

## EWRI Technical Committee on Hydraulic Measurements and Experimentation

5/22/06 Minutes

Time: 6 p.m. to 8 p.m.

Present: Chris Rehmann, David Hill, Todd Cowen, Tracy Vermeyen, Aaron Blake, Dave Admiraal, Art Schmidt, Tatsuaki Nakato, Janice Fulford, Juan Gonzalez-Castro, Marian Muste, Matahel Ansar, Colin Rennie, Kevin Oberg, Dave Mueller, Mike Rehmel, Earl Childress (RD Instruments), Cliff Pugh, Mark Stone. Dennis Lyn, Brian Parsons, and Autumn Richter were also present for the second half of the meeting.

Last meeting – Anchorage, Alaska.

### Updates:

**HMEM 2007 Conference.** The web page for the conference is on line. The venue of the conference will be Lake Placid, NY. Cowen and Hill are co-chairs for the conference.

Please see <http://www.ewrinstitute.org/events/conferences.cfm>

**Special issue of the Journal of Hydraulic Engineering on Acoustic Measurements for Riverine Environments.** Guest Editors are Muste and Vermeyen. Rollin Hotchkiss will be the associate editor. About 10 contributions are in so far. Dennis Lyn will talk about the special issue later in the meeting. Lyn will provide details about the new electronic paper submission system.

**A technical committee website has been put together by Mark Stone.** The website is hosted by Desert Research Institute. The website should be reviewed and still needs some adjustments. The site is located at <http://www.dri.edu/People/Mark.Stone/Tchme/> committee members should take a look and suggest changes/additions.

**Update from Juan Gonzalez-Castro and the Tech. Committee on Uncertainty and Measurement Errors.** The committee is in the second round of reviews of some of the contributions to this effort. Gonzalez will need more reviewers.

Examples:

1. Measurements with acoustic instruments: ADV/ Flow tracker (Michael Robison of CSU with assistance from Mike Rehmel)
2. Slope area method
3. Index velocity measurements through culverts
4. Stage/discharge (Art Schmidt)
5. Uncertainty of mechanical flow measurements (not committed yet)
- 6.

Original idea of this effort was to produce a monograph. Brian Wahlin suggested producing a report (a single document). Juan can send an outline of the effort. A link to their website is:

[http://www.usbr.gov/pmts/hydraulics\\_lab/professional/uncertainty/uncertaintytask.html](http://www.usbr.gov/pmts/hydraulics_lab/professional/uncertainty/uncertaintytask.html)

Juan Gonzalez requested that Tatsuaki Nakato look at the report first to get a holistic view of the report, but both individual and holistic reviews are necessary. It needs to be decided who is best for reviewing specific examples.

Nakato: interested in stage/discharge error, but not able to do acoustic uncertainty. I.e., individual reviews and holistic reviews are both necessary, but individual reviews need to be done by appropriate reviewers.

Gonzalez: time will be a big issue for completing the report.

Cowen asked if the report could be done by HMEM 2007, and suggested that sometimes a deadline is useful for getting things done.

Gonzalez suggested that some of the uncertainty problems are difficult to deal with and require significant time. He cited examples: acoustic measurements, regressions or correlations with uncertainty associated with both the dependent and independent variables. Format of report should be one document (not as a group of individual papers) because of the nature of the report. Gonzalez also suggested that we need to standardize analyses from other disciplines. ASME has worked hard on their standards – we should adopt these and see how they work with our measurements.

Kevin Oberg revisited the format of the report and asked if papers would be published.

Gonzalez said the effort should result in a report... most likely issued by ASCE. A monograph has too many hurdles. The report will have the same content despite the different designation.

Oberg asked if there would be any help from outside with the report or if the TC on HMEM should help.

Gonzalez stated that anyone who would like to can contribute to the report.

Vermeyen suggested that we share the preliminary report at HMEM 2007 or before and that hopefully someone else might come up with a creative contribution.

Colin Rennie volunteered to look at variability in x and y variables [uncertainty associated with multiple variables]

Cliff Pugh suggested that we reserve an e-room for sharing the report

Vermeyen said that he would help set up the e-room through EWRI.

Pugh said that the way this works is that Autumn gives a password to everyone on the list. This prevents uninformed people from using the information prior to the report being completed.

***IAHR Liaison report*** – by Marian Muste

Muste suggested that there was not too much to report. Muste will use IAHR channels to spread word on HMEM 2007. Muste reminded us that one reason for moving HMEM 2007 to September was to prevent a conflict with the IAHR 2007 meeting in Venice. Muste said that a special arrangement is planned at Venice called “Bridging the Gap” where manufacturers will sit down with scientists/engineers to help solve measurement problems.

Vermeyen asked if the arrangement was a session.

Muste said that they had a similar arrangement in Greece and that there were four manufacturers and four users, and that acoustics was the focus... still a good focus. We might consider a similar thing for HMEM 2007.

Muste will also send HMEM 2007 brochures to Madrid (IAHR) and Cowen will talk with Autumn about getting the brochures out from EWRI to IAHR. Muste also suggested that he will make sure the conference is advertised in the IAHR Newsflash.

Vermeyen pointed out that the link to the Venice conference is [IAHR2007.corila.it](http://IAHR2007.corila.it)

***Other Conferences***

Vermeyen identified the other conferences that are coming up. 2007 EWRI is in Tampa from May 15 to May 19. Vermeyen asked whether or not TC on HMEM wanted special sessions in Tampa. The TC on HMEM decided that it was best to focus on HMEM 2007 and not work on special sessions in 2007. Vermeyen also said the 2008 EWRI conference is in Hawaii.

Pugh said that the 2009 IAHR conference will be in Vancouver and is co-sponsored by EWRI. The TC on HMEM agreed that we should be more involved in this conference.

- Ideas for TC participation in upcoming conferences?
  - 1) Do not have any special tracks at Tampa 2007 conference because of HMEM 2007 conference activities.
  - 2) Participation in 2008 and 2009 conference will be determined at 2007 meeting.

Vermeyen said that the next meeting of the TC on HMEM would be in Lake Placid.

**New Task Committees:**

1. Task Committee on Autonomous Remote Sampling

- Sampling with changing criteria for data collection  
(Ocean vs. Lake sampling: Ocean sampling typically has to withstand greater forces.)
- Wireless networking

Autonomous and Remote Sampling and Multitask Observational Platforms – who will head this up?

Cowen thought it would be interesting to try to capture the ocean community and asked who was working on this issue in coastal/ocean engineering.

Pugh suggested people at LSU and NOAA would be good sources of this information.

Fulford identified anchored buoys as one application of autonomous sampling.

Ansar identified the Alliance for Coastal Technology as a possible source of information on the subject.

Oberg thought that a USGS employee in the Woods Hole area might be a possible contact.

The idea was suggested that someone outside of the Tech Committee on HMEM could also head up this task force.

Vermeyen suggested that we might talk to people at Woods Hole and also see if interested people turn up at the 2007 HMEM conference.

Rennie said that he had contacts in Canada and at Woods Hole in the oceanographic area.

Muste suggested that we do not use the terminology “autonomous remote sampling”, rather “autonomous sampling” or “autonomous sensing”. Muste also suggested that autonomous sensing is used for watersheds.

The Technical Committee did not decide on a leader and opted to choose a leader on this subject at the upcoming HMEM 2007 conference when we might have a better idea who was most interested in this subject.

## 2. Task Committee on Acoustic Measurement Techniques

Journal of Hydraulic Engineering Special Issue – on the order of 10 papers have been submitted. They are listed in the Agenda.

Reviewers are needed for the paper by Szupiany – Art Schmidt and Aaron Blake volunteered to help with this paper... reviewers must be non-contributors.

Lyn said that 9 to 10 papers are typically part of such a special issue. If 2 or 3 papers are heavily reviewed, we may need to have the editors push the reviewers to get things done in a timely fashion so that the others can be published.

Vermeyen asked if the distribution of submissions that end up as technical notes or papers mattered and Lyn responded that it did not. Lyn also said that the journal may not be able to do more than 9 or 10 papers.

Muste suggested that there be a short (perhaps 3 to 5 page) summary of the background/description of acoustic devices and why they are important.

Lyn suggested that such a summary refer to specific articles within the journal that are of use to the reader – or how each article is of use.

Rennie asked if the papers would need to be adjusted because of the new electronic submission process and Lyn said that papers that had already been submitted would not need to go through the new process.

### 3. Task Committee on Non-contact Measurement in Rivers

Fulford tentatively accepted the lead in this task force (I think the exact words were “will think about this”). She also said she would try to drum up a group of related papers for the HMEM 2007 Conference.

#### **New Leadership:**

The existing vice chair, Chris Rehmann agreed to chair the committee

Admiraal reluctantly agreed to be the new vice chair, and then thought to himself “Oh no, what have I done”

#### **Partial Summary:**

Gonzalez-Castro said:

He would look into putting the uncertainty report in an E-Room. Brian Parsons said this could be done by sending an e-mail to Wayne Davis.

Whoever would like to contribute to the report may.

He would look into the possibility of a Flow Tracker uncertainty contribution (CSU). Mike Rehmel agreed to assist with this task.

He would look into the feasibility of having the report ready for a review at the HMEM 2007 Conference.

Everyone should look at both the HMEM 2007 website and the Technical Committee website to see if everything is represented correctly.

Fulford will think about noncontact measurements leadership.

Next meeting will be in Lake Placid in 2007.

#### **Final item from Juan Gonzalez-Castro:**

Gonzalez-Castro said he received an e-mail from Paul Hayes that asked about the measurement uncertainty work. Hayes was interested in developing such a group in Europe and was interested in collaboration on ADCP uncertainty. Hayes is from the UK/European Marine and Energy Center. Gonzalez-Castro will forward the e-mail so that we can think about who collaboration will work.

**Discussion switched to HMEM 2007 Conference at approximately 8:00 p.m.**