

IHMC Board of Directors Meeting Minutes  
Monday February 8, 2016  
8:30 a.m. CST/9:30 a.m. EST Teleconference Meeting

Roll Call	Chair Ron Ewers
Chair's Greetings	Chair Ron Ewers

Action Items

1. Approval of December 7, 2015 Minutes	Chair Ron Ewers
2. Approval of IHMC Conflict of Interest Policy	Chair Ron Ewers

Chief Executive Officer's Report

1. Update on Pensacola Expansion	Dr. Ken Ford
2. Research Update	Dr. Ken Ford
3. Federal Legislative Update	Dr. Ken Ford
4. State Legislative Update	Dr. Ken Ford

Other Items

Adjournment

IHMC Chair Ron Ewers called the meeting to order at 8:30 a.m. CST. Directors in attendance included: Dick Baker, Carol Carlan, Bill Dalton, Ron Ewers, Eugene Franklin, Hal Hudson, Jon Mills, Mort O'Sullivan, Alain Rappaport, Martha Saunders, Gordon Sprague and Glenn Sturm. Also in attendance were Ken Ford, Bonnie Dorr, Pam Dana, Sharon Heise, Row Rogacki, Phil Turner, Ann Spang, and Julie Sheppard.

Chair Ewers welcomed and thanked everyone who dialed in this morning. He informed the Board that the next meeting is an in person meeting scheduled for Pensacola on Sunday, June 5 and Monday, June 6, 2016 adding that we would begin the event late Sunday afternoon with a dinner at the Union Public House and have a half day Board meeting in Pensacola on Monday the 6th. He asked all Board members to place this meeting date on their calendar as soon as possible and let Julie know if you are able to attend so we can solidify arrangements and book hotel rooms for out of town guests. He added that with any luck, we could be in the new facility for the meeting.

With those comments, Chair Ewers moved directly into the meeting asking for a discussion and approval of Action Item 1, the December 7, 2015 minutes. A motion was made by Director Sprague and seconded by Director Baker to approve the minutes and this passed unanimously.

Chair Ewers then introduced Action Item 2, calling for a discussion and approval of the IHMC Conflict of Interest Policy. He mentioned that IHMC, as a charitable organization that fundraises, is required to file a registration renewal each year with the Florida Department of Agriculture and Consumer Services and that a new statute this year requires charitable organizations to adopt a policy regarding conflict of interest (COI) transactions. He continued by stating that a copy of the annual certification must be

submitted to the department as part of the organization's annual registration and stated that in the materials for today's meeting, all Directors could find the proposed IHMC Conflict of Interest Policy adding that he would like everyone to review this policy and assuming no issues, adopt this policy or an amended version. A motion was made by Director Baker and seconded by Director Sprague to approve the conflict policy as presented and hearing no further discussion or amendments the IHMC conflict of interest policy was unanimously adopted.

Chair Ewers explained that those two items concluded the action agenda items for this meeting and called upon Dr. Ford to provide his report.

Dr. Ford thanked Chair Ewers and the Board for participating in the meeting and allowing him to present his report. He began by explaining that while it has not been long since the last board meeting in December, and while IHMC researchers enjoyed a well-deserved holiday season break, that everyone has been busily pursuing new grants and contracts and that he would briefly mention a few of these.

Dr. Ford stated that Drs. Jerry Pratt and Peter Neuhaus have received \$540,000 from MegaBots, an Oakland CA-based company founded in 2014 to pursue their founders' dream of giant fighting robots, which they view as the epic future of live-action sporting events. He mentioned that the Board might recall that Jerry and Peter became involved with MegaBots in advance of a Kickstarter campaign in which MegaBots' Team USA challenged Japan to a giant robot duel between the Mark II, a 12,000 lb, 15 ft. tall human-piloted robot, and Japan's own Kuratas robot at roughly 10,000 lbs and 13 ft. Japan accepted, on the condition that it would be a close-quarter "melee." He added that the kickstarter campaign launched on 18 August 2015, and by 18 September it was fully funded stating that the campaign is supporting upgrades to the current Mark II, which tops out at 2.5 mph and was originally built for long-range paintball combat, but will need to now perform hand-to-hand combat. He remarked that the IHMC robotics team will be enhancing the Mark II's dynamic balancing and mobility, while other MegaBot partners will provide a life safety system (NASA), software and design tools (Autodesk), a Hollywood-grade paint job (FonCo), and other improvements and that we are all looking forward to the competition, but we don't envy the guy who will be inside the robot's piloting cage.

He continued on mentioning that as exemplified by the MegaBot collaboration, IHMC continues to diversify funding sources and that Larry Bunch is leading an IHMC team of researchers in partnering with DigiPro Media, a Pensacola-based small business who has funded Larry and his team to develop a demonstration prototype to visualize DigiPro marketing data based upon IHMC's current Netflow Observatory software. Dr. Ford stated that while this initial effort is brief, ending February 28th, DigiPro has expressed intent to fund a phase-2 that could lead to a commercial visualization product to integrate with a DigiPro-developed programmatic ad platform in order to make automatically generated ads as effective as possible. He continued on mentioning that in addition, and in a separate effort, DigiPro has funded the IHMC team to assist in developing an

architectural roadmap and proof-of-concept demonstration for a proposed software architecture to support DigiPro's core IT infrastructure. He concluded this discussion by noting that DigiPro offices are just south of IHMC on Alcaniz Street in Pensacola and that IHMC looks forward to what promises to be a continuing collaboration.

Dr. Ford then informed the Board that Dr. Robert Hoffman has been funded by BAE Systems in the United Kingdom to support two separate but related efforts for the UK's Defence Human Capability Science and Technology Centre, both fundamentally focused on improving human performance within the Ministry of Defence. He stated that the first effort is a scoping study, examining the concept of adaptive expertise and its implications for defense training and education adding that as everyone will recall, Robert is a recognized world authority on expertise and how it is acquired, and in this project he will assist in providing a robust and systematic summary of evidence for how adaptive performance can be developed with a focus on improving military training systems. He continued by commenting that in the second BAE effort, Robert will be exploring cognitive systems engineering approaches in order to determine if, and how, such approaches can improve the design of complex human-machine systems, particularly where these involve cognitive demand or burden mentioning that the goal is to determine how these methodologies can be integrated into current Ministry of Defence acquisition processes to improve them, a lofty goal.

In terms of pending awards, Dr. Ford stated that there are only a few at this time due to the recent holidays, but as they are clearly substantial, he would highlight two. He stated that Dr. Niranjani Suri has been notified of a \$1.4 million award from the Air Force Research Laboratory Information Directorate for a 2-year effort to develop innovative methods enabling effective management of information for military operations. He added that current network architectures and protocols in the command and operations center environment do not transition very well to the tactical field networking environment, where wireless links are unreliable, prone to disconnection, high in latency, and constrained in bandwidth. Therefore, there is a need for technologies to bridge the gap between the operations center and the tactical domain, to better provide warfighters with actionable information in a timely manner in what is further a more contested and higher threat environment. Dr. Ford stated that Niranjani will be working with Dr. Andrzej Uszok on this challenging problem, and their approach will be to explore the concept of "Value of Information," which we believe, is a promising approach to enable rapid filtering and prioritization of information according to the corresponding value perceived by the information consumer, and thus will provide warfighters the most critical information as fast as possible to support their mission in the field.

Dr. Ford also announced that just before the holidays, a team from IHMC-Ocala led by Dr. Bonnie Dorr received the great news that they were selected for an award under the Intelligence Advanced Projects Activity program CAUSE, or Cyber-Attack Automated Unconventional Sensor Environment. He mentioned that the CAUSE program seeks to develop and test new automated methods that forecast and detect cyber attacks significantly earlier than existing methods by fusing information from an organization's traditional internal sensors, such as host data, with less conventional external sensors,

such as publicly available data sources. Dr. Ford stated that Bonnie and her team are partnering with prime contractor Leidos, a spin-off of SAIC founded in 2013, and our role will be to adapt and apply natural language processing technologies to perform event detection and provide input to a Leidos process of generating probabilistic warnings of cyber attacks. He continued by adding that this 3-year, \$1.25 million effort on IHMC's part, is a significant win for the team in Ocala, and an important application of natural language processing to the high national priority area of cybersecurity. He added that Adam Dalton will be taking an important role in this project as it relates to his Ph.D. work at the University of Florida.

Dr. Ford also mentioned that he recently led a Blue Sky meeting for NASA that everyone might find of interest in Pensacola on January 11th and 12<sup>th</sup> with the topic being Spacecraft Refurbishment, Recertification and Resupply. Dr. Ford explained that there were 28 attendees drawing mostly from NASA, the Navy, and IHMC. He then proceeded to show several new research videos of the Atlas Running Man cleaning house and performing artificial intelligence tasks.

Dr. Ford turned the conversation to recent visits explaining that Professor Merry Lynn Morris' team from USF school of Theater and Dance visited IHMC to work with a selected group of IHMC researchers. He explained that Merry leads a team that has designed an innovative wheelchair for paraplegics and others to enjoy dance and enhanced mobility adding that the meeting was productive and will likely lead to further collaborations. He also commented that IHMC hosted President John Thrasher and some of his senior colleagues from FSU and that he was planning to make a reciprocal visit in February to visit with their Vice President of Research, Gary Ostrander. Dr. Ford also mentioned that very recently, IHMC hosted a leadership group from Florida Fish and Wildlife Conservation out of Tallahassee to discuss possible research collaborations.

Dr. Ford informed the Board that IHMC is also working very closely with UWF on several projects. One which may be of interest is a proposal to develop a small Ph.D. program in Intelligent Systems & Robotics that would work similar to European Ph.D. programs with the classroom component at UWF and the research and mentoring portion at IHMC.

He also commented that just this past week, IHMC hosted the IHMC Science Advisory Council which meets every 18 months or so and helps advise IHMC on research trends, opportunities and lending their expertise to steering the broad research goals of IHMC. He mentioned that these scientists, from a range of disciplines and backgrounds, are leaders in government, corporate, and academic arenas. He added that this visit involved JoAnn Morgan, formerly a senior executive at NASA's John F. Kennedy Space Center; Dr. Paul Kaminski who served as Under Secretary of Defense for Acquisition and Technology and Chairman of the Defense Science Board; Dr. William Mularie, CEO of the nonprofit Telework Consortium and former Deputy Director of the National Imagery and Director of the Information Systems Office at DARPA; VADM Al Harms Jr., USN (Ret.) who completed more than 33 years of active duty in the U.S. Navy, while serving as Commander of the Naval Education and Training Command and Director of Naval Education and Training for the Chief of Naval Operations; Dr. Scott Hubbard, a

Professor in the Department of Aeronautics and Astronautics at Stanford University and former Director of NASA's Ames Research Center; and our very own Board member, Dr. Alain Rappaport who needs no introduction. He commented how appreciative he is of the time this talented group of individuals gives IHMC and their assistance in guiding us as we move our research agenda forward.

Dr. Ford then turned his report to construction and repairs discussing the IHMC Ocala Ground Floor Renovation and stating that the latest radon levels are slightly elevated due to the recent cold weather and minimal air circulation to an average of 5.0 pCi/L, which is slightly higher than the EPA recommended action level of 4.0 pCi/L. He added that the Ocala renovation project design work is completed and is waiting funding. He mentioned the IHMC Ocala Re-Roofing sharing project has received a preliminary cost estimate for re-roofing the building using a similar tile roof material, replacing the skylight, repairing the stainless steel gutter system, re-coating the high ceiling fireproofing, and landscaping repair for a total cost of approximately \$500,000. He commented that this work will include the require design and permitting and is awaiting funding. Dr. Ford also mentioned the IHMC Ocala – Osceola Avenue Railroad Repair – commenting that the City of Ocala is in the final design stages for improving the railroad tracks and street crossing areas on Osceola Avenue and that IHMC staff has been working with the design team to maintain the entrance with little interruption and to minimize the visual impact of the crossing gate locations.

Dr. Ford then turned to Pensacola discussing the IHMC New HQ Building Construction – and stating that the new building project is currently 71% complete with interior plumbing, ductwork, electrical panels, and interior wall framing almost finished. He mentioned that the installation of gypsum drywall has started in protected areas and the mechanical building, and major utilities are almost complete. He stated that the South driveway is complete, awaiting final striping and signage. Dr. Ford informed the Board that the total project is behind schedule due to the masonry, mechanical work, and weather delays with the installation of the hurricane rated window frames and glass following the brickwork and the completion of the interior walls and ceilings following closely behind the mechanical ductwork, plumbing, and electrical installation. He added that the general contractor has started working some weekends, weather permitting, and is working diligently to expedite the project without sacrificing quality. Dr. Ford mentioned that the acquisition of the small lot adjacent to the new building is underway and awaiting the final closing date and that we are discussing options for the optimal use of this additional property as part of the overall site plan.

He continued on by mentioning that the relocation of equipment and supplies from our leased 100 South Alcaniz research lab to a temporary storage facility is completed adding that the large running robot treadmill, large metal framework, plexiglas screen, large hydraulic pump, and other equipment has been moved and stored until completion of the new facility. Overall, Dr. Ford stated that the project is approximately 45 to 50 days behind with Hewes Construction having had up to 4 subcontractor crews working on weekends and also working longer hours during the week in an attempt to make up some time. He stated that with some additional days to be added with change orders, expected completion is early June.

Dr. Ford also discussed the 40 S. Alcaniz Building and ongoing Flood Repairs stating that FEMA is still in the final stages of approval and funding allocation for the reimbursement for permanent repairs, contents replacement, and funding the new flood wall/flood gate project for our main building at 40 South Alcaniz Street. He informed the Board that the anticipated FEMA funding for this work is slightly less than \$1.4 M.

Turning to educational outreach, Dr. Ford stated that Science Saturdays has had a strong spring start at both locations with topics over the spring covering reaction time, Florida's springs, 3-D Printing, running robots, and gravity — among others. He commented that the Evening Lecture Series also off to a great start in both Pensacola and Ocala. In Pensacola, he mentioned that Dr. Richard Moon from Duke University gave a wonderful talk about human physiology in extreme environments and that on February 18<sup>th</sup>, Dr. Harrison “Jack” Schmitt will give his talk, “1903-1969, Wrights to Armstrong.” He continued by adding that Kerry Emanuel of MIT will visit on March 24<sup>th</sup> and lecture on climate change and on April 6<sup>th</sup>, Joan Vernikos will be speaking on “Third Age Health: Aging Well in Modern Times.” Finally, he announced that we will wrap-up the Spring season in Pensacola on May 18<sup>th</sup>, 2016 with Leo Thorsness, a retired Air Force Colonel who received the Medal of Honor for his actions in an air engagement on April 19, 1967 in the Vietnam War. He then described to the Board the series in Ocala, beginning on January 27<sup>th</sup>, with Mac Stone, a photographer who delivered his multimedia presentation, “A Walk Through the Everglades.” Dr. Ford mentioned that this was the largest Ocala audience yet and Mac received a standing ovation for his talk. He added that tomorrow night, February 9<sup>th</sup> is Dr. Mark Mattson, Chief of the Laboratory of Neurosciences at the National Institute on Aging, and Professor of Neuroscience at Johns Hopkins University and continuing on with March 31<sup>st</sup>, featuring Brian Shul presenting his lecture, “From Butterflies to Blackbirds.” He continued by stating that Dr. Brent Reynolds from the Department of Neurosurgery at the University of Florida will lecture on April 28<sup>th</sup> and that the Ocala Spring series will wrap up on May 12<sup>th</sup> with Dr. Joseph Signorelli, a Professor at the University of Miami, delivering his lecture, “Bending the Ageing Curve.”

Dr. Ford then showed the Board some video highlighting IHMC's Robot, “Running Man” as the Grand Marshal of the Mardi Gras parade in Pensacola explaining that the weather was perfect and about 60,000 folks were in attendance. He mentioned that about 25 of the robot lab employees walked in the parade throwing beads and IHMC t-shirts.

Dr. Ford then turned to the legislative news explaining that this has been a busy session in both DC and Tallahassee and as always, we appreciate your support in both of these capitals. He explained that he would be in DC the last couple days of this week meeting with elected officials on the Hill.

Concluding his comments, Dr. Ford asked the Board to assist him as our new building nears completion, brainstorming with him on potential naming opportunities associated with this wonderful new facility. He stated that he believes there is a great current opportunity to build an IHMC endowment with these naming opportunities such as the

building itself; the lobby, the rooftop terrace; the courtyard entrance; the integration lab; the board room; adding that he would appreciate talking with everyone on any ideas people may have. And, he stated, not to neglect the Ocala facility, the same naming opportunities exist here in Ocala as well.

Dr. Ford then thanked the Board for their service and leadership and informed Chair Ewers that this concluded his report.

Chair Ewers thanked Dr. Ford and asked the Board for any additional items that they wished to discuss and hearing none, he adjourned the meeting after thanking everyone who dialed in. He stated that he was looking forward to seeing everyone in Pensacola in June and with fingers crossed, holding the meeting in the new IHMC Board of Directors room.

The February 8 meeting of the IHMC Board of Directors adjourned at 9:40 central time.

Respectfully submitted,

Julie Sheppard  
Corporate Secretary