

IHMC Board of Directors Meeting Minutes
Monday, September 16, 2024
8:30 a.m. CST/9:30 a.m. EST

Roll Call
Chair's Greetings

Director Dick Baker
Director Dick Baker

Action Items

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| 1. | Approval of June 10, 2024, Minutes | Director Dick Baker |
| 2. | Approval of IHMC Financials | Director Dick Baker |
| 3. | Approval of Transfer of CEO Authority to Dr. Morley Stone | Director Dick Baker |
| 4. | Approval of IHMC Resolution and Transfer of Signatory Authority to Dr. Morley Stone, Cassandra Guilliams and Stephanie Tillery Rothfeder | Director Dick Baker |

Chief Executive Officer's Report

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| 1. | Introduction of IHMC COO Cassandra (Cassie) Guilliams | Dr. Ken Ford |
| 2. | Announcement of Stephanie Tillery Rothfeder promotion as Interim General Counsel | Dr. Ken Ford |
| 3. | Announcement of Julie Sheppard's transition as Of Counsel | Dr. Ken Ford |
| 4. | Research Staff Update | Dr. Ken Ford |
| 5. | State and Federal Legislative Update | Dr. Ken Ford |
| 6. | Triumph Gulf Coast Update | Ryan Tilley |
| 7. | New Building Update | Dr. Ken Ford |
| 8. | Research Update | Dr. Ken Ford |
| 9. | Philanthropy Update | Carol Carlan |
| 7. | Outreach Efforts | Dr. Ken Ford |

Appreciation and Adjournment

IHMC Director Dick Baker called the meeting to order at 8:30 a.m. CST. Directors in attendance included: Eugene Franklin, Hal Hudson, Jon L. Mills, Eric Nickelsen, J. Mort O'Sullivan, III, Jay Patel, Gordon J. Sprague and Glenn Sturm. Also in attendance were Ken Ford, Morley Stone, Tim Broderick, Ronnie Armstrong, Ryan Tilley, Alan Ordway, Stephanie Tillery Rothfeder, Carol Carlan and Cassie Guilliams. The Board Members that were not present included William S. Dalton, Ronald L. Ewers, Jim Reeves, Ray Russenberger, Martha Saunders and Glenn W. Sturm.

Director Baker greeted everyone and thanked them for being in attendance in person and those who dialed in via Zoom and informed the Board that there were four (4) items to be discussed followed by Dr. Ford's officer report.

Director Baker introduced Action Item 1 and after asking if everyone had reviewed the minutes he asked for an approval of the June 10, 2024, minutes. Director Sprague moved to approve followed by Director O'Sullivan's second. Upon requisite, the motion passed unanimously.

Director Baker, in his capacity as IHMCs Chair of Finance, introduced the Agenda Item two (2), and noted that that there was a revenue increase with contracts and grants and state revenue also up. Director Baker and asked for any questions or discussion on the financials. Hearing none, Director Baker introduced Item 3.

For Agenda Item Three (3), Director Baker introduced a resolution that conferred statutory powers to Morley Stone to act as interim CEO for the remainder of 2024 pursuant to Chapter 1004.447 of the Florida Statue governing IHMC. He further stated that effective as of January 1, 2025, Morley Stone's CEO status will be permanent. The resolution was unanimously approved, and Director Baker confirmed the Board's support of Dr. Stone's CEO appointment.

Director Baker then introduced Agenda Item 4 a resolution granting signatory authority to Morley Stone, Stephanie Tillery Rothfeder and Cassandra Guilliams that will allow each to act on behalf of IHMC regarding banking matters. Director Baker then opened the floor for discussion and questions. No discussion followed; the resolution was unanimously approved.

Concluding all action items for Board consideration, Director Baker asked Dr. Ford to provide his executive report.

Dr. Ford thanked Director Baker and all current and former Board Members for thirty-four (34) years of service to IHMC and recognized that many of the current board members have been with IHMC for twenty (20) years or more. Dr. Ford continued by welcoming everyone to the meeting and was pleased to provide his report.

Dr. Ford started his report by introducing the Board to Cassandra Guilliams. Cassandra joined IHMC on September 1st as the Chief Operating Officer and prior to joining IHMC she was General Counsel & Director of Human Resources at a private sector company with roughly 500 employees; founded in 1912. Cassandra has relocated to Pensacola from Houston, Texas.

Dr. Ford continued informing the Board of other leadership changes that occurred on September 1, which included the appointment of Stephanie Tillery Rothfeder as Interim General Counsel. In her new role, she will work closely with the leadership team. He noted that Stephane joined IHMC in 2018 and expressed confidence in her ability to transition into the General Counsel role.

Other September 1st leadership changes noted by Dr. Ford, included Julie Sheppard vacating her role as Executive Vice President and Chief Legal Counsel and assuming a Of Counsel role. In this role, Julie will work on special projects and assist with transition issues through her retirement date of June 30, 2024. Dr. Ford mentioned that this was the first Board meeting that Julie was not in attendance and that everyone at IHMC wished her the best.

Dr. Ford then began to introduce the following new IHMC research staff members:
Tad Ihns joined IHMC as a part time Senior Research Scientist. Tad founded Avalex

Technologies, which sold to defense contractor Mercury Systems. Tad worked as CEP of Axalex for years and then transitioned to Chief Science Officer for Mercury before joining IHMC. We are more than delighted to have Tad as a part of the team.

We are very pleased that Dr. Sam Lensgraf joined IHMC as a Research Scientist in August. Sam is a recent PhD in Robotics from Dartmouth College. He received his BS in Mathematics and Computer Science from Tulane. Sam has designed, fabricated, and programmed Droplet, the first free-floating autonomous underwater vehicle (AUV) to build cement block structures with target applications to include coastal erosion prevention and artificial reef construction. We are very excited about his addition to the Robotics group.

Dr. Jake Siedlik joined IHMC as a Research Scientist on a joint appointment with the University of West Florida, where he also will serve as an associate professor of biology. Jake is a Physiologist focused on statistical modeling, specifically the methodological concerns relevant to high-dimensional data including clustering and classification, unsupervised learning models, and Bayesian inference with the goal of leveraging data-driven approaches to advance population health. He received a PhD in Philosophy from the University of Kansas and has a master's in applied Physiology from Columbia University. He has spent the past 8 years working in Health Informatics and Exercise Science at Creighton University.

Thomas Konkel joined IHMC as a Research Associate working with Dr. Matt Johnson, John Carff, and their team on Workbench Phase IV. Thomas has a bachelor's degree in game design which reflects his lifelong passion for tinkering with electronics, hardware, and software.

Virginia Vaughn joined IHMC as a full time Research Associate. Virginia received her BS from UWF in 2023 in Software Design and Development with a minor in computer science. She joins the team of Drs. Brodie Mather and Anil Raj on an IARPA-funded project.

Garrett Whitcher joined Dr. Niranjani Suri's team after transitioning from a student intern to a full-time research associate. Garrett recently graduated with an electrical engineering degree from Pensacola Christian College and will be working on an Air Force Research Laboratory funded project.

James Foster joined the robotics team as a part time Research Associate. James holds a BS in Aerospace engineering from the University of Sheffield, a Masters in Control Systems from the Imperial College in London and is currently a PhD student in the UWF-IHMC Intelligent Systems and Robotics Program.

After Dr. Ford concluded his introduction of new team members, he proceeded to provide a legislative state update.

Dr. Ford stated that the State budget outlook remains optimistic, with Florida's economy performing well and tax receipts continuing to be strong. Noting that the August meeting of the Revenue Estimating Conference, reported that total collections exceeded expectations by 2.3 percent. He concluded by stating that IHMC we will continue to

communicate its long-term success to Tallahassee as well as recent positive developments of an expanding Pensacola campus and growing staff.

Dr. Ford then turned his discussion to Federal Legislative Update. We expect that a continuing resolution will be in effect at least from October 1 (the start of the federal fiscal year) through the general election. Noting that given the upcoming election things may be in flux in DC.

After finishing his state and federal legislative update, Dr. Ford transferred the floor to Ryan Tilley for an update on IHMC partnership with Triumph Gulf Coast.

Ryan thanked Dr. Ford and reported to the following as to Triumph Gulf Coast:

Our partnership with Triumph funding remains instrumental in advancing IHMCs Healthspan, Resilience, and Performance research initiatives. Since the approval of the initial grant, IHMC has judiciously allocated approximately \$13.2 million towards the acquisition of cutting-edge equipment and the recruitment of highly skilled researchers. These funds have been pivotal in establishing equipment in the new state-of-the-art facility and facilitating the addition of thirty (30) new employees.

The third request to Triumph Gulf Coast, resulted in a second modification of the existing grant and lead to an infusion of an additional \$7.9 million. Thus, increasing the overall award amount to approximately \$20 million. These new resources will enabling further equipment procurement, personnel expansion, and the building of a Secure Facility.

Ryan announced that IHMC is in the process of submitting a new \$6M proposal to Triumph to help establish a National Center for Collaborative Autonomy. The funds would be used to acquire equipment and supplies and retain key hires to establish and support multiple areas of research, including multi-domain collaborative autonomous systems, robust communication and networking techniques, collaborative manipulation, distributed artificial intelligence, machine learning techniques for multiple distributed autonomous systems, and human-machine teaming strategies for heterogeneous autonomous systems.

Dr. Ford thanked Ryan and then proceeded to provide an update on matters related to IHMCs facilities.

Dr. Ford stated that after receiving the certificate of completion for the new building the Grand Opening was held on June 11, 2024. Further notified the Board, that as with all new construction, several punch list items continue to be resolved. Additional equipment has been ordered for the new facility and is arriving nearly daily with more coming in the months ahead.

The funding request for the upgraded drainage system, table crosswalk, and pervious pavers for the parking lot for building #14 has been approved. Final design proposals are pending, and we are working with the city on the table crosswalk. We estimate project completion for the drainage, crosswalk, and pervious pavers to be fully complete by fall 2025.

He then moved to discussing the replacement of the HVAC Unit for building 40. We have received bids from five (5) local HVAC firms and awarded to the project to the lowest responsible bidder. The construction contract, schedule, and ordering of equipment is underway with preliminary work to start in mid-September. The new generator has been delivered and installation is scheduled for mid-September. We estimate this project to be fully complete in the Spring of 2025. Ken further noted that the building has 26 separate units, conflicting with each other. This project will replace all units.

Dr. Ford then turned to his research update stating that he was happy to report that IHMC continues to be successful with new research funding and that between our June meeting and today, we have received award notice or are under contract for \$11,045,685 in new research funding. It has been a very good quarter. Dr. Ford detailed various new funded below as cited below:

Dr. Matt Johnson has received from SOCOM, a \$1,365,870 award called VR Workbench Phase 4. You all may recall that Workbench is a USSOCOM project that leverages the power of simulation and VR to derisk new technology concepts in a fast, iterative way. It provides a framework to enable operator-centric design and evaluation of new concepts. The major strength of the approach is that it enables testing the integration of new technologies into a warfighter team earlier in the product development process, allowing systems to “fail-fast-early”. Now in Phase 4, IHMC will focus on the ability to build modular environments that allow end users to construct their own environments using modular building blocks.

Dr. Jeff Phillips recently received an Air Force award from the Aerospace Medical unit in the amount of \$600,000. This project is titled Effects of Exogenous Ketone Esters on Acid Base Homeostasis and Operator Ventilation in Tactical Aviation.

Dr. Robert Griffin has recently received an Army continuation award in the amount of \$200k for his “Explosive Breaching with Humanoid Robots.” You will recall that this project aimed to develop and demonstrate advanced capabilities in humanoid robots tailored for explosive breaching operations in urban environments. This project will leverage our humanoid robot Nadia, to focus on achieving preliminary demonstrations of explosive breaching in controlled laboratory settings.

Dr. Toshi Miyatsu has received an Air Force Research Lab award in the amount of \$302,741. This award, called “Cognitive and Physical Performance in Operational Environments” will investigate the effects of non-invasive vagus nerve stimulation on cognitive performance and neurophysiological responses. The study aims to understand how NVNS influences the brain, the body, cognitive performance, and sleep. The findings will help inform how these emerging technologies should be implemented to enhance and maintain the performance and well-being of military personnel in various operational environments.

Dr. Brian Jalaian, a joint appointment with UWF, has received an Army award of \$805,787 for a research project entitled: “Enhancing Real-Time Decisions-Making: A Neuro-Symbolic Optimization Framework for Military AI Applications.” This project

proposes the development of a neuro-symbolic optimization framework aimed at enhancing real-time decision-making in military operations. The initiative addresses challenges in heterogeneous computing environments and the necessity for robust AI performance in contested or resource-limited settings. The research will utilize facilities and equipment at both University of West Florida and IHMC to develop, test, and refine this optimization framework. The expected outcomes of this research are to significantly advance AI capabilities in military applications, providing a scalable and adaptable framework that supports the Army's mission to maintain tactical superiority and strategic decision-making in dynamic and challenging environments.

Dr. Marcos Bamman has received a \$7.7 million dollar award from the National Institutes of Health. This new project is called "Multidimensional predictive modeling to understand mechanisms of exercise response heterogeneity in older adults." In summary, age-related functional declines are thought to be caused by hallmark biological processes that ultimately compromise Healthspan and quality of life. Exercise is a multipotent treatment with promise to mitigate most aging hallmarks, but there is substantial variability in individual exercise responsiveness. This inter-individual response heterogeneity was first identified in the context of endurance training and later our research team established it with resistance training. IHMC proposed the innovative, but logical, strategy to use combined endurance and resistance training to maximize health benefits in aging adults. Low cardiorespiratory fitness and low functional muscle quality are multi-system manifestations of the deterioration caused by cellular aging. Importantly, both conditions are modifiable with training. We anticipate this research will foster significant advances in the understanding of factors impacting exercise response variability among older adults.

Dr. Ford then turned the discussion to philanthropy and asked Carol Carlan to provide a brief philanthropy update. Carol thanked Dr. Ford

Carol announced that the past year's Better Together events and participation and informed the Board that another event would be held October. She explained that the Better Together sessions had been very successful in getting people to understand IHMC and its cutting-edge research and its impact. She also informed the Board that she would be meeting with each Board member to see how they could help in the philanthropy efforts.

Dr. Ford thanked Carol for the update and turned the discussion to IHMCs education and community outreach efforts.

Dr. Ford started his discussion with IHMCs Science Saturday educational outreach program by informing the Board that the Pensacola Science Saturday's report for last school year is now available. This program had another good year with great participation from IHMC staff at both locations and received many inspiring comments from both parents and students.

He then provided an update on IHMCs annual summer Robotics Camp that is offered in both Pensacola and Ocala. He stated that forty-one students attended the Pensacola summer camps in June. Twelve students received need-based scholarships to cover their

camp fees. Presentations by scientists about current research at IHMC featured talks about exoskeletons, technology-enhanced prosthetics, and neuroscience research about the growth mindset. Campers also had lunch with an IHMC research scientist in a small group setting. Another favorite activity was the tour of the IHMC robotics lab, ending with a photo-shoot with our humanoid robots. Many other IHMC staff members and volunteers supported this summer's camps in ways large and small. Together, we were able to offer two (2) fun weeks of STEM activities to Escambia and Santa Rosa County students.

Dr. Ford then moved to discussing the Ocala Robotics camp in which thirty-one (31) campers attended in July. Sponsorships provided full assistance with camp fees for seventeen (17) students with two (2) students receiving partial assistance, based on need. Camp activities were like those in Pensacola, with the second Ocala session also including Python Programming. Daily presentations were offered about current research and STEM career options. Research scientist from IHMC and engineers from Lockheed Martin all made presentations and ate lunch with a small group of campers.

Dr. Ford concluded his discussion on IHMCs Robotics Camp and provided the details below regarding IHMCs evening lecture series for Pensacola and Ocala:

The details for the Pensacola lecture series presented by Dr. Ford are as listed:

September 19th will feature Sarah Robb O'Hagan. Sarah is a high-energy combination of disruptive business leader, fitness fanatic, and cheerleading mom, having been named among Fast Company's "Most Creative People in Business" and Forbes "Most Powerful Women in Sports". She led the reinvention and turnaround of Gatorade as its global president, the digital transformation of Equinox Fitness Clubs as its President and the transformation of Flywheel Sports to a streaming content business as its CEO. She has held leadership positions at Nike and Virgin. Sarah is currently the CEO of EXOS, the human performance company.

On October 17, will feature Susan Paley. Susan knows a few things about working with a creative mind. She has teased out some of the most innovative, disruptive concepts to impact the audio world in decades. She was the first CEO of Beats by Dre, a brand that transformed the consumer audio landscape. Now she is CEO of DropLabs, a company engineering smart haptic technology for integration into everyday casual wear, transforming how people experience sound through media. Susan brings over 20+ years of product leadership in consumer technology and is the driving force behind some of the most innovative consumer products and embedded solutions in the audio/digital audio space. She has worked with global, emerging, and disruptive brands such as JBL and Harman Kardon.

On November 14th will feature Dr. Tommy Wood. Tommy is an Assistant Professor of Pediatrics and Neuroscience at the University of Washington and a Visiting Research Scientist at the IHMC. Wood's current research includes the physiological and metabolic responses to brain injury and their long-term effects on brain health. Much of his academic work has focused on developing animal models of hypoxic-ischemic and

traumatic brain injuries in the developing brain to test therapeutic approaches, but also includes adult neurodegenerative and metabolic diseases. In addition to his academic training, Wood has provided performance consulting for Olympians and world champions in a dozen different sports. He is a director of the British Society of Lifestyle Medicine and sits on the scientific advisory board of Hints Performance, which includes researching performance optimization strategies for Formula-1 drivers.

The Fall lecture series in Pensacola will conclude on December 10th with Dr. Frank Butler. Dr. Butler is a retired Navy Undersea Medical Officer who served as a Navy SEAL platoon commander prior to attending medical school. He spent most of his 26-year career in Navy Medicine supporting the Special Operations community and led biomedical research for Navy Special Warfare where he helped to develop many of the diving techniques and procedures used by SEALs today. Dr. Butler is also the founder of Tactical Combat Casualty Care (TCCC.) He pioneered this concept and led the TCCC effort until his retirement in 2019. TCCC has now been mandated as the standard for battlefield trauma care throughout the US military. Dr. Butler has over 170 publications in the medical literature and has received numerous awards and honors including the Distinguished Lifetime Military Achievement Award. Butler's new book *Tell Them Yourself: It's Not Your Day to Die* is the extraordinary account of how a small group of world-class trauma experts joined forces with America's best combat medics to rewrite the rule book in battlefield medicine—and then to sell these revolutionary new concepts to a disbelieving medical world.

The details for the Ocala lecture series presented by Dr. Ford are as listed:

September's lecture featured IHMC's own Zachary Graham talking about improving neuromuscular health after injury or disease. Zach highlighted some of the difficulties people face when recovering from severe injury and discussed his work with Parkinson's patients utilizing high intensity resistance training.

On October 10th, Ocala will host Dave Rabin. Dr. Dave Rabin is an MD, and PhD and a board-certified psychiatrist, neuroscientist, entrepreneur, and inventor who has studied resilience and the impact of chronic stress on our lives for over 15 years.

In November, Ocala will host feature Todd Manini. Dr. Manini is the Co-Director of the University of Florida's Claude D. Pepper Older American's Independence Center.

On December 10th IHMC's Tim Broderick will speak in Ocala. In his talk, he will highlight cutting edge research IHMC is performing in the Assessing and Augmenting Performance in Extreme Environments project and show how wearable sensors are advancing human health and human-machine teaming.

Dr. Ford concluded his discussion on IHMC's education and community outreach efforts with an update on STEM-Talk, IHMC's Podcast.

Dr. Ford announced that he was pleased to report that STEM-Talk continues to be a popular podcast. Recently we released episode 173 and total subscribers now exceed 4.3

million with the number of impactful listens by subscribers at 92%. These are very nice statistics and encouraged everyone to listen to the episodes that are of interest and share it with friends.

Dr. Ford reminded everyone of the dates for the upcoming holiday parties. The Ocala Holiday Party will be held on December 12th and the Pensacola Holiday Party will be held on December 19th and that we look forward to seeing everyone at one or both events.

Dr. Ford concluded by thanking the Board for their continued support of IHMC and informed Director Baker that this wrapped up his report.

Director Baker thanked Dr. Ford for his very thorough report.

With those announcements, Director Baker thanked the Board, and the business portion of the September 16th meeting concluded at 10:00am.