. Shulstad.
- Look at the format of the RFP of the new proposal
- Look for more reps from NIFA
- To ask Dr. Shulstad for the NIFA reps, the person who graduated from UGA may be helpful.
- Look for the AFRI-NIFA for potential proposals.

Election of 2018 Officers
Chair: Chunhui Xiang
Secretary: Charles Freeman

Next meeting time and location
Location: University of California, Davis
Time: Same as the Fiber Society 2018 Fall Meeting

Lab tour
An official tour to the labs in the Family and Consumer Sciences at UGA was given by Suraj after the meeting was ended.

Respectfully submitted,
Chunhui Xiang (Secretary)