IHMC Board of Directors
Meeting Minutes
Monday, June 13, 2022
8:30 a.m. CST/9:30 a.m. EST

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

Action Items

1.	Approval of March 7, 2022 Minutes	Chair Bill Dalton
2.	Discussion of IHMC Financials	Director Dick Baker
3.	Discussion and Action on 2022-23 Meeting Dates	Chair Bill Dalton

Chief Executive Officer's Report

1.	Research Update	Dr. Ken Ford
2.	State & Federal Legislative Update	Dr. Ken Ford

Break and Group Photo

3. IHMC Board of Directors
4. Tour of Human Performance Lab

Adjournment

IHMC Chair Bill Dalton called the meeting to order at 8:30 a.m. CST. Directors in attendance included: Dick Baker, Bill Dalton, Eugene Franklin, Hal Hudson, Jon Mills, Eric Nickelsen, Mort O'Sullivan, Jim Reeves, Martha Saunders, and Glenn Sturm. Also in attendance were Ken Ford, Morley Stone, Ryan Tilley, Alan Ordway, Carol Carlan and Julie Sheppard.

Chair Dalton welcomed everyone both in person and on the phone. He commented that he was sorry to have missed dinner the previous evening and added that he hoped it had been an enjoyable evening. He stated that there were three items to discuss and an update on the financing followed by Dr. Ford's report.

He began his comments stating that it was with sadness that he announces the resignation of Carol Carlan from the IHMC Board of Directors. He reminded everyone that Carol was the inaugural IHMC Board Chair and played a significant role in the startup of the independent IHMC entity adding that you will find her name on the articles of incorporation, the original affiliation agreement with UWF and many more of the startup documents signed 18 years ago this month. He stated that as everyone was aware, Carol has accepted a position as Director of Philanthropy with IHMC and as such, could not serve as both an employee and a Board member remaking that thus she has moved into her new role and position that could better assist IHMC at this point. He added that he was positive she will keep in touch with all of us! He thanked Carol for all of her efforts, added that the Board regretfully accepts her resignation, and wishes her all the best stating that he hoped the Board would see her at all the future meetings in her new role.

Chair Dalton also shared with the Board a quick update on the financing for the new building.

He explained that working through the Florida Development Finance Corporation (FDFC), a state entity that provides this service statewide as the issuer, IHMC was successful in securing $25 million in tax exempt financing with a swap at an interest rate of 3.66% fixed and amortized over 25 years. He stated that this loan was closed on April 8th and sold directly to SmartBank Financial Institution adding that IHMC has 24 months for construction and interest only payments for the first two years and Ronnie has already made the IHMC first payment. He explained that IHMC feels very fortunate to have finalized the financing prior to the several jumps and understand today that our rate would be in the mid 5% range. He thanked the IHMC staff for the great efforts.

Chair Dalton then remarked that there were three items to discuss followed by Dr. Ford's report. He began by introducing Action Item 1, the approval of the March 7, 2022 Minutes. Director Reeves moved adoption with a second by Director Mills. With no comments or amendments, the March minutes were unanimously adopted. He also mentioned the increase in contract and grant revenues.

Chair Dalton then introduced Agenda Item 2 and asked Dick Baker, IHMC Chair of Finance and Audit to discuss the current IHMC financials. Director Baker discussed the financials for 10 months into the fiscal year through April 2022 and informed the Board that new assets have increased as well as IHMC's cash position.
Chair Dalton thanked Dick for his review and discussion of the financials.

Chair Dalton then introduced Agenda Item 3 calls for the Approval of a proposed Meeting Schedule for 2022 2023 to include 4 scheduled meetings to be held as follows: an IHMC Teleconference 8:00 a.m. CST: Monday, September 19th, 2022; an IHMC Teleconference 8:30 a.m. CST: Monday, December 12th, 2022; an IHMC Teleconference 8:30 a.m. CST: Monday, March 6th, 2023 and an In Person IHMC Board Meeting: Sunday/Monday, June 11th and 12th, 2023, Pensacola. Hearing no objections to the proposed dates, the dates est forth in Agenda Item 3 were unanimously adopted by the IHMC Directors.

Chair Dalton then asked Dr. Ford to provide his report

Dr. Ford said good morning to the Board and thanked Chair Dalton for the opportunity to give his report. He stated how wonderful it was to see so many Board members in person and added that he was confident that they would enjoy an engaging morning. He explained that after providing his report, the Board would be listening to Dr. Morley Stone discuss his new project STAK, followed by Dr. Niranjan Suri discussing his research. He commented that at completion of the research briefs, there would be a group photo followed by lunch.

Dr. Ford began his report discussing the state legislature and explaining that Florida is setting records. He informed the Board that on June 2, Governor DeSantis signed the largest state budget in Florida history at $109.9 billion adding that the signing also included the highest total for Governor vetoes at $2.957 billion and the highest ever in reserves, at $20 billion. He explained that forward looking revenue estimates are higher, as well adding that of course, inflation is a worry but relative to most other States, Florida seems in a good position.

Dr. Ford remarked that IHMC was not subjected to any veto pressure and continues to have strong champions in Tallahassee. He commented that at over $4 million, IHMC is enjoying its highest recurring funding levels from the state budget adding that IHMC also has good opportunities in the next session to add to this funding in support of our expansion and recruiting successes.

He mentioned that it is also a redistricting year and an election year and that Governor DeSantis has significant leads in the polls over both Crist and Fried and his national profile is larger than ever commenting that it would be a major upset for him to lose re-election.

Dr. Ford stated that Senator Kathleen Passidomo will be President of the Senate and Representative Paul Renner will be Speaker of the House. He added that Senator Doug Broxson is expected to be Budget Chairman for the Senate, while Representative Bobby Payne (Palatka) is expected to be his counterpart in the House adding that due to redistricting, Payne's district will include northwest Marion County, near IHMC's Ocala location. He also remarked that IHMC's consultant team in Tallahassee appears to have excellent relationships with all.

Dr. Ford explained that announcements of Education Appropriations chairs will likely be made much later in the year, probably in November after the election adding that feels well positioned with both executive and legislative leadership.

Dr. Ford then turned to the Federal update stating that the Biden Administration Fiscal Year (FY) 2023 Budget makes substantial investments in science and technology commenting that the President's Budget proposes record spending for basic and applied research of $111 billion, an increase of $25 billion over FY 2021 spending levels – and total spending for R&D of $205 billion, an increase of $45 billion over FY 2021, and over $200 billion for the first time.

He explained that to support potentially transformative and high-risk research approaches to tackling societal challenges, the Budget proposes funding for breakthroughs based on the successful model of the Defense Advanced Research Projects Agency (DARPA). He also explained that given the Biden Administration's priorities, the request's most prominent new research initiatives are proposed in the areas of climate change and public health. Dr. Ford added that among the new ARPA-x agencies, IHMC is particularly interested in the Advanced Research Projects Agency for Health (ARPA-H) for which $5B is requested, within the $49 billion requested for the National Institutes of Health (NIH), to drive health and biomedical breakthroughs that enhance health, lengthen life, and reduce illness and disability.

Dr. Ford then turned the discussion to the Triumph funding stating that this continues to provide valuable resources to our growing Healthspan, Resilience, and Performance research. He explained that since since receiving final grant approval, IHMC has utilized approximately $2.1M to purchase state of the art equipment and hire new research team members. He commented that in addition to the cutting-edge research equipment being purchased, we are also

driving further interdisciplinary collaboration between human performance and powered exoskeleton research via the purchasing of new equipment for our machine shop. He mentioned that the new personnel we are hiring with these funds are quicky rolling onto new funded research projects allowing IHMC to stretch the funds further than anticipated and remarking that in addition, as part of the Triumph funding requirement, IHMC continues conducting collaborative assistance and mentoring to local entrepreneurs and to date, IHMC has provided substantive mentorship to 12 different businesses.

He concluded his update stating that four Triumph board members are rotating off the Triumph board this summer including Don Gaetz, Allen Bense, Ben Lee, and Matt Terry. He mentioned that these vacancies will be filled by appointment by the outgoing Senate President Wilton Simpson and outgoing House Speaker Chris Sprowls adding that David Bear has been appointed interim Chair replacing Don Gaetz.

Dr. Ford then turned the discussion to new employees mentioning how pleased he was to announce that Carol has joined the IHMC as director of philanthropy adding that Carol is a longtime community leader and successful business executive. With a banking career spanning more than 35 years culminating as the first female president of a large regional bank, and adding that for the past 10 years as the President of the Ascension Sacred Heart Foundation, Carol led one of the largest capital campaigns in the region, which resulted in a new children's hospital and expansion of children's services in the Destin market. He stated that under her leadership, the foundation generated more than $62 million. He commented that joining Carol will be administrative assistant Gillian Ward, who has been with Carol at Ascension Sacred Heart for the last eight years.

Dr. Ford also announced that Brady DeCouto joins IHMC as a Post Doc and Senior Research Associate working with Dr. Mark Williams and other members of the human performance team on a variety of research projects. He stated that Brady has a bachelor's degree and a master's degree in kinesiology from Jacksonville University and is finishing a Ph.D. in cognitive and motor neuroscience at the University of Utah. He mentioned that at Jacksonville, Brady primarily focused on perceptual-cognitive components of expertise and that while at Utah, he worked with U.S. Ski and Snowboard to research developmental and psychosocial factors contributing to performance and mental health in youth alpine ski racers. Dr. Ford explained that Brady's current research assesses the role of expertise in perceptual processing.

Dr. Ford also announced that Meredith Yeager joins IHMC as a Senior Research Associate through the Department of Defense's Skillbridge program. He explained that Meredith has been working with IHMC senior research scientist Jeff Phillips where she is working on studies to counter the effects of dehydration and hypercapnia on aviators; to develop a pressure-resistant diver mask-fitted oculometric neurologic assessment tool; and other projects. Dr. Ford stated that Meredith recently retired as a captain in the Navy Medical Service Corps.

Dr. Ford also stated that Tatum Hackler joined IHMC in May 2022 as a research associate working with Dr. Niranjan Suri. He mentioned that Tatum, from Niceville, recently graduated from UWF in May 2022 with a degree in Computer Science adding that she interned prior to graduation with Dr. Suri's team.

Dr. Ford also stated that Dr. Mary Rice joined IHMC in May 2022 as a Senior Research Associate joining Dr. Marcas Bamman's team as a laboratory manager. He commented that before IHMC, Mary was at the Florida Department of Environmental Protection, where she has worked as an environmental scientist. He mentioned that she earned a BS in biology at the University of West Florida, and a Ph.D. in chemistry from the University of Tennessee adding that before returning home to work at the Florida Department of Environmental Protection, Mary worked for the Department of Defense in a variety of roles.

Dr. Ford announced that Ryan Harkins joined IHMC in May 2022 as a research associate, working with Dr. Robert Griffin and Brandon Shrewsbury on the robotics team. He mentioned that Ryan earned a bachelor's degree in mechanical engineering from Virginia Polytechnic, adding that in college, Ryan was a volunteer undergraduate research assistant for the Terrestrial Robotics, Engineering, & Controls Lab aiding in their humanoid robotics projects. He explained that after graduation, Ryan worked for Apptronik in Austin as a mechanical design engineer, developing exoskeletons for the TALOS program along with humanoid robotics.

Dr. Ford also announced that Jae jSeok Oh oined IHMC in April as a research associate and software developer working with Dr. Robert Griffin and Dr. Sylvain Bertrand on a variety of robotics projects. Dr. Ford stated that Jae earned a bachelor's and a master's degree in mechanical engineering at Carnegie Mellon University.

Dr. Ford announced that Anna "AJ" Johnson joined IHMC as a research coordinator working with the robotics lab in March 2022 mentioning that she graduated with a bachelor's degree in theatre from Samford University in 2021 and while at Samford, she stage-managed many productions, which taught her the organization, communication, and time-management skills she uses every day as a research coordinator.

Dr. Ford concluded his new team member discussion with Savannah Richardson whom he announced joins IHMC from Fayetteville, N.C. as a research associate adding that she , works on several studies on the effects of ketone esters on subjects in hypoxia and cold-water exposure. He explained that she is also working on underwater eye-tracking with Dr. Jeffery Phillips. He mentioned that Savannah earned a bachelor's degree in mechanical engineering from the University of West Florida.

Dr. Ford hen shifted to funded research stating that in June the PEERLESS team will complete closeout of the project. He explained that while researchers have been continually conducting data analysis of this data, since its final data collection in September of last year, they continue digging deeper into the analytical phase and are creating the framework for machine learning engines that will drive the program forward. He commented that as the Board may recall, the PEERLESS team worked with the Air Force Tactical Air Control Party Officer Phase Two selection course adding that the Air Force provided substantial support by providing field laboratory spaces, enabling integration of Peerless data collection each day throughout the selection course, and committing an additional day after the selection course to data collection. He remarked that in total, the Peerless team managed collection, delivery, and receipt of nearly 5,000 blood, urine, and saliva samples.

Dr. Ford then began his research update stating that IHMC's researchers have continued to be successful with new research funding and between our March meeting and today, we've been awarded approximately $7M in new funding. He explained that roughly $4M has completed the negotiations phase and is fully contracted and over $3M of sponsored research has been selected and is pending or in the negotiation phase. He stated that he would mention several of the new projects.

Dr. Ford stated that the Air Force Research Lab has awarded Dr. Tim Broderick approximately $400,000 for a project called Cockpit Electromagnetic Radiation Testing and Interpretation. He remarked that this project is motivated by the numerous physiological episodes that have occurred over the past several years, significantly eroding operator confidence and operational readiness. He remarked that although many of these events are hypoxia-like, aircrew have questioned if strong electromagnetic fields from systems such as fire control radars and electronic warfare systems could affect aircrew. He explained that this project will measure electromagnetic fields in military aircraft cockpits and if warranted will conduct a study to determine the cognitive and physiological effects of cockpit EMF in a controlled laboratory setting.

He also announced that Dr. Ian Perera has received an award from the Air Force Research Laboratory for $300,000 on A Co-Training Methodology for Improved Performance in Human-Machine Teams. Dr. Ford explained that warfighters will be increasingly required to work in teams with intelligent systems. And that while machine teammates can greatly improve performance outcomes when trusted appropriately, humans working with new intelligent systems often express an inappropriate level of trust in their machine teammates adding that this inappropriate level of trust can manifest both as too much trust, and the belief that the machine is incapable of error; or as too little trust, second guessing the results from machine teammates when they should be trusted. He commented that the primary objective of this project is to develop technology measure current levels of trust, establish trust with new teammates, maintain

trust during performance, and repair trust when it is either damaged or extended in ways that are inappropriate.

Dr. Ford mentioned that Dr. Robert Griffin has received a follow-on award from the Office of Naval Research, for approximately $3 million to continue development of a humanoid robot for operating in urban environments alongside soldiers as a robotic squad member. He explained that humanoid robots promise to enable revolutionary changes in urban tactics across the full spectrum of squad operations, including neighborhood watch, building search, patrol, street combat, and building clearing. He stated that while humanoid robot mobility and utility have made great strides, they are still far subpar compared to humans, being much slower and requiring extensive teleoperation adding that IHMC's new robot will be a high performance, next generation humanoid, with physical capabilities more closely approaching that of a human.

Dr. Ford also announced a very exciting project in negotiations led by Dr. Peter Pirolli and funded by SOCOM for approximately $ 2 million called Virtual Integrated Social Task or VISTA. He commented that as everyone can appreciate, objective and continuous measurement of cognitive readiness is important for service members, particularly in populations where traumatic brain injury (TBI) is common and under-reported, such as in special operations forces. He explained that there is a need for neurocognitive measurement tools that are efficient and engaging, given the lengthy list of cognitive and motor factors affected by TBIs and how monotonous current tests are for each factor. He explained that it is also important that assessment and diagnostic instruments measure cognitive abilities and other biomarkers that are ecologically valid for the specialized demands of military operations, that may include, for instance, measurements of cognitive resilience to stress or behavior in teamwork situations. To address these challenges, Dr. Ford stated that IHMC will create and validate a novel game- and communication-based assessment platform called the Virtual Integrated Social Task or the (VISTa) system. He stated that VISTa builds upon IHMC's innovative research platform for measuring cognitive, behavioral, and teamwork aptitudes for elite warfighter selection. Adding that VISTa collects motor, speech, and cognitive data simultaneously through an engaging team-based shooting task. He added that enabled by these rich data, VISTa technology will provide a highly accurate, one-stop assessment of operationally relevant cognitive abilities that can serve in the assessment of neurocognitive and mission readiness abilities and that is responsive to mTBI-related declines. He explained that to test VISTa as a feasible tool for assessing mTBI, IHMC will evaluate the validity of VISTa against a current gold standard mTBI assessment instrument.

And lastly, Dr. Ford mentioned another newly selected project led by Dr. Peter Pirolli, also in the contracting process, funded by the National Science Foundation titled Computational Theory of the Co-evolution of Pandemics, (Mis)information, and Human Mindsets and Behavior. He stated that this phase-1 project of $1 million is to support improved pandemic intelligence, prediction, explanation, and countermeasures. Stay tuned for more on this project at future board meetings.

Dr. Ford also stated that he was delighted to let the Board know that Space Florida is interested in developing more of a presence in Northwest Florida and is looking at ways to participate with IHMC in a more meaningful way. He added that he and Julie recently met with their leadership and are working towards a plan that could include a small presence in our new facility,

sponsorships, Blue Sky meetings etc. adding that he looks forward to updating the Board further on this collaboration at future meetings.

Dr. Ford then turned the discussion to outreach mentioning that we have successfully finished the Spring Evening Lectures with large audiences in attendance at both Pensacola and Ocala. Adding that he anticipates a robust Evening Lecture program in both locations this Fall.

He explained that Science Saturdays concluded its Spring season in Ocala with Engineering for Extreme Winds, and Computer Game Design, Dolphins, and Sphero Robots and that in Pensacola we featured Balloon Cars, Electric Circuits, Game Sprites and AI Robotics, and Monarch Butterflies.

He commented that in Pensacola this week, summer weeklong robotics camp has begun with June 6 for rising 7th and 8th graders, and the June 13 session is for rising 9th and 10th graders. He added that rising 10th graders will be participating for the first time this year. He commented that all sessions are full at this time, with 20 campers enrolled and a waiting list. He remarked that students from families of limited means who are attending with full sponsorships include students from a Pensacola State College mentoring program and PACE Center for Girls, as well as others adding that a total of 17 out of the 40 campers in the two sessions requested and received full financial assistance, including lunch.

Dr. Ford stated that the Ocala robotics camp sessions are the weeks of June 27 and July 11 adding that so far, the first session has 16 campers enrolled and the second session has 12 and that IHMC expects additional students to enroll as the dates get closer.

Dr. Ford remarked that IHMC has been especially successful in Ocala raising money for youth outreach with the city of Ocala donating $20,000, Lockheed Martin $10,000, Publix Charities $2,500, Career Source $3,000, MRMA $1,200, Renasant Bank $1,200, Colen Foundation $8,500 and adding that Cox donated $5,000 for use in both locations. Dr. Ford remarked that in Pensacola, our youth outreach programs have received funding from Escambia County Sheriff's Office @ $1,000, Florida Blue @ $1,000, and Barnes Insurance @ $1,000. He added that he hoped we can find some more sponsors for our programs in Pensacola which should be as well-supported as IHMC in Ocala.

Turning the report to facilties, Dr. Ford stated that as many may recall, IHMC has been renting space from Baptist Hospital at Andrews Institute in Gulf Breeze for several years to house some of our equipment for Healthspan, Resilience, and Performance projects. He explained that as these particular projects come to a close and the Andrews Institute lease is concluding, IHMC has installed the wave pools in the Reus Street warehouse and have moved all the other equipment including the treadmill, small gantry crane, shooter simulator and all screens/frames, weapons safe, ketone esters, placebos, and all of the other incidentals to an IHMC storage facility. He stated that the lease with Andrews concludes June 15th and that IHMC will be leaving the facility in better condition than we received it. He mentioned that we hoped to continue to work with Andrews and would have expanded our footprint but there was not sufficient space for our needs.

Dr. Ford also discussed the renovations to 40 S. Alcaniz for the Healthspan, Resilience and Performance labs located on the Lower North wing stating that the renovated space now occupied with personnel, equipment, and supplies adding that the Board would tour the new space later in the meeting.

Dr. Ford also mentioned that the renovations of the Former Executive Suite offices in Building 40 on the second floor was now complete with the installation of walls and glass for office areas. He explained that privacy film will be added to some glass areas upon fabrication of the revised film design and that additional furniture has been ordered and is pending delivery.

Dr. Ford also announced that the New Health, Resilience and Performance Complex is moving ahead and that IHMC had successfully borrowed the $25 million for the new complex on Garden and Alcaniz Streets with Smartbank at a rate of 3.66% tax exempt amortized over 25 years. He explained that DAG Architects in partnership with Cooper Carry from Atlanta had been selected to design the human performance and resilience research building and currently the design is moving towards an august completion date for full drawings. He stated that Brasfield Gorrie Construction has been selected to lead the construction effort adding that currently due to the spiking cost of construction, the facility is about 4-5 million over budget but that IHMC was actively looking at possible cost reductions.

Dr. Ford then thanked the Board for their continued support of IHMC. He explained that as detailed on the agenda, we now have a bathroom break, a group photo, and two reports from IHMC researchers — Morley Stone and Niranjan Suri. He added that after the reports, roughly 30 min each, we will tour the new healthspan resilience and performance lab.He then informed Chair Dalton that his report was concluded.

Chair Dalton thanked Dr. Ford for an excellent report and asked the Board if there were any additional items to discuss. Hearing none, he announced that there would be a short break followed by two research presentations. The first from Dr. Morley Stone followed by Dr. Niranjan Suri. He explained that for those who could stay, after the reports was a group photo, a tour the newly renovated lab and office space in Building 4o and concluding with lunch back on the 3rd floor of the Levin Center.

Chair Dalton concluded the business portion of the meeting at 9:50 am wishing everyone a fabulous remainder of their week.

Respectfully submitted,
Julie Sheppard, Corporate Secretary