

IHMC Board of Directors  
Meeting Minutes  
Monday, September 18, 2023  
8:30 a.m. CST/9:30 a.m. EST

Roll Call	Chair Bill Dalton
Chair's Greetings	Chair Bill Dalton
Action Items	

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| 1. Approval of June 12, 2023 Minutes             | Chair Bill Dalton   |
| 2. Discussion and Approval of June 30 Financials | Director Dick Baker |

Chief Executive Officer's Report

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| 1. Update on New Building             | Dr. Ken Ford |
| 2. Research Update                    | Dr. Ken Ford |
| 3. State & Federal Legislative Update | Dr. Ken Ford |

Adjournment

IHMC Chair Bill Dalton called the meeting to order at 8:30 a.m. CST. Directors in attendance included: Dick Baker, Bill Dalton, Ron Ewers, Eugene Franklin, Hal Hudson, Jon Mills, Eric Nickelsen, Mort O'Sullivan, Jay Patel, Martha Saunders, Ray Russenberger, and Gordon Sprague. Also in attendance were Ken Ford, Morley Stone, Ronnie Armstrong, Phil Turner, Ryan Tilley, Alan Ordway, Carol Carlan and Julie Sheppard.

Dr. Dalton greeted everyone and thanked everyone for being in attendance in person and those who dialed in and informed the Board that there were two items to discuss followed by Dr. Ford's report.

He introduced Action Item 1 and after asking if everyone had reviewed the minutes he asked for an approval of the June 12, 2023 minutes. Director Sprague moved approval followed by Director Bakers' second. With no discussion, the motion passed unanimously.

Chair Dalton then introduced Agenda Item 2, asking Dick Baker, IHMC Chair of Finance, to discuss the current IHMC financials. Director Baker discussed the financials as of June 30<sup>th</sup> stating that it was a good year financially and that IHMC has enjoyed strong legislative support. He informed the Board that there was a significant increase in net assets and that he would go into more detail at the December meeting as we discussed the audited financials. Chair Dalton thanked Director Baker and asked for any questions or discussion on the financials. Hearing none, Chair Dalton asked Dr. Ford to provide his report.

Good morning Board members and thank you Chair Dalton. Dr. Ford began his remarks informing the Board that the State of Florida Legislative Committee Weeks for the 2024 Session began this

week and added that the regular session is early this year and scheduled to begin in January and run through March.

He stated that revenue continues to be strong for Florida and is projected to remain that way, at least for one more year. He remarked that the most recent revenue estimating conference revised general revenue upward by approximately \$1 billion over previous estimates and that while economists throughout the country are warning about economic slowdown, Florida's economy has been stronger than most, with an unemployment rate a percentage point lower than the national average. He stated that hurricane season is always a wild card that could bring some additional economic pressure, but for the most part we are looking at another year of opportunity in the legislative session.

He continued by stating that for the Florida House, revised committee assignments were announced last week and added that most members retained their assignments and that nothing has changed that will affect the appropriations teams for higher education.

He explained that presidential politics is top of mind for Governor DeSantis and those in his inner circle adding that the Super Tuesday primaries are scheduled for early March, the same week the regular legislative session will be concluding. However, he added, Governor DeSantis has shown full commitment to his duties as Governor, and we do not expect any change of focus and commenting that IHMC received strong support in Governor DeSantis' recommendations last year, and that IHMC anticipates his continued support.

Dr. Ford remarked that Senator Doug Broxson continues to be our most important champion in the Legislature, as Chair of Senate Appropriations adding that this summer, our Tallahassee team visited IHMC and received an updated briefing and tour of facilities, with an emphasis on IHMC's history as a leader in artificial intelligence and our new thrust into Healthspan, Resilience, and Performance. He stated that IHMC is in the process of working through funding goals and strategies that will make the most of our connection to key legislators and the strong revenue picture for Florida.

On the federal legislative front, Dr. Ford commented that Congress has just reconvened from summer recess to address the time-critical nature of passing a continuing resolution (CR) before midnight September 30<sup>th</sup>. He explained that a robust debate is taking place with the likelihood of a government shutdown a distinct possibility adding that should this comes to pass, this will delay new research programs and negatively impact IHMC and all other research organizations.

He commented that on the federal R&D funding agency side, Advanced Research Projects Agency for Health (ARPA-H) continues to mature as an agency as office directors and research thrusts continue to be identified. He stated that as we have previously discussed, ARPA-H is a new research funding agency that supports transformative biomedical and health research.

Dr. Ford then announced to the Board that congratulations are in order for Brodie Mather, who has been promoted to Research Scientist, a promotion that reflects the milestone of completion of his Ph.D. He commented that Brodie built his career at IHMC, working with Dr. Bonnie Dorr and other colleagues and that his research focuses on the intersection of natural language processing

and cybersecurity. He explained that Brodie's earlier cybersecurity work with Larry Bunch focused on development of a human-centered visualization tool that captures and displays network traffic.

Dr. Ford informed the Board that IHMC had added several new teammates including Dr. Army Fernando. He explained that Army joined IHMC in August 2023 as a Visiting Senior Research Scientist who will primarily be collaborating with Marcos Bamman and his research group. He stated that Army is a professor of geriatrics at the University of Arkansas for Medical Sciences' Donald W. Reynolds Institute on Aging and the Center for Translational Research in Aging and Longevity.

Dr. Ford also announced that Dr. C. Scott Bickel joined IHMC as a Visiting Senior Research Scientist in August 2023 and that he has served in academic programs of physical therapy since 2003. He commented that Scott is currently a professor of physical therapy in the School of Health Professions and Director of the Office for Faith and Health in the College of Health Sciences at Samford University in Birmingham, Alabama. He stated that Scott's research and teaching are both in the areas of skeletal muscle physiology, exercise, and neuromuscular electrical stimulation, as they all relate to people with physical disabilities and chronic health conditions.

Dr. Ford also mentioned that Dr. Israel Teoldo da Costa joined IHMC on a courtesy appointment as a Visiting Research Scientist in July 2023 adding that in this capacity, he will collaborate with IHMC researchers and facilitate increased research collaborations between IHMC and the Universidade Federal de Viçosa in Brazil.

Dr. Ford informed the Board that Dr. Beomyeong Park joined IHMC as a Senior Research Associate in September 2023 working with Dr. Sylvain Bertrand and his team on the Squadbot v2 project. He explained that Beomyeong's research interests include walking and tele-operation of humanoid robots adding that he earned a Ph.D. in engineering from Seoul National University, where he also is conducting post-doctoral research.

Dr. Ford stated that Henry Arnold joined IHMC in September 2023 as a Research Associate working with Dr. Jeff Phillips and his human performance team. He explained that Henry earned a bachelor's degree in psychology at Florida International University and added that he has previous research experience at FIU working on various projects in developmental psychobiology and related disciplines.

Dr. Ford also stated that Sophia Bamman joined IHMC in June 2023 as a Research Associate working with Dr. Zachary Graham, Kana Meece and the human performance team on Oxytocin and other research projects. He informed the Board that Sophia graduated from the University of Alabama at Birmingham with a bachelor's degree in chemistry and a minor in forensics adding that she worked as an IHMC intern in 2022 with the human performance team.

Dr. Ford also stated that Matteo Bassini will join IHMC in October 2023 as a research associate working with Dr. Niranjana Suri and his team. He added that Matteo is a graduate student completing dual master's degrees in Computer Science from UWF and in Computer Engineering from the University of Ferrara.

Continuing on with new teammates, Dr. Ford added that Ricardo Reyes joined IHMC in August 2023 as a Research Associate working on the DoE exoskeleton project with Dr. Gwen Bryan and her robotics team. He commented that Ricardo comes to IHMC from the Stanford Biomechatronic Lab, where he gained experience in mechanical design, human biomechanics, controls, and human subject testing adding that he earned both his bachelor's and master's degrees in mechanical engineering at Stanford.

Dr. Ford also mentioned that Benny Ruiz joined IHMC in June 2023 working with Dr. Marcos Bamman and the human performance team on the oxytocin project. He stated that Benny earned both his bachelor's and master's degrees in exercise science at UWF adding that his work as a graduate research assistant included managing the molecular and cellular exercise physiology laboratory. Dr. Ford also mentioned that Benny worked at Sacred Heart as a lab assistant and at Baptist Healthcare as an exercise physiologist adding that his graduate thesis focused on the effects of endurance exercise on non-alcoholic fatty liver disease and type-2 diabetes.

Finally, Dr. Ford concluded with new team member updates announcing that River Schreckengost joined IHMC as a staff assistant in August 2023 working with Michelle Bowers and her team. He explained that River is a student at Embry-Riddle Aeronautical University pursuing his bachelor's degree in mechanical engineering.

Dr. Ford then turned the discussion to Triumph funding explaining to the Board that Triumph continues to provide valuable resources to our growing Healthspan, Resilience, and Performance research program. He added that since receiving final grant approval, IHMC has utilized approximately \$9 million to purchase state of the art equipment and hire new research team members. He explained that the most recent disbursement request was completed in August in the amount of \$4.2 million and was IHMC's largest distribution to date. He added that the bulk of this distribution was utilized for the modular walls and casework to be housed in the labs of the new building. He commented that the Triumph funds are playing a key role in outfitting and equipping the new facility and mentioning that as previously discussed, the new personnel we are hiring with these funds continue to quickly roll into new funded research projects allowing IHMC to stretch the funds further than anticipated.

Dr. Ford also informed the Board that IHMC is developing a new Triumph modification proposal which will add additional funding to its existing budget stating that IHMC will leverage its successes to date in meeting its metrics for the current funding to foster confidence in this new request. He stated that regarding these funding metrics, IHMC currently has a deadline of December 2034 to seek and be awarded \$35 million in competitively awarded research funding in the Human Healthspan, Resilience, and Performance research area and that as of this May, IHMC has invoiced and received approximately \$6 million toward that goal and has over \$31 million current funding in force. In addition, he explained, that while it's not a required metric per its term sheet, IHMC did propose to create eighteen net new jobs with the Triumph funds and has recently met that threshold and will soon surpass it.

Dr. Ford then turned to the research update commenting that he was happy to report that we continue to be successful with new research funding and between our June meeting and today, we

have been given award notice or are under contract for over \$14 million in new research funding. He stated that he would mention several of the newly awarded projects.

Dr. Ford then announced that Brodie Mather in conjunction with Anil Raj have received an IARPA award in the amount of \$3,982,960 titled *ASCEND: Adaptive Security through Cognitive Exploitation for Defense*. He explained that while most sophisticated and persistent cyber-attacks are driven by humans, historically cyber defenses typically have not considered human attributes, limitations, and weaknesses. He added that most cyber defenses do not engage with the attacker to understand and exploit their attributes, skills, or goals. He commented that this new research effort aims to revolutionize cyber defensive technology by identifying, inducing, and exploiting cognitive biases and thus thwart the attacker from achieving their goals effectively and efficiently. Dr. Ford continued on stating that Dr. Marcas Bamman has received funding from AFOSR in the amount of \$5,350,177 for a project called *Multidimensional Modeling of Stress Resilience for Robust Space Force Guardian Performance*. He added that Guardians and other military personnel experience extreme cognitive demands and numerous stressors during training and operations and that given the same stressor, individual responses vary markedly. He commented that the basic tenet of this research is that each person's response to operational stressors are determined by a multidimensional stress response. Dr. Ford stated that he anticipated this research will yield bio-circuits and validated predictive models of stress resilience containing measurable and actionable features to augment resilience and performance among space Guardians.

Dr. Ford also announced that Larry Bunch has a project pending with the Navy in the amount of \$2.5 million titled *Test and Evaluation Data Observatory for Multi-Domain Operations*. He explained that Big Data Analytics Tools can provide an analyst a much broader view of the system, allowing the discovery of "unknown unknowns" through the ability to see and understand information from the data not previously considered, known, or understood. He added that today's data sets are often too large for a human to directly observe and make meaning from all the data. He explained that the goal of the project is to develop advanced T&E data visualization and analysis software tools and that the resulting T&E Data Observatory for Multi-Domain Operations interactive 3D visualizations will amplify T&E analysts' ability to navigate and understand very large multi-domain datasets to discover patterns and anomalies.

Dr. Ford also announced that Robert Griffin has received a follow-up Department of Energy award in the amount of \$2,249,588 for the *Research and Development of Wearable Robotics to Enhance Worker Safety*. This work, he explained, will aim for the development of exoskeletons that directly address the deficiencies associated with commercially available exoskeletons and create systems uniquely suited to the needs of DOE workers. Dr. Ford gave the example that by providing wearable robotic assistive devices to the current workforce, the weight of their protective equipment can be offloaded from the user, allowing workers to spend more time in the field, work more productively, and experience reduced physical exhaustion and risk of long-term musculoskeletal injuries.

Dr. Ford then turned the discussion to upcoming Blue Sky meetings in October, November, and December. He commented that IHMC will host two blue sky meetings, the first for an Army Special Mission Unit at Ft. Bragg and the other for Ocala's Firefighter Community. He added that

in early December we will host a Blue Sky meeting for the NSF on the “scientific foundations for forecasting, planning, and response to the next pandemic.”

Dr. Ford then turned to outreach stating that IHMC was excited about the new season of evening lectures in both locations. He explained that the Pensacola season will start this week on September 20, featuring Nic Radford as our speaker. He commented that Nic is an engineer, roboticist, inventor, and entrepreneur raising over \$250 million in funding for his companies. He added that Nic is CEO of Nauticus Robotics, a firm he founded and that previously, Nic spent 14 years at NASA Johnson Space Center’s Dexterous Robotics Laboratory. He commented that on October 26<sup>th</sup> Pensacola will feature Dr. Steve Anton, a Professor and Chief of Clinical Research within the Department of Aging & Geriatric Research at the University of Florida and that on November 14<sup>th</sup>, our own Dr. Jeff Phillips, a Senior Research Scientist at IHMC, will discuss his research and his views on science more broadly. He explained that Jeff is interested in the development of mitigation strategies for common environmental, physiological, and cognitive stressors that degrade performance in military operators such as pilots, special-ops personnel, and others in the military who are placed in extreme conditions.

Dr. Ford explained that IHMC would conclude the fall season in Pensacola with Dr. Dallas Little on December 12, 2023. He remarked that Dallas is a prominent Civil Engineer at Texas A&M University where he has served as principal investigator on over \$35 million in research during his academic career and has chaired the doctoral committees of several nationally and internationally prominent leaders in academia. He added that Dallas is a distinguished member of the American Society of Civil Engineers, one of about 200 to hold that rank out of over 150,000 members.

Dr. Ford stated that the Ocala fall lectures are also shaping up nicely with Dr. Alexander Fleming on September 28<sup>th</sup> followed by Dr. Lori Marino, a neuroscientist internationally known for her work on the evolution of the brain and intelligence in dolphins & whales, on October 19<sup>th</sup>, then Dr. Niranjani Suri will discuss the Internet of Things on November 16<sup>th</sup> and concluding December 12<sup>th</sup> with Dr. Morley Stone.

Dr. Ford also mentioned that in Ocala, we recently hosted the Florida State Main Street conference and IHMC welcomed their Board of Directors for three days of their meetings. He commented that Ocala also hosted Embry Riddle’s College of Engineering Leadership Team for a three day off-site adding that it was a successful meeting for them, and new relationships were forged with IHMC during the time spent together.

Dr. Ford also stated that Science Saturdays kicked off its season in Ocala on September 9<sup>th</sup> and was well attended, adding that Ursula has a very interesting season planned including The Lives of Moths with Andrei Sourakov from UF, Healthy Wetlands with Gabriela Sullivan from the City of Ocala, and a former high school student volunteer, and Computer Game Design with IHMC’s Ian Perera, and concluding with Electric Circuits with IHMC’s Arash Mahyari.

In Pensacola, Dr. Ford announced that the topics include Science of the Mind with IHMC’s Kevin Gluck, Electric Motors with IHMC’s Robert Griffin, Computer Game Design with Heath Parr from Brown Barge Middle School, and The Neuroscience of Vision and Optical Illusions with

IHMC's Toshi Miyatsu. He added that many of these presenters will be participating in Science Saturdays for the first time, and it's great that they'll be joining us.

Dr. Ford stated that StemTalk continues to go strong with over 4 million downloads explained that we have just released episode #157 with Don Layman. He encouraged the Board to subscribe and share with others.

Dr, Ford then updated the Board on the new HRPRC construction stating that the project is proceeding on schedule and within budget adding that fortunately we have had no weather delays to date and no safety issues. He explained that the "DIRTT" moveable partitions, lab casework, and furniture have been ordered and that site utilities and site grading are underway. He added that exterior waterproofing and windows are being installed and that roofing and roof insulation should be completed by the end of the week. He also stated that brick materials will be delivered in the next month and installation will start immediately. He further added that interior electrical, plumbing, HVAC, interior framing, steel stairs, and drywall are all being installed. Dr. Ford informed the Board that the Owner Direct Purchase system is working well and that we currently have a savings of approximately \$220,000 which will be added back into the project. He also commented that we have also received a verbal commitment from Florida Power and Light that our electrical transformer will be delivered to the site in early October also adding that the funding request for the upgraded drainage system and pervious pavers is being requested this coming legislative session.

Dr. Ford then asked Carol Carlan to discuss philanthropy and she informed the Board of her efforts to date and the next Better Together event to be held on Friday December 1<sup>st</sup> and inviting all Board members to attend and suggest others who may be interested in helping IHMC with philanthropy. Dr. Ford thanked Carol and informed the Board to mark their calendars for the IHMC Ocala Holiday Party on December 7<sup>th</sup> and the Pensacola party the following week on December 14<sup>th</sup>. He also stated that he wanted to take this opportunity to thank the Board for their continued support of IHMC.

Dr. Ford then concluded his remarks and thanked Chair Dalton for the opportunity to share his report.

Dr. Dalton thanked Dr. Ford for his report and hearing no questions from the Board, adjourned the meeting at 9:40 am.

Respectfully Submitted,

Julie Sheppard  
Corporate Secretary