

NC 1023 Annual Meeting
October 14-16, 2012
Lexington, KY
Minutes

Monday, October 16, 2012

Fred Payne welcomed all at 8:05 am to the 2012 committee meeting.

University of Kentucky College of Agriculture Associate Dean Steve welcomed all. He commented that this is the most productive multistate project with amazing amount of participation. As a formal agricultural engineer, he spent time last night with the group, talking about the farms and research facilities around the campus.

Fred turned over the meeting to Gonul to chair at 8:15 am and she welcomed everyone. She talked about meeting with Washington, upcoming foundation RFP, and stakeholders, input continuation.

Gonul asked David Jackson, the administrator, to say a few words. David Jackson stated that he serves on 3 committees and thinks NC 1023 is the most productive one. From now and 12/15, mid-term review will be conducted. The impact statement will be the most important one, which will be reviewed by central administrators, who will decide the fate of NC1023. Impact statements and forms need to be completed; future research should be done to create some more impact.

Washington updates:

Government is facing tight budget, and so they can't travel to the meeting, and have to use video conference starting last year, and make up with other opportunity to make the face to face interactions. Focus AFRI programs today.

Dr. Robert Holland, assistant director of food safety and nutrition. Travel budget is extremely tight, 20% cut last year, and 30% cut this year. So have to use this type of technology. Dr. Ramaswamy has joined the agency and undersecretary, from Oregon State U.

Farm bill status: not passed yet.

AFRI, priorities tracking and farm bill. Microbial contaminants and pesticides residue relating to human health, link between diet and health, ... Ag. Systems and technology,

NIFA budget status, continuing resolution for now.

Evaluate the effectiveness and processes of AFRI by NSA/NRC/BANR

AFRI programs: food safety challenge programs, foundation programs (food safety, nutrition, and health, and ag systems and technology), other AFRI programs (climate change, fellowships).

Dr. Jan Singleton, director of food safety division. Deadline, for letter intent is 9/17/12. And application, 12/5/12. Panel in early spring.

Dr. Isabel Walls, addressing critical and emerging food safety issues, identify/characterize emerging pathogens and/or contaminants and develop control strategies.

Dr. Ramkishan Rao, antimicrobial program, integrated program, research, education, and extension outreach. LOI,9/17/12, reviewed and responded, 10/4/12, full application is on 12/5/12.

Dr. Jodi Williams, improving the safety of fresh and fresh-cut produce: \$425k, 8 new awards, Due December 5, 2012. 134 submitted, 90 encouraged, 33 discouraged 11 ineligible

AFRI foundation programs, not been released, at the moment.

Questions:

Sudhir complimented for taking the feedback received (the whitepaper on fresh produces safety), asked to increase the funding level for the produce safety.

Kumar, asked about sustainability in food industry, multi agencies effort. Hongda said no new programs yet due to budget, but it is an important issue, look in the new foundation program and discuss with NPL to see if idea can be incorporated into the program.

Graciela, UI Ask Multiagency, write collaborate grants, ask agencies to collaborate more also, food engineering, by USDA and NSF, a combined program.

Rao is leading in the foundation program, technology, science and food quality. Rao said the food safety and maintaining food quality can be combined.

Sudhir suggested that you can't simply apply the existing technology to a different application, but need to look at the fundamental application, existing technology and new innovative ideas, and the science behind it.

Kumar suggested again about support for undergraduate research experience. Higher education challenge grants are mainly for PhDs. Graciela, followed-up on undergraduate research, for under representative groups. Funding for minority students, etc.

Ashim commented that food and ag problems solving by applying physics, chemistry, and math are important.

Gonul continue on the discussion on the input to USDA NIFA and others

David Jackson: we can use sample impact statement to create our own

Kumar talked about Review of AFRI program, need nomination for the panel, and recommended Denny Heldman. Denny said Paul and Denny has been listed by Hongda. Many of the issues are discussed when Denny is at the board meeting, and Paul also indicated that he participate in the committee. Group voted to support Denny's nomination to the list of reviewers.

Sudhir, showed example request and document from food microbiologist asking for a lot more money, list names of people involved. Endorse such letter or have similar letter for our own. Most supported our own letter.

Sudhir: most of NSF program leaders come from chemical engineering, not from food engineering. So it is not easy. There is a mechanism you can get conference grant, and invite NSF program leader to attend, and then apply for the program. Roger also pointed out that this is an excellent idea. Auburn U just did it and very successful. Paul, need to focus on current NSF related programs.

Gonul opened up discussion for future COFE meetings:

Sudhir: sent earlier by email on the subject, there is a need to continue the meeting every other year. Last two were organized independently. Using grants from agencies. What about a due paid organization? By laws? Etc. by 2014? OSU provided organization support at the beginning. 1023 is good, but not sure how long will it survive. Organization can provide mentorship for young food engineers.

Our roles and relations with other organizations?

Registration fees? Hotels? Membership?

Kumar, may not be a good idea to create a new organization, may not be cost efficient. May need to work with ASABE, IFT and others like we have done before.

Ashim: we are already members of many societies, other structures.

Sudhir: first few meeting works fine with help from other societies, but long term need to have group of people to work on this. How to formalize the meeting mechanism.

Denny: staff support needed to organize the conference. Level of independence also needed. Critical mass is as important now as then since we now have a lot more advanced communication tools? To be a voice for research grant, need some base.

Sudhir: look at all possible models for organization. 300 member, \$100 each, so \$30,000 per year. Two years for \$60,000 for the biannual meeting. First few years will not support a staff person, which will be provided free by OSU.

Kirk: getting companies to be sponsors, should not be a problem.

Swamy: pulling this off is not easy as giving advice, this is another way to make cofe happen continuously.

Fred seconded that, continuity is important, worth for trying a couple of times.

Kumar: web site, online discussion group,

Gonul: write letter independently, organize ourselves to do that

Paul: idea on the financial aspect. Asked Kumar last conference data? Completely different model for conference, may be a special workshop on good discussion on specific issues.

Denny: suggest organizing conference, a 3rd one already, similar to this, but not to have a traditional type, but much different, get specific people to talk to talk about specific topic of interest.

Sudhir: If we are part of a larger organization, it is difficult to provide feedback to USDA.

Decided to establish a small group to discuss further to report back to the committee. Kumar, Gonul, Gustavo, Sudhir are members. Ashim can help on conference matter. Bala volunteered to participate also.

Kumar: numbers for 2012 CoFE

121 paid registration participants, \$73,042 revenue, including all support from sponsors (\$52,000), over spent by \$800. \$350 registration including all meals. Keynote and planner speakers all paid, \$500 each. 15 countries attended. Most of expenses went to facility.

Paul: retreat type of conference in a unique place where all have to stay will solve the cost issue.

Gonul: next topic: on discussion of teaching engineering concept to none engineering students.

Difficulty and solutions, how well it works to incorporate math and physics into the class.

Antonio: keep it small, using no more than 6-8 students, one credit for the student on math.

Pravan of UI: no calculus before, no concept, use computer and other software program packages, for heat transfer calculation, etc.

Gonul: IFT requires all food science students need to have one food engineering class.

Ashim: the details of math is where the difficulties lies, no need for that? Heat transfer, give the fundamentals, and leave out all the details, use computational simulation software, to include simulation. Hide the details of the math, but teach and get the concept through.

Swamy: need help when doing problems, grad can do it, but undergrad may not. Use TAs to help them to do the problems.

Bala: divide student to small groups and give individual attention. Doing problems with help.

Jay from NB: simulation program helps in the end for eng students.

Gonul: can they go beyond the specific problem to more general ones?

Pravan: Give them project at the end to show they understand.

Graciela: Strong narrative, explain the physics part of the concept, math later. So focus on physics and then math, it will be easier.

Kumar: software issue, Berkeley medona, object oriented program, student can use it; it's free.

Paul: what type of math is needed for food science student to work in the industry? To occasionally show the solution, but no need for them to do that, they need to conceptually understand the problem and analyze the results. Especially today with all the software that can help to that. No need for them to go through the calculation.

Ashim: understand enough to not misuse the tools.

Antonio: studio classes, give a task and ask them to work in a group, and see if need for intervene, such as completely misunderstand what's taught in the class. So just listen, no teaching, then their problem solving skill improved a lot.

Gonul: Problem solving is important.

Swamy: learning styles are all different. Working in groups is helpful.

Fred: difficult to teach since no background in math, so have a problem course, no calculus there to not lose them. Fundamental connection between physics and the problem.

Paul: what type of format for web applications, Khan modules, modules on entropies, set up problems, more modules, feedbacks?

Break for lunch at 12:20 Gonul: Started again at 1:08pm

Impact statement discussion:

David Jackson from UMB, talked about an example impact statement, a template.

Research impact, revenue, issues who cares and why, end users, what's project done so far, achieved since inception. Economic, social, environmental impact. Attach value to measure. Need to be quantifiable.

List impact cut across the whole group, the common theme of the group. Mid-term evaluation is needed by Dec. 15, 2012. Maximum of two pages.

David, need to focus more on multi-state project. Research on teaching technology is ok and will have impact.

Station reports:

Qi Xin, UT, on USDA projects on bio-nanocomposite, with KSU, and others, on improving packaging films, modify particle surface, crosslink nanoclay with soy protein with enzyme. And two more nano projects. AFRI organic research, UT and NC State, on integrated project on surface structure of fresh produces

Sudhir, OSU, on pathogen inactivation in fresh produces, with Iowa SU and New Mexico State U, washing not enough, so where to apply sanitizer, need to allow 30 minutes or more.

Mukund, on high pressure assisted infusion.

Lita new from WV U extension, doing workshop on food preservation based on drying, canning, etc.

Jay of UNB talked about web site developed for heat transfer during cooking, and microbial growth and inactivation model simulation.

Ruan from UMN talked about improving bioavailability and bioactivity of wheat brans.

Denny: after Hongda's talk about broad area of sustainability issues, how to do more. Participate in a formulation of project, what can we do in the research context, life cycle analysis, water footprints, related to food in the entire system. Energy and water audit and losses during whole chain.

Formulate proposal, by commodity, dairy, vegetable, bakery, etc. multi state collaboration. Call for proposals for climate control to improve food security, submit this year.

Continued on station report:

Idaho reported some projects related to extrusion for food packaging, waste gelatin extraction, drying for film preparation, special reflective window drying technology. Various instrumentation available for collaborations also.

Youngsoo Lee introduced his background and reported some of his research including short chain fatty acid to help grow cells, remove off flavor of the butyrate, and other bioactive compounds.

Ashim: ad hoc committee report, on web based resource development, modeling is one area of interest, and building up a database need a lot of time and now secured and available. 1200 used all over the world. This kind of joint effort should show impact, and could be used for impact?

Ashim: also massive open source course web. Done by all major top universities. Many could be learned through this kind of tools. No food engineering program have that many students, but this committee together has large enough number of students, so could organize and develop such a joint course. The effort in teaching the course will be much smaller. On the down side, only one of the current online courses was done jointly. It's free to all.

Education resource: coursesera.org

Gonul: finished up at 4:40pm to get ready for dinner.

Tuesday, October 17, 2012

Tuesday meeting resumed at 8:10am

Location for next year: Louisiana is selected to host 2013 and Washington 2014,

Wisconsin and Minnesota are choices for future meetings also.

Secretary election:

Sojin 2013

Pawan 2014

Moved by Kumar and second by Kai of LSU and approved by all

So next year chair will be Fernando and vice chair will be Ruan

Discussion on Document sent to NIFA last year on increasing support for food engineering research

Gonul asked all to thank Fred for all the great local arrangement.

Fred talked about the afternoon tour and final exit transportation arrangement

Mukund thanked Gonul for organizing a great meeting also.

Kumar moved and Kai seconded and all approved to endorse the revised letter submitted to NIFA

Roger: Reported on the 23 reports received, and asked for missing ones to be submitted soon. And Kumar will upload them into the USDA-NC1023 web soon.

Meeting adjourned at 11am.