



IHMC Board of Directors Annual Meeting

Monday, December 12, 2011

8:30 a.m. Central Time/9:30 a.m. EST

Roll Call

Chair Jim Reeves

Chair's Greetings

Chair Jim Reeves

Action Items

1. Approval of June 20, 2011 Minutes

Chair Jim Reeves

Discussion Items

1. External Audit Update

Finance Chair Dick Baker

2. Fundraising Committee Update

Vice Chair Glenn Sturm

Chief Executive Officer's Report

1. Legislative Update

Dr. Ken Ford

2. Research Initiatives

Dr. Ken Ford

3. Ocala Update

Dr. Row Rogacki

Other Items

Adjournment

IHMC Board of Directors Meeting
Minutes
June 20, 2011
Pensacola, Florida
8:30 a.m. Central Time

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| Roll Call | Chair Jim Reeves |
| Chair's Greetings | Chair Jim Reeves |
| 1. Approval of April 11, 2011 Minutes | Chair Jim Reeves |
| 2. CEO Salary Increase Adjustment | Finance Chair Dick Baker |
| 3. Adopt Meeting Schedule for 2011-2012 | Chair Jim Reeves |
| 4. Adoption of Unsecured Credit Line | Chair Jim Reeves |
| 5. Adoption of Revisions to Tax Deferred Plans | Chair Jim Reeves |
| Discussion Items | |
| 1. Fiscal Update and External Audit | Finance Chair Dick Baker |
| 2. Fundraising Committee Update | Vice Chair Glenn Sturm |
| Chief Executive Officer's Report | |
| 1. Legislative Update | Dr. Ken Ford |
| 2. Research Initiatives | Dr. Ken Ford |
| 3. Ocala Update | Dr. Row Rogacki |
| 4. Intellectual Property | Dr. Ken Ford |
| 5. Research Demonstration | Exoskeleton |

Other Items
Board Photograph
Lunch

IHMC Chair Jim Reeves called the meeting to order at 8:30 a.m. central time. Directors in attendance included: Dick Baker, Carol Carlan, K.C. Clark, Bill Dalton, Ron Ewers, Eugene Franklin, Chris Hart, Hal Hudson, Eric Nickelsen, Tico Perez, Jim Reeves, Ray Russenberger, Glenn Sturm, and Hal White. Also in attendance were Ken Ford, Sharon Heise, Row Rogacki, Julie Sheppard, Alan Ordway, and Ronnie Armstrong.

Chair Reeves welcomed the Board informing them that we had a quorum present to conduct business. He thanked all the Directors who attended in person and those that were unable to be present but took the time to dial in. He apologized for missing dinner, explaining that he had a family Father's Day event but said he understood that the dinner was well attended and excellent.

Chair Reeves informed the Board that there was a full morning scheduled with a visit to the robot lab and that he would be brief. In addition to the agenda items, Chair Reeves mentioned that he would be calling on Director Dick Baker to discuss

financials and Vice Chair Glenn Sturm to provide a fundraising update as well as Dr. Ford for his report. With those brief comments, Chair Reeves moved directly into the meeting.

Chair Reeves introduced Action Item 1 concerning the Approval of the April 11, 2011 Minutes. He asked for a motion to approve.

Chair Reeves then introduced Action Item 2, a discussion of Dr. Ford's CEO Salary and action on an adjustment. He explained that as many Board members will recall, in 2004, this Board developed a 5 year compensation plan but have only implemented 2 years due to the financial uncertainty of the economy and Dr. Ford's prior requests to delay implementation. Chair Reeves then asked Director Dick Baker, plan creator and Chair of Finance and Audit to discuss this issue.

Director Baker thanked Chair Reeves and began a discussion of the agenda item informing the Board that as they might recall, in June 2005, the IHMC Board approved a 5-year compensation package for Dr. Ford that included both a salary and stipend and 5 years of scheduled increases. Director Baker added that in January of 2006, Dr. Ford became an IHMC employee and the first year of the salary package was implemented, however, due to economic issues, Dr. Ford had previously requested that several years of the scheduled increases not be implemented, thus making the plan 4 years in arrears. Director Baker proposed that effective July 1, 2011, that Dr. Ford's salary be increased to represent the 2007 salary goal as set forth in the December 22, 2004 plan and that his stipend be increased by \$10,000. Director Baker moved and Director Carlan seconded the motion and with no discussion, the salary and stipend increase for Dr. Ford was unanimously approved.

Chair Reeves thanked Director Baker and began a discussion of Action Item 3 involving the adoption of a meeting schedule for 2011-2012. He explained the dates and added comments that the June dates may need to be adjusted to not interfere with Fiesta and Father's Day. A short discussion ensued and the Board amended the agenda item to include the following meeting dates for 2011-2012. A motion was made by Director Clark and seconded by Director Carlan to approve the amended meeting dates. The motion passed unanimously to approve the following: a telecom Monday morning October 17; an in person meeting in Ocala January 19-20 with the social event Thursday evening January 19 and the meeting Friday morning January 20, 2012; a third meeting as a telecom on Monday morning April 16, 2012; and a fourth in person meeting Sunday and Monday June 10 and 11, 2012.

Chair Reeves then introduced Agenda Item 4 involving a Board Resolution for adoption of an unsecured credit line in the amount of \$2 million with IHMC's bank SunTrust. He explained that the idea here is to provide float to IHMC should the federal government shut down temporarily while attempting to pass a budget as was threatened this past spring. He explained that while there would be no intent to utilize this line now, in an abundance of caution, we thought it prudent to explore

and shop around for rates and costs and found these to be reasonable. In summary, Chair Reeves explained the details as follows:

Secure a \$2,000,000.00 unsecured line of credit at a prime rate of LIBOR plus 2.5% with a 3% floor (The minimum interest rate would be 3%). This credit line will assist in providing a six-month grace period should the federal government temporarily shut down as was envisioned this past April 2011. The costs to IHMC of establishing this temporary line of credit will be approximately 20 basis points or approximately \$4,000. The resolution before us is to approve the line of credit and any related fees and authorizing Dr. Ken Ford, IHMC Chief Executive Officer or Ronnie Armstrong, IHMC Controller, and Julie Sheppard, General Counsel and Corporate Secretary to sign and execute all required documents for the credit line on behalf of the Board of Directors.

A motion to approve the \$2 million unsecured credit line on the terms addressed above was made by Director Nickelsen and seconded by Director Baker. The motion passed unanimously.

Chair Reeves then introduced the last agenda item, Action Item 5 which would allow revisions to IHMC's two tax deferred annuity plans to make the plan documents and summary plans provided to employees consistent. Chair Reeves directed questions on this item to Controller Ronnie Armstrong and then summarized the agenda item as follows:

IHMC has two tax deferred plans for retirement contributions, one is a 403b and one is a 457b Both plans allow for voluntary contributions by employees and the 403b also has employer funded contributions. The purpose of this agenda item is to update the plans for consistency and make changes that align the plans with summary description available to all employees. The plans have been reviewed by the firm Saltmarsh Cleveland & Gund and DJ Simonetti from the Birmingham office of Burr & Forman who specializes in Employee Benefit Plans and Tax Law. The amendment changes include the following and other non-substantive changes to make the IHMC plans consistent in the following ways:

1. Immediate vesting
2. No age requirements for either plan
3. Must be employed full-time at 30 hours per week (.75 FTE) to be eligible for the defined contribution plan (our 11%)
4. No hourly/FTE requirement for the voluntary deferral.
5. No loans allowable for either component.
6. The defined contribution (11%) only applies to base salary and does not include any fringe, taxable or not, or any other form of "compensation".
7. The summary plan description mirrors the full-scope agreement.

Hearing no questions or comments, Chair Reeves asked for a motion approving this resolution. A motion was made by Director Baker and seconded by Director

Russenberger. The motion passed unanimously.

Chair Reeves then informed the Board that this concluded the Action Items and he then asked Director Dick Baker, Chair of Finance and Audit to discuss the IHMC Financials.

Finance Chair Baker thanked Chair Reeves and shared with the Board his analysis of the monthly and yearly financials. He discussed IHMC's Statement of Financial Position from 2010 in comparison to 2011, detailing assets and liabilities informing the Board that IHMC's revenue and change in net assets had increased by approximately \$1.5 million. Director Baker also discussed the IHMC Financial Statement Narrative for the close of the fiscal year and the projection for closeout on June 30, 2011. Director Baker informed the Board that the team of Saltmarsh was again in residence beginning the independent audit and once again, IHMC had no expectation of any substantial issues or findings.

Chair Reeves thanked Director Baker and then asked Vice Chair Glenn Sturm, Chair of Fundraising to update the Board on the Fundraising activities to date.

Vice Chair Sturm thanked Chair Reeves and began his discussion. He explained that Andrew Young continued to use his best efforts to introduce IHMC and its programs to the philanthropic community and that while there were many promising discussions on the horizon, that to date, no substantial gifts have been received. Vice Chair Sturm mentioned that often these conversations required time and he was very hopeful of reporting progress in the near future.

Chair Reeves thanked Vice Chair Sturm for his report and then turned to the IHMC CEO, Dr. Ford to provide his report.

Dr. Ford thanked Chair Reeves for the opportunity to provide this report. He also thanked the Board for the generous salary increase and stipend that they had approved explaining that he truly appreciate the confidence that the Board continues to show in IHMC. He stated that all of IHMC remains grateful for your support.

Dr. Ford then turned his attention to informing the Board about the statewide scenario and stated that he was happy to inform everyone that IHMC survived the session and veto pen. He added that IHMC is slightly down with a state appropriation of \$1,457,864, which is about a 2% overall cut. He explained that IHMC was very pleased with the support we received from the House and Senate, with special thanks to Senators Don Gaetz and Evelyn Lynn and House Representatives Clay Ford and Marlene O'Toole. Dr. Ford added that as everyone may know, the next session starts this year in January 2012 so it will be a quick turn around. Dr. Ford thanked the IHMC lobbying team for their efforts and explained that IHMC was also following the oil spill legislation that passed due to the diligent

efforts of Senator Gaetz and that we continue to look at any opportunities that this legislation may provide in the future.

Dr. Ford then turned to the federal arena explaining that while issues in Washington remain in flux, it is that time again when IHMC looks at new projects and partnerships. He explained that Dr. Sharon Heise is again leading this effort for IHMC. He also took a moment to acknowledge the support that IHMC received this past year from Representative Jeff Miller, Representative Cliff Stearns, and Senator Nelson. He stated that IHMC continues to be appreciative of their support for IHMC research initiatives and that we hope when you see these advocates for Florida, that you will, on behalf of the IHMC Board of Directors, convey your thanks.

Dr. Ford then turned to the research report explaining that since the last IHMC board meeting in April, IHMC researchers have been awarded approximately \$1.1M in new research funding. Dr. Ford mentioned that he would explain several of these new sponsored research projects that include an award to Drs. Jerry Pratt and Peter Neuhaus from DARPA through Boston Dynamics on the ATLAS Humanoid Robot for \$108,444; and Dr. David Atkinson from AOARD on Assessing Current Research on Autonomous Systems and Related Technologies for \$95,000 and to Dr. Niranjan Suri through SPAWAR on a project entitled Agile Service-oriented Architectures for Tactical Edge Networks in the amount of \$896,338.

He explained that in one of these new sponsored research projects, Dr. Niranjan Suri will be studying agile service-oriented architectures for tactical networks under the sponsorship of the Navy's Space and Naval Warfare Systems Command in San Diego. He explained that these Service-oriented Architectures, or SoAs, are an approach to designing, building, and integrating large-scale software systems in order to support rapid configuration, deployment, and reconfiguration. He added that traditionally, SoAs have been designed for the Internet and wired infrastructure networks, which are characterized by relatively stable links and sufficient bandwidth but that Niranjan's work, however; will adapt and enhance SOAs such that they are able to resiliently operate over comparatively unstable and bandwidth-constrained DoD wireless mobile ad-hoc networks.

Dr. Ford continued on to explain that Dr. Jerry Pratt's team recently received a sub award from Boston Dynamics to participate in the DARPA Atlas humanoid robot program and by capitalizing on the robotics group's expertise in legged locomotion, IHMC will be advancing dynamic walking ability for the Atlas robot over complex terrain and in the presence of disturbances. He concluded by mentioning that among the new awards, Dr. David Atkinson has completed his IPA tour with AFRL's Asian Office of Aerospace Research and Development in Tokyo and has returned to IHMC as part of the Ocala research team. He added that during his first three months with IHMC, Dave will continue to be sponsored by AOARD and is currently surveying research on autonomous systems in Asia and the Pacific Rim region that would benefit U.S. Air Force science and technology needs.

Dr. Ford also mentioned that there are also several projects for which we have been notified that funding will be forthcoming, but has not yet officially arrived. He commented that among these include an award from DARPA to Dr. Nate Blaylock to explore key technical challenges involved in using first-person spoken or textual natural language descriptions to aid geolocation and navigation in the absence of GPS. By linking a natural language dialog system with a geographic database, Nate will develop a system that will operate on the principle of “tell me what you see and I’ll tell you where you are.”

Dr. Ford also mentioned that under pending DoD sponsorship, Dr. Marco Carvalho will be developing command and control concepts for cyber situation awareness in compromised and what are known as “moving target-enabled” network environments. He explained that a moving target-enabled environment is one in which the network is purposely designed to appear chaotic to an adversary while maintaining system functionality and that Marco’s work will ensure such a network will provide insight into and high confidence in continuing operations for authorized users.

Dr. Ford also commented that Dr. Choh Man Teng will soon be returning from a sabbatical in Portugal and will be working with Dr. Clark Glymour to automate reasoning over data sets obtained from multiple related studies. He mentioned that this work will be supported by the James S. McDonnell foundation, and it will result in methods for selecting follow-up experiments that best identify all the cause-and-effect relationships between variables in the data.

In concluding his comments on individual projects, Dr. Ford mentioned several IPA or temporary federal assignments have been renewed or extended, to include Drs. Jerry Pratt and Peter Neuhaus’ work with NASA Johnson, and Drs. David Maluf’s and Guy Boy’s support from NASA Ames.

Dr. Ford then turned the discussion to several major multi-year proposals that have been submitted by IHMC this quarter and are in play mentioning that of particular note are two multi-partner proposals to NASA and the Intelligence Advanced Research Projects Agency, or IARPA. Dr. Ford explained that in the NASA proposal, IHMC has teamed with the Universities Space Research Association and Carnegie Mellon University to offer research support for the Human Systems Integration Division as well as the Intelligent Systems Division at NASA Ames Research Center. He added that in the IARPA proposal, IHMC teamed with game developer Breakaway and a number of other partners to plan to create experimental Serious Games to train participants and measure their proficiency in recognizing and mitigating the cognitive biases that commonly affect all types of intelligence analysis. Dr. Ford noted that teaming our technologies with video gaming and virtual world environments is a noteworthy new research direction for IHMC, and it has many implications for working with new customers interested in realistic virtual training environments.

Dr. Ford then began a discussion of new intellectual property updates and asked Julie Sheppard to update the Board on new developments.

Julie thanked Dr. Ford for the opportunity to provide an update and briefly discussed developments under way with intellectual property held with UWF including Cmaps, OZ and PIM. She explained that with PIM, a continuation application has been filed and we are awaiting a response from the patent office.

Julie also commented that recently, on May 26th, 2011, IHMC jointly with Honda received a patent on the Push Recovery technology for robotics.

Julie mentioned that there were also developments on IHMC patents including tBot, the initial patent reconfigurable balancing robot and method for dynamically transitioning between statically stable mode and dynamically balanced mode", 7,798,264, was issued September 21, 2010. She mentioned that with regard to PLOWS (interactive complex teaching system; Procedure Learning from Instruction and Observation), that IHMC just paid the issue fee and that patent should be forthcoming. Julie continued on mentioning that HELO, or the Human Centered Helicopter Display; was awaiting patent office action as is Opportunistic Listening, the provisional application filed last year and the full patent application was in progress and scheduled to be filed by late summer. Julie also mentioned a cyber security patent was in process for near filing as was an updated claim on tBot. In addition, she added that IHMC has 6 current potential patents from the robotics and assistive technologies researchers that are being written.

Julie then updated the Board on the Maryland startup, eSky, that was awarded an exclusive license on OZ fixed wing for experimental aircrafts back in 2007 mentioning that eSky had met its agreed upon milestones and that this license in year 4, was now at the point where IHMC should begin receiving royalties and conversations with eSky had confirmed that royalties of \$30,000 would be payable at the later end of 2011. She concluded her remarks and thanked Dr. Ford for the opportunity to provide this report.

Dr. Ford thanked Julie and turned the discussion to the Ocala office mentioning that an IHMC/USF Research Collaboration meeting was held on June 14th at the University of South Florida with Dr. Heise and Dr. Rogacki participating from IHMC and Mayor Rick Baker leading the effort from the USF side. He added that while IHMC already has a few collaborative efforts with USF, that we hope to expand the partnership and develop a formal affiliation agreement. He continued the Ocala update discussing the IHMC/UF Research Day planned for September 1st in Ocala adding that there had already been a Research Day with members of the Computer and Information Sciences Engineering Department and adding that this next meeting will include faculty from the Mechanical and Aerospace Engineering, Electrical and Computer, and Industrial and Systems Engineering Departments.

Dr. Ford discussed some of the IHMC community outreach activities in Ocala mentioning that he conducted an Evening Lecture at The Villages on June 13th and that with the help of Ron and Phyllis Ewers, funding has been promised for the Ocala Outreach coordinator and IHMC was in the process of identifying candidates for the position. Dr. Ford mentioned several summer activities including IHMC participating in CF-sponsored "Camp Discovery" and Robotic Summer Camps and hosting visitors from Gainesville Chamber and EDC. Dr. Ford also mentioned that at the request of Mayor Randy Ewers, IHMC hosted Mayor Paddy Kennedy of Newbridge, Ireland, with Newbridge being Ocala's sister city.

Dr. Ford also updated the Board on the facility progress mentioning that a detailed engineering design has been completed for the air conditioning fix and that IHMC has requested proposals from four companies to install the new systems.

Dr. Ford discussed a new Ocala Research Scientist in residence, Dr. Dave Atkinson, who returned from AOARD, the Asian Office of Aerospace Research and Development in Tokyo, adding that AOARD is part of the Air Force Office of Scientific Research. He added that one of the IHMC programmers, Marco Aguedas has departed for a new opportunity in Atlanta and two IHMC researchers in Ocala, Erika and Massimiliano, will be married on June 25th in Padua, Italy. He added that after honeymooning in Iceland, Ericka and Max will be returning to continue their work in Ocala around July 7th.

Turning to Pensacola, Dr. Ford announced that Chris Schmidt-Wetekam, joined IHMC as a Research Scientist working with the Robotics group on various projects including Robonaut, Atlas, FastRunner. He mentioned a new hire, Jesper Smith from the Netherlands who joins IHMC as a Research Associate working with the Robotics group also on Robonaut, Atlas, and FastRunner.

Dr. Ford then informed the Board that there were lots of young people roaming the IHMC corridors here and in Ocala as summer hires and that he would mention a few. He began with Caitlin Greskovich, adding that Caitlin joins IHMC for a summer internship, working with Drs. Raj, Neuhaus & Pratt. He mentioned Lauren Vassiliades, who is returning for another summer to re-join Dr. Anil Raj's group. He discussed Stephen McCrory, an undergraduate at MIT who will be interning at the Robotics lab with Drs. Pratt and Neuhaus this summer. Dr. Ford mentioned that Daniel Duran has rejoined IHMC for another summer internship, working with Drs. Jerry Pratt & Peter Neuhaus in the Robotics Lab. He told the Board that Peter Fankhauser from ETH in Switzerland will be joining Dr. Neuhaus to work on a dynamic gait controller for Project Mina. He added that Jeremy Coffield, Nick Oren and Stephen McCrory all will join IHMC as Summer Interns working with Drs. Pratt and Neuhaus on Robonaut, Atlas, FastRunner. In Ocala, Dr. Ford mentioned that from the University of Florida, Gowri Shankar Panneer Selvam will join us for a summer internship working with Dr. Marco Carvalho on the SCADA project and that Atul Rawat, a masters student at UF with previous industry coding experience will

be working with Dr. Nate Blaylock on creating a TRIPS interface to Google Earth for visualization.

Dr. Ford began a discussion of the lecture series and education outreach adding that plans are continuing for the Fall lecture series in Ocala and Pensacola and that in Ocala, Central Florida College is hoping to again provide some financial support and in Pensacola, IHMC continues to have the support of Clark, Partington, Hart as a season sponsor.

On the science outreach front, Dr. Ford added that we are again working with area teens on a summer research intern program that features SCRATCH camp and some other science related activities as well as lining up the Pensacola fall sessions of Science Saturdays. Dr. Ford mentioned that the Ocala science outreach looks like it will begin this coming year and that IHMC is currently working on a hire in Ocala to coordinate this program adding that finding the right person to integrate between scientists and the community is the key to the success of this program.

With these remarks, Dr. Ford informed Chair Reeves that this would conclude his report and that he appreciated the opportunity to update the Board.

Chair Reeves thanked Dr. Ford for an exceptional report and then asked the Board if there were additional items to come before the Board. With no additional comments, Chair Reeves adjourned this portion of the meeting and thanked Directors Perez and Hart for dialing in and the other members for attending. He then explained to the in person Directors that there would be a 5 minute break and then the Board would reconvene to go to the robotics lab for an Exoskeleton demonstration to be followed by a group photograph and lunch.

The Board meeting adjourned at 11:45 a.m.