**NC-170 Minutes: 2016 Annual Meeting Buffalo, NY**

**August 4 & 5, 2016**

**Buffalo State University**

**Day 1: August 4th, Start: 8:40am**

**Present:**

Huiji Park & Susan Ashdown, Cornell;

Vivian Li, Colorado State;

Marilyn DeLong & Linsey Griffin, University of Minnesota;

Shu-Hwa Lin, University of Hawaii;

JooYoun Kim, Kansas State University;

Lynn Boorady, Buffalo State;

Anugrah Shaw, Maryland;

Gang Sun, California-Davis

Mary Ruppert-Stroescu, Oklahoma State via Skype at 9:40

Linsey Griffin volunteered to be Secretary in the absence of Fatma Baytar (ISU)

**Update from Advisor, Marilyn DeLong:**

* Chris Hamilton—NC-170 930-217 expires, need renewal process for fall. Annual report submitted within 60 days of meeting. Annual report and final report need to be filed.
* NIMSS—need updates—FY-17 fund processed through new system EZGrants, new self-service option.
* Review process consideration:
  + Evaluation checklist—*evidence that team members are working together—need evidence of synergy*
    - Outreach component
    - Website
    - Important for new members to link with old members to publish
* Dr. Elizabeth Bye (UMN) for new Advisor
  + Marilyn to fill out evaluation form, then she will step in as Advisor
* Paperwork submitted to Secretary for minutes

**Election of Officers, Decision on 2017 Location:**

*Vice Chair:* Anugrah Shaw

*Location for 2017 Annual Meeting:*

* Balitmore, Maryland.
* Tour Under Armour Innovation Center (Lynn Boorady to connect)

*Secretary:* Linsey Griffin

**State Reports [see reports]:**

* HI:
  + Shu-Hwa Lin: Developing firefighter safety hood, gloves, and shirt with PCM coated material. Collaborating with Lynn Boorady.
* NY (Cornell):
  + Park: Investigation of size firegear on mobility--same size fireboots & airpack; New ebola PPE—easy don/doff;
  + Ashdown: Firefighter hand/glove fit analysis—good model. (Anugrah-nppl help w/ sizing info); Half-scale position active forms—for easy testing, design of PPE and activewear;
  + Hinestroza: Textile pollution solutions
* NY (buff):
  + Boorady: Body scan firefighters published, invited to go to RMIT collaboration, helping HI on glove, hood & emergency garment.
* OK:
  + Ruppert-Stroescu: continues as voting member; grant ok tech state support system—working garment bio-sensing on average man (M) & XL for sleep apnea; Collaborating with the forensics dept for firefighting/bomb diffusion area—developing grant project to create garment to be worn under uniforms to understand health status (heart attacks from stress prevalent in firefighters, etc.); Dept of defense--system to know where sniper shot is coming from, interested in integrating body sensing system; Police uniforms belt weight distribution; working w/ big data, data mining--data set on human movement (free data set, no cost)
    - clear connection w/ Lucy Dunne
* CO State:
  + Juan Park: prototype of firefighter class b uniform, evaluated w/ firefighters for function & design acceptance, accepted by local firefighter depart, work on design project with functional design class;
  + Vivian Li: development of functional fibres that have sensing capabilities; fibers change colors when they sense high temperature—applicable for figherfighters, etc.
* MN:
  + Dunne: evaluated the impact of ready-to-wear sizing conventions on body-sensing smart clothing in terms of accuracy of sensor placement for off-the-shelf garments. Developed a method of measuring garment fit based on the contact that garment has with the body, especially useful for close-fitting functional garments like cooling garments. Investigated the use of tactile display to communicate dynamic sensor information including trends and alerts/alarms.
* MD:
  + Anugrah Shaw: Completed permeation through glove materials—working with EPA to see if interested; started international center for PPE for pesticide workers; moving from teaching to research/outreach through extension; commitment from funding for EU 80k euros; comparing performance requirement data from 20 yrs ago to current data to see if performance requirements are still useful; ic-ppe.org
* CA:
  + Gang Sun: funding expansion of fiber material research, foot sense, safety aspects; fiber based sensors fumigants and super fungi pollutants; fibers for food sense--detect antibiotics/antibacterial for food safety; collaboration with IA-State, NC-State developing PPE for ebola protection—waiting to hear back on funding; dept in limbo, uncertain future, merging into ag engineering dept; Susan Kaiser interim dean, Helen Koo wearable technology;
* KS:
  + JooYoun Kim: Set up textile lab; made self-cleaning hydrophobic material for many applications; work focused on fabrication; funding from small internal grants, Johnson Cancer Research, 3M; difficulty finding filter testing equipment

Ashdown: Extension research important link for group

**Break**

Resume 10:20am

**New Member**: Missouri—Kristen Morris

**Future Research Discussion**:

AFFOA University membership, inclusive, first membership meeting at MIT last Friday, involvement of technology design, a lot of opportunity <http://news.mit.edu/2016/national-public-private-institute-innovations-fibers-fabrics-0401> $10k per year min 3 years (MN mechanical engineering involved, should see if we can get involved)

* Follow-up from Juan Hinestroza via email:
  + NO clear incentive for universities like us to join AFFOA at this moment. The membership fees are simply too steep, the conditions are restrictive in terms of IP,  there is no clear path to recoup some of those funds nor there is interest on behalf of AFFOA's leadership to engage in what they call "traditional" fiber and textile science endeavors.
  + Universities that are involved in textiles and fibers shall consolidate as a strong group, perhaps led by the Fiber Society and if interested purchase a membership as a consortium rather than as individual members.

**New Proposal**:

* Overview of previous proposal
  + Related, current, previous work—need to show that we work collaboratively
* Lit Review: Need textile focus person & design focus person
* Objectives: Tweak and keep current objectives
* Broke up into groups to work on proposal: Textile focused; Design focused; Outreach focused.

**Catered Lunch**

**Afternoon**: Tour of Eastman and Niagra Falls, Dinner

* Juan Hinestroza joined group

**Day 2: August 5th**

**Start time: 8:40am**

Members present: Shaw (MD), Lin (HI), Gang (NY), Hinestroza (NY), Li (CO), Ashdown (NY), Griffin (MN), DeLong (MN), Boorady (NY)

WebEx: Mary and Semra (OK)

**Discussion on Bylaws:**

* Ashdown: Utilize Skype more for annual meeting. Put into bylaws that you have to be present at meeting or skype, at least one person from institution.
* Anu: Needs to be commitment from individual for collaboration, to have connection.
* Gang: You can still make contributions when you’re away. Maybe make a bylaw that you have to be present 1 in every three years (echoed by Anu, Lyn)
* Lyn: Need to prove synergy working in the group.
* Juan: Need to post group picture every year on website to show group unity
* Lyn: ramifications when members do not have a sense of minimal responsibility of participation—last minute decisions, not responding to emails, etc.—need consequenses.

**Final decision for Bylaws**: Every member must come or connect electronically at least once every three years in order to continue membership; a voting member from each institution must be present at every meeting; must show proof of **collaboration** once every five years through publications with multiple authors from within the group or other collaboration (extension/outreach)

***Note: If you do not contribute to the writing of proposal, you will be dropped as a member of NC-170.***

**Website:**

* Anu: Website update; need to have active memberships; updates to website needs to be done annually; trouble with follow-through from group members
* Need to continue to update publications—Anugrah to direct them via link to NIMSS.

**Proposal:**

* Continuation of editing objectives.
* Examined common sections.
* Reviewed and edited Organization & Governance, added new bylaws about meeting attendance
* Subgroups (Design & Textiles) met to refine sections
* Google folder and document created
  + Notes and specific comments made on proposal—individual members please review
* Google document (Excel) created to share equipment resources with members

**Submission deadlines for Proposal: August 28th, 2016**

* Individual members need to update their portion of the proposal by **August 28th, 2016**
* **Decision: If you do not contribute to the writing of proposal, you will be dropped as a member of NC-170.**
* Literature Review:
  + Design section: JuYeon
  + Textile/Fiber/Material Section: Gang & Vivian
* Anugrah and Susan A. will compile, revise, and edit.
  + Anugrah is in charge of getting draft together
  + Ashdown is in charge of refining and editing
* Each institution needs to update Schedule E—people will be alerted by Marilyn as to the exact date.
* Secretary/Griffin is submitting and filing final yearly report within 60 days of meeting
* Need list of who is on appendix E—Marilyn. Anugrah finding on NIMNS
* An email needs to be drafted and sent to alert people to consequences if they do not contribute/update proposal by August 28th.

**2017 Annual Meeting Dates:**

* August 3rd & 4th (unless underarmour can not host—Lyn will try to connect with UA through Optitex),
* Second choice, 10/11;
* Third choice 7/8

**2018:** committed to Midwest—KC or St. Louis—Mary volunteered to host.

**Meeting Adjourned**