

Progress Update for Advisory Council Meeting

Committee on Credible Practice of Modeling & Simulation in Healthcare

prepared for November 13, 2013 meeting of the Advisory Council

Committee Charge

1. Adopt a consistent terminology
2. Propose guidelines and procedures for credible practice
3. Demonstrate workflows for credible practice
4. Promote good practice

First Term (2013-2015) Goals

1. Form the Committee and the Advisory Council
2. Establish infrastructure for communications between Committee Co-Chairs and Members, and Advisory Council
3. Establish a web-based framework for development, community interactions, and dissemination
4. Develop a guidance document on establishing credible practice of modeling and simulation in healthcare
5. Draft a proposed model certification process

Current Membership

Executive Committee Members

Gary An
Jacob Barhak
Ahmet Erdemir (Co-Chair)
Marc Garbey
Joy Ku
William Lytton
Tina Morrison
Jerry Myers
Lealem Mulugeta (Co-Chair)
Lu Tian

Advisory Council Roster

Jeff Bischoff
David Eckmann
Ron Germain
Tony Hunt
Wing Kam Liu
Donna Lochner
Vasilis Marmarelis
Pras Pathmanathan
Grace Peng
Martin Steele
Jim Thomas
Marlei Walton

See http://wiki.simtk.org/cpms/CPMS_Members for more details.

Current Infrastructure

1. **Website (<https://simtk.org/home/cpms>):** Communication between Committee Members, Advisory Council, and the community are conducted through the infrastructure provided by SimTk.org. ALL INFORMATION AT THE WEBSITE IS PUBLICLY ACCESSIBLE. Particularly useful components of the project site are:
 - **Documents.** To provide Committee generated reports, conference minutes, etc. Directly accessible at https://simtk.org/docman/?group_id=848.

- **Public Forums.** To engage in communications with other members and community. Directly accessible at <https://simtk.org/forums/viewforum.php?f=848>.
 - **Version Control System.** A source code repository using Subversion (<http://subversion.apache.org/>) is provided to ensure revision control of documents generated by the Committee in a collaborative manner. The repository can be accessed by any Subversion client (gui or prompt based), i.e., svn checkout <https://simtk.org/svn/cpms>.
2. **Literature Database:** The Committee has a Zotero group to accumulate literature (<https://www.zotero.org/groups/167342>). It is possible to populate this database using Zotero plug-in (for Chrome or Firefox browsers) or a stand-alone version. Zotero (<https://www.zotero.org/>) is a free, easy-to-use tool to help you collect, organize, cite, and share research sources. ZOTERO DATABASE IS NOT PUBLIC TO PREVENT ANY COPYRIGHT VIOLATION ISSUES RELATED TO DISTRIBUTION OF COPIES OF SCHOLARLY ARTICLES.
 3. **Web Conferencing:** An installation of OpenMeetings (<http://openmeetings.apache.org/>) is available at the Universities Space Research Association. At this moment, this tool has not been tested comprehensively. As a result, it did not gain traction for regular use.
 4. **Conference Calls:** Conference calls between members are facilitated by a toll-free number (within US) provided through the Cleveland Clinic. Attendees of meetings are regularly informed about connection details.

Current Tasks

1. Logistics & Organization:

- Three new members joined the Executive Committee: Joy Ku, William Lytton, and Lu Tian.
- The Committee was divided to three task teams to represent different areas of interest:
 - Mathematical and Computational Sciences Team,
 - End Users Team, and
 - Practice Standards and Guidelines Team.

Each team includes team coordinators from the Executive Committee along with relevant members from the Advisory Council. For more details, see http://wiki.simtk.org/cpms/CPMS_Task_Teams.

- Various members need to get an account at SimTk.org to be added to the project website as read-write team members:
 - Ron Germain
 - Wing Kam Liu
 - Vasilis Marmarelis
 - Lu Tian**SimTk.org Registration.** <https://simtk.org/account/register.php>
- Various members need to provide photos (through their SimTk.org account profile) to enhance project site:
 - Gary An
 - Jeff Bischoff
 - Marc Garbey
 - Wing Kam Liu
 - Donna Lochner
 - William Lytton
 - Vasilis Marmarelis
 - Lu Tian
 - Grace Peng
- Various members need to provide their biosketches:
 - Lu Tian

2. **Task: Overview Presentation:** A wiki page was created to summarize feedback from members to change the overview presentation. An additional charge was proposed in order to identify and promote innovative game changing technologies establishing model credibility. It may be possible to incorporate this by updating the second charge as *to propose guidelines, procedures, and technologies for credible practice*.
For more details, please refer to http://wiki.simtk.org/cpms/Committee_Presentation.
3. **Task: Visibility & Outreach:**
- **Posters & Presentations.**
 - A poster about the Committee was presented at the meeting ASME/FDA 2013 1st Frontiers in Medical Devices: Applications of Computer Modeling and Simulation, September 11-13, 2013, Washington, DC. <http://www.asmeconferences.org/FMD2013/>
The abstract is available at https://simtk.org/websvn/wsvn/cpms/doc/abstracts/asme-fda_2013.pdf.
The poster is available at https://simtk.org/websvn/wsvn/cpms/doc/posters/asme-fda_2013%20CPMS%20Poster.pdf.
 - A scheduled presentation at the 2013 Multiscale Modeling (MSM) Consortium Meeting, October 2-3, 2013, Bethesda, MD was canceled due to government shutdown.
http://www.imagwiki.nibib.nih.gov/mediawiki/index.php?title=2013_MS_M_CONSORTIUM_MEETING
 - **Abstract Submissions.**
 - An abstract was submitted to the 14th annual International Meeting on Simulation in Healthcare (IMSH), January 25-29, 2013, San Francisco, CA. <http://ssih.org/imsh2014>
The abstract is available at https://simtk.org/websvn/wsvn/cpms/doc/abstracts/IMSH2014_Abstract.pdf.
 - An abstract was submitted to MODSIM World 2014, April 15-17, 2014, Hampton, VA.
<http://modsimworldconference.com/>
The abstract is available at <https://simtk.org/websvn/wsvn/cpms/doc/abstracts/MODSIM2014Abstract.docx>.
 - **Other.**
 - The Committee will join a panel discussion on Application of M&S for High Stakes Testing and Evaluation at HFES 2014 International Symposium on Human Factors and Ergonomics in Health Care: Leading the Way, March 16-19, 2014, Chicago, IL.
<http://www.hfes.org/web/HFESMeetings/2014HealthCareSymposium.html>
 - Various members of the Committee interacted with John Rice, who has provided useful insight in Committee activities and leads for outreach. These interactions as well as additional feedback from John Rice can be found in public forums of the project site.
4. **Task: Literature Survey:** The Committee has been accumulating relevant literature on i) examples of modeling and simulation that penetrated clinical practice, and ii) good practice documents in various disciplines.
For more details, see the literature database at <https://www.zotero.org/groups/167342>.
5. **Task: Definitions:** A wiki page has been created to collate definitions of modeling and simulation terminology, in order to establish a glossary. For each term, a definition page is targeted to include *Dictionary Definition, Committee Definition, Domain Specific Usage and Notes* (potentially listing appropriate references). The immediate goal of the Committee is to keep filling in definition pages on a routine basis, i.e., a few terms before every Executive Committee meeting.
For more details, please refer to http://wiki.simtk.org/cpms/Glossary_and_Definitions.
6. **Task: Ten Simple Rules:** To establish the foundations of a guidance document, the Committee started an activity to identify Ten Simple Rules to guide credible practice in modeling and simulation in healthcare. The activity is aimed towards a publication, similar to articles in PLoS Computational Biology: Ten Simple Rules Collection. Various activities have been completed in pursuit of this goal:

- A wiki page was created to provide a candidate list of rules and a schedule for related Committee activities. For more details, please refer to [http://wiki.simtk.org/cpms/Ten Simple Rules of Credible Practice/](http://wiki.simtk.org/cpms/Ten_Simple_Rules_of_Credible_Practice/).
 - Task teams discussed and prioritized various rules within the team and across teams. A summary of collective feedback from task teams is provided at [http://wiki.simtk.org/cpms/Ten Simple Rules of Credible Practice/Summary of Results](http://wiki.simtk.org/cpms/Ten_Simple_Rules_of_Credible_Practice/Summary_of_Results).
 - To get feedback from a broader community, a survey has been developed and provided to the all Committee members for feedback. For more details about the survey, see [http://wiki.simtk.org/cpms/Ten Simple Rules of Credible Practice/Survey Design](http://wiki.simtk.org/cpms/Ten_Simple_Rules_of_Credible_Practice/Survey_Design).
 - A contact list to reach out the broader community has been drafted at the wiki, see [http://wiki.simtk.org/cpms/Committee External Contact List](http://wiki.simtk.org/cpms/Committee_External_Contact_List).
 - The Executive Committee is awaiting for members' feedback to launch the survey.
7. Past Advisory Council meeting progress reports and minutes are available at *June 3, 2013 (progress report)*. https://simtk.org/websvn/wsvn/cpms/doc/minutes/ac_20130603-pu.pdf
June 3, 2013 (minutes). https://simtk.org/websvn/wsvn/cpms/doc/minutes/ac_20130603-pu.pdf
 8. Past Executive Committee meeting minutes are available at
April 30, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20130430.pdf
May 16, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20130516.pdf
May 30, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20130530.pdf
June 28, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20130628.pdf
July 11, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20130711.pdf
August 22, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20130822.pdf
September 18, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20130918.pdf
October 15, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20131015.pdf
November 1, 2013. https://simtk.org/websvn/wsvn/cpms/doc/minutes/cm_20131101.pdf

Plans until Next Advisory Council Meeting

1. Committee will continue putting effort in the tasks that already started. Ongoing progress will be documented. Task specific goals aimed for completion are
 - **Task: Visibility & Outreach.**
 - Presentation at 14th annual International Meeting on Simulation in Healthcare (IMSH), January 25-29, 2013, San Francisco, CA.
 - Presentation at MODSIM World 2014, April 15-17, 2014, Hampton, VA.
 - Panel discussion at HFES 2014 International Symposium on Human Factors and Ergonomics in Health Care: Leading the Way, March 16-19, 2014, Chicago, IL.
 - **Task: Definitions.**
 - Provide definitions of terms (a few per Executive Committee member) before each biweekly meeting of the Executive Committee.
 - **Task: Ten Simple Rules.**
 - Launch and complete survey to acquire input from a broader community.
 - Draft manuscript on Ten Simple Rules for Credible Practice of Modeling & Simulation in Healthcare.
2. Discuss and implement potential mechanisms to evaluate performance of Co-Chairs, Executive Committee members, and Advisory Council members.