

IHMC Board of Directors Meeting  
Minutes  
January 21, 2011  
Ocala, Florida  
9:00 a.m. Eastern Time

Roll Call	Chair Jim Reeves
Chair's Greetings	Chair Jim Reeves
1. Approval of October 18, 2010 Minutes	Chair Jim Reeves
Chief Executive Officer's Report	Dr. Ken Ford
1. Research Update	Dr. Ken Ford
2. Federal Legislative Update	Dr. Ken Ford
3. State Legislative Update	Brett and Matt Doster
4. Fundraising Update	Vice Chair Glenn Sturm
5. Ocala Building Update	Dr. Row Rogacki
Other Items	Chair Jim Reeves
Adjournment	Chair Jim Reeves
Ocala Research Demonstration	Dr. Yorick Wilks
	Dr. Marco Carvalho
Tours of Facility	
Other Items	
Adjournment	

IHMC Chair Jim Reeves called the meeting to order at 9:00 a.m. eastern time. Directors in attendance included: Dick Baker, Carol Carlan, K.C. Clark, Bill Dalton, Ron Ewers, Eugene Franklin, Hal Hudson, Eric Nickelsen, Jim Reeves, Gordon Sprague, Glenn Sturm, and Hal White. Also in attendance were Ken Ford, Row Rogacki, Julie Sheppard, Alan Ordway, Brett Doster and Matt Doster.

Chair Reeves welcomed the Board informing them that we had a quorum present to conduct business. Chair Reeves thanked everyone for traveling to Ocala and thanked those who were unable to attend but dialed in to the meeting. Chair Reeves also thanked Ken and Nancy Ford for hosting the dinner the prior night at SKY.

Chair Reeves reminded the Board that it was just 51 weeks ago when everyone was here for the grand opening of this Ocala facility and the 1<sup>st</sup> evening lecture by Harrison Schmitt, remarking on how much has happened in just one year. He mentioned that on Wednesday night, 200 people attended an evening lecture in this facility and that just yesterday, IHMC Ocala kicked off its afternoon technical lecture series. He reminded the Board that visitors frequent the facility and it is the site of many collaborative research meetings due to its proximity to UF, USF and UCF.

Chair Reeves informed the Board that he would be calling on Vice Chair Glenn Sturm to update the Board on fundraising initiatives and that at the conclusion of the meeting, Drs. Yorick Wilkes and Marco Carvalho would each do a research presentation followed by a tour of the facility. He also added that he personally had been very busy working with Federal Officers on his security clearance paperwork as Chair of the IHMC board and that he is happy to report that after writing a short novel about his life, family and acquaintances, he might actually be getting close to completing the paperwork.

Chair Reeves then asked for a motion to approve the October 18, 2010 Board minutes. Director Dalton made a motion and Director Sprague seconded the motion and after no discussion, the motion to accept the October minutes passed unanimously.

Vice Chair Sturm thanked Chair Reeves for this opportunity to update the Board and stated that as everyone may recall, at the July Board meeting, he became Chair of Fundraising. He thanked all for entrusting him with the critical role of raising funds for IHMC. He explained that he has taken this role seriously and through IHMC, has hired FundStrat, a group headed by Andrew Young, who has over 20 years of development and marketing experience. Vice Chair explained that Andrew's national contacts and his work ethic are second to none and remarked as to how pleased we are to have Andrew on board. Vice Chair Sturm stated that he, Andrew, and Julie are meeting regularly to hone the IHMC plan. Andrew began last month and has visited both Ocala and Pensacola several times and met with all the PI's to become familiar with IHMC research, stages of maturity and advancement of mature technologies.

Chair Reeves then asked Dr. Ford to provide his report. Dr. Ford thanked everyone for participating in the IHMC Board Meeting and thanked Chair Reeves for the opportunity to provide this report. He remarked how great it was to once again host our Board meeting in our Ocala facility explaining that one year ago we met here for the first time in our new facility and that since then, it has been an exciting year at IHMC-Ocala. Dr. Ford commented that IHMC has recruited new staff, kicked-off an amazingly successful lecture series, and built strong relationships in the community and with universities and research organizations in the area, adding that the proximity to Gainesville and Tampa have already proven beneficial and we have only scratched the surface. He commented that in particular IHMC has established collaborations with Moffitt and USF in Tampa, and with UF in Gainesville. He added that IHMC's reception in Ocala has been just great and that he particularly would like to thank Ron Ewers for his assistance in helping us meet the right folks and get off to a solid start.

Dr. Ford then began his federal legislative report remarking that IHMC has continued to enjoy excellent relations with our elected officials in DC and that Congressmen Miller and Stearns have been wonderfully supportive, as has Senator Nelson. He explained that we are very appreciative of their support for IHMC and that he hopes that when Board members see these individuals, that you will, on behalf of the IHMC Board of Directors, convey your thanks! He added that next year promises to be a tough year in DC as all Federal spending will come under intense scrutiny and that as Board members know,

research labs such as IHMC derive the lion's share of their funding from the Federal sector so things could get exciting and not in a good way. He explained that the Federal situation will make success in Tallahassee all the more important.

Dr. Ford then turned to State issues, explaining that as everyone knows, the State continues to have serious financial issues. He added that we have worked hard over the last few years to strengthen and solidify relationships with current and emerging leaders in the House and Senate and that this past fall a number of key legislators visited IHMC HQ in Pensacola. Of particular note, Dr. Ford mentioned visits in early Fall, by Senate President Jeff Atwater, accompanied by Senator Gaetz, who toured IHMC and visited the Robotics Lab. Dr. Ford mentioned that in mid December, House Speaker Larry Cretul, accompanied by Representative Murzin, visited IHMC and toured the robotics lab. He also referenced other legislative visits to Pensacola and Ocala. Dr. Ford then asked Matt Doster of our legislative affairs team to give a more detailed briefing on upcoming climate in Tallahassee and IHMC initiatives.

Matt Doster thanked Dr. Ford and spoke briefly about upcoming challenges in Tallahassee including the budget shortfall, administrative changes and makeups of committees. He thanked everyone for being willing to talk with their representatives and senators in support of IHMC.

Dr. Ford thanked Matt and asked Dr. Row Rogacki to give an update on the Ocala facility. Row informed the Board that the paperwork had been submitted for LEED Gold certification with all the required points explaining that IHMC was hopeful it would get this designation. He explained that the building was great but as with all large-scale construction or renovation projects on an older building that there were issues and that this project has been no exception. Row explained about the mechanical HVAC system not meeting the cool air needs when large amounts of people occupied the facility and some problems with the doors but that both issues were being addressed and IHMC hoped to find cost effective solutions. He encouraged the Board members to tour the building at the conclusion of the meeting and thanked Dr. Ford for the opportunity to provide this report.

Dr. Ford thanked Row and turned to a discussion of new research funding explaining that since the October meeting, IHMC has a nice collection of new research projects totaling a little over \$4M adding that he would briefly discuss several of the projects. He mentioned that James Allen has had a particularly productive period since our last Board meeting, receiving a major competitive award as part of the DARPA "Oh By the Way" program. He described the OBTW program as one inspired by modern software systems that are capable of guiding novice users through a complex problem solving environment to produce expert results, and to think of a much more sophisticated system that was in some ways like tax preparation software. Dr. Ford mentioned that DARPA is pursuing such technology for the defense mission planning environment which, unlike the tax domain, is neither well codified nor limited in scope and that the IHMC team includes the University of Rochester as a subawardee. He stated that the project is called "Extensible Collaborative Systems for Mission Planning" and that the IHMC approach to this effort

uses a novel computational theory of human-machine collaboration as well as intuitive dialog-based interaction to make mission planning systems act more like good human assistants than passive pieces of software. He concluded the project discussion mentioning that the 39-month project includes two options that IHMC expects to be funded, making the total funding nearly \$2.7 million.

Dr. Ford also mentioned a project with Drs. Anil Raj and Nate Blaylock with an award of a second year of funding under the partnership with the Moffitt Cancer Center on a grant from the National Institutes of Health. In this effort, he explained, IHMC and Moffitt are developing information infrastructure focused on research into comparative effectiveness of cancer intervention and treatment strategies. He added that IHMC's role in the project is to use natural language processing to extract useful patient information from a variety of clinical reports, from highly structured lab results to unstructured text reports and that IHMC is very excited about this collaboration with Moffitt and looking forward to others.

Dr. Ford also highlighted that Dr. Niranjan Suri had won a cooperative agreement from the Air Force titled "Intelligent Proxy Services and Android Support for Tactical Edge Networks" and that IHMC has a twofold role in this effort. He explained that the first component is to develop a set of capabilities to improve communications over tactical radio links, which tend to form unreliable and bandwidth-constrained communications networks. The second component is to develop applications and services for the Android platform, which could be a powerful alternative for developing applications to be fielded on small, inexpensive, and perhaps even disposable hardware. Dr. Ford mentioned that this project is funded at the level of \$400,000.

Looking ahead to a new start, Dr. Ford discussed a project that IHMC is currently negotiating with DARPA for an award for research to be led by Dr. Jerry Pratt and Dr. Peter Neuhaus entitled "FastRunner." He stated that IHMC plans to develop a fast, efficient, dynamic bipedal robot capable of traversing moderately rough terrain at speeds faster than any person can run with possible missions to include surveillance, sentry, supply and equipment transport, covert operations, diversion, medical response, sensor and ordnance dispersal, fire suppression, and operation as an unmanned aerial vehicle remote base. Dr. Ford stated that the total funding will be approximately \$3.7 million including a baseline year and three option years and that DARPA has announced their intent to fund this research and that IHMC is in the negotiation phase at this time and that as always, the option years are uncertain. Dr. Ford showed the Board some simulations of the Fastrunner project at high speeds of movement.

Dr. Ford wrapped up his research update with a discussion of a project by the IHMC robotics researchers, which involved a significant amount of testing with our mobility assistance exoskeleton that was designed to assist paraplegics with walking. He explained that two volunteer participants tested IHMC's devices under the supervision of a total of 15 medical professionals who provided a cumulative 92 hours of pro bono monitoring services.

Dr. Ford showed the Board a video of the first participant, a male, SCI complete with injury to his T10 vertebrae, 21 years old, 3 years post injury adding that he had a total of 7 testing sessions, for a total time of about 1 hour and 40 minutes in the exoskeleton. He informed the Board that by the end of his testing, the participant was able to walk using forearm crutches for balance assistance adding that he will continue his testing with a few more sessions. Dr. Ford showed the Board a video of the other participant who was brought to Pensacola for a week of testing explaining that she is an SCI complete with injury to her T12 vertebrae, 26 years old, 4 years post injury. He added that over the course of 5 full days of testing, she spent about 5.5 hours in the exoskeleton, and walked a total of about 990 feet. He added that at the end of her testing, she was able to easily walk with crutches in a straight line, a curved line, and turn around. He mentioned that IHMC also performed a rudimentary cognitive load test, and that she was able to have a conversation while walking in the exoskeleton. IHMC also tested her balance ability in the exoskeleton by rapidly tossing balls to her while she used one arm to stay balanced with a forearm crutch and that the participant was easily able to catch and throw the balls back. He discussed her visit in more detail adding that on the second day of testing, she was walking easily enough in the exoskeleton that she felt like it was part of her and that at the conclusion of second day of testing, it was an emotional experience for her because she was walking for the first time in 4 years. She also felt that she could now realistically hope to walk again. He mentioned that at the end of her testing, she reported that a chronic pain in her hip subsided during the week and then returned a few days after the completion of the testing. Dr. Ford wrapped up the exoskeleton discussion adding that both participants enjoyed their time in the exoskeleton, and felt that this type of device would dramatically improve their quality of life in terms of physical and mental health, and social interactions.

Dr. Ford then turned to fundraising mentioning to the Board that they would recall from the fall meeting, that the board authorized Vice Chair Sturm to engage the services of a fundraiser and that Andrew initiated his efforts this fall. Dr. Ford then asked Vice Chair Glenn Sturm to update the Board on our fundraising efforts.

Vice Chair Sturm thanked Dr. Ford and reported to the Board on recent fundraising efforts, explaining that it was a slow process through the holidays but that feelers were out with many large corporations and family foundations and that visits were being scheduled for the upcoming months to IHMC Pensacola and Ocala. He added that he hoped to report some initial success by the April Board meeting.

Dr. Ford thanked Vice Chair Sturm and turned to a discussion of Community Outreach informing the Board of the visitors slated to speak for the spring lecture series in both Ocala and Pensacola. He showed several slides and commented that the Ocala's spring series kicked off this past Wednesday with a talk by Roger Schank on Cognition Based Education adding that on February 23<sup>rd</sup>, Jack Burns will be in Ocala discussing "Exploring the Cosmos from the Moon" followed on March 16<sup>th</sup> by Retired Air Force General Lester Lyles discussing the "Importance of STEM Issues in America's Future" and then just two short weeks later, on March 31<sup>st</sup>, Michael Turner will discuss "Dark Matter and Dark Energy."

Dr. Ford also discussed the Pensacola's Spring Season that will kick off the following week with a talk by Quint Studer, followed by Glenn Sturm on February 17<sup>th</sup> discussing the "Art of Building Lasting Organizations" and then on April 7<sup>th</sup>, Dr. Michael Summers as part of the UWF Smart Lecture Series will discuss "Achievements in Magnetic Resonance."

Dr. Ford informed the Board that we are always looking for sponsors for these events and would appreciate everyone thinking of IHMC if you know of corporations or friends who would be interested in a season sponsorship or individual lecture sponsor. He personally thanked IHMC Board Chair Jim Reeves and Carol Carlan for their support of speakers this past fall as well as the College of Central Florida, the Ocala co-host, and Clark Partington Hart, our season sponsor this past fall in Pensacola who has again committed to being a season sponsor this spring.

Dr. Ford mentioned that IHMC's Educational Outreach continues to be strong and IHMC was fortunate to receive a nice \$25,000 gift from the Baroco Foundation this past December to support our 2011 educational outreach initiatives in Pensacola. He added that we are actively seeking Ocala sponsors to begin a similar program in Ocala this year. Dr. Ford also mentioned that in Ocala, IHMC has engaged in several smaller Education Outreach projects including supporting the Central Florida College robotics summer program and sponsoring the Robopalooza competition for the Cornerstone School. He showed the Board t-shirts from these events.

Dr. Ford thanked Chair Reeves for the opportunity to provide this report, adding that it was now concluded for the Board members on the phone and that he very much appreciates the participation by Board members.

Chair Reeves then extended an invitation to Board members to listen to brief research reports by Dr. Wilks and Dr. Carvalho and then to enjoy lunch.

The Board meeting was adjourned at 11:00 am eastern time.

Respectfully submitted,

Julie Sheppard  
Corporate Secretary