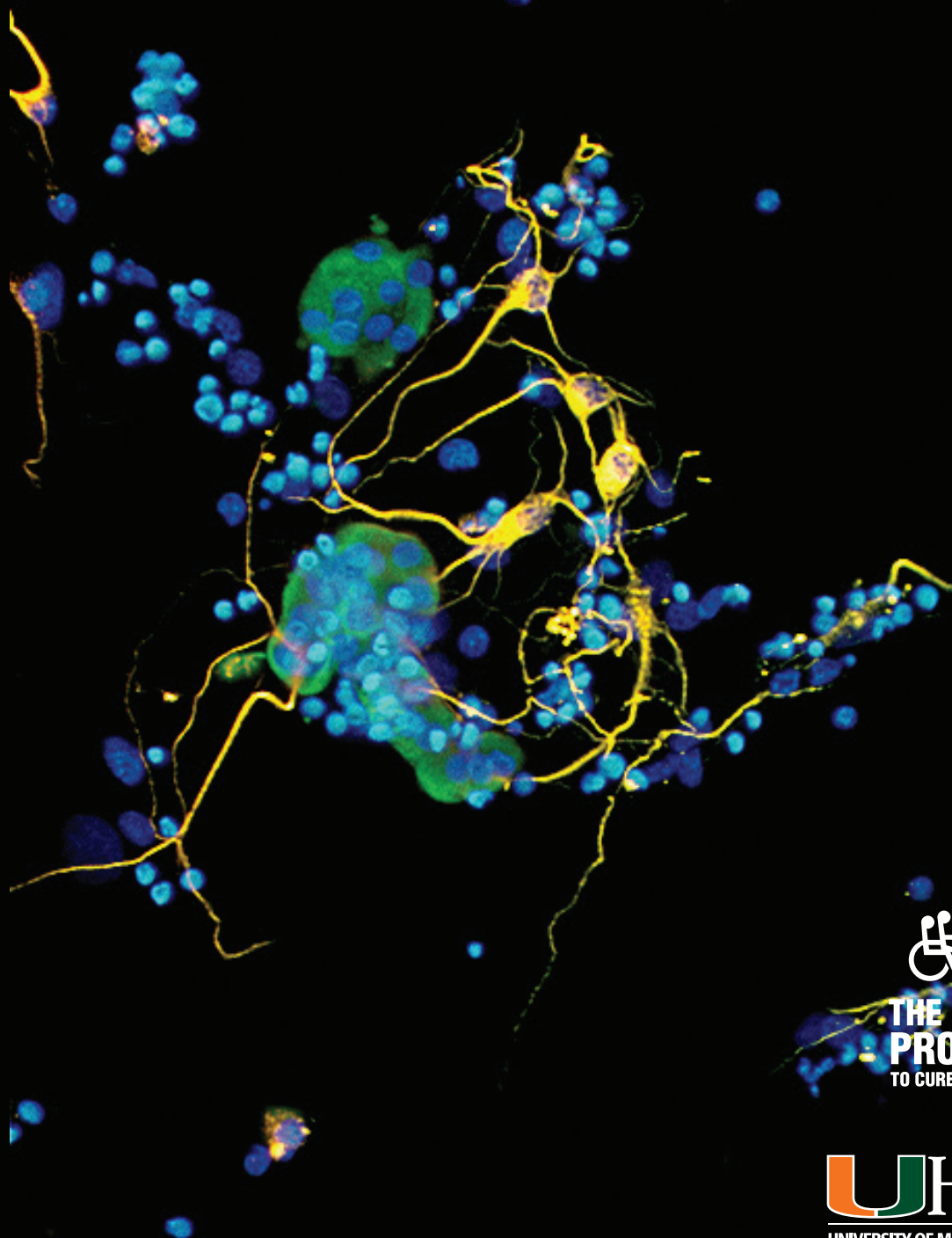


Fall 2022

# The Project

A Publication of The Miami Project to Cure Paralysis & The Buoniconti Fund to Cure Paralysis



**THE MIAMI  
PROJECT**  
TO CURE PARALYSIS

**UHealth**  
UNIVERSITY OF MIAMI HEALTH SYSTEM

## A Message from the President Marc Buoniconti

Dear Family and Friends,

I am so incredibly grateful to all of you for your generous support of The Miami Project and The Buoniconti Fund to Cure Paralysis.

The past two years have been quite challenging to the global community and to many of you, our closest family members and friends.

It has been a great joy to see how much excitement we have seen since we've returned to in-person activities and events. Led by Scientific Director, Dr. W. Dalton Dietrich, The Miami Project research team continues to push the envelope and develop new and compelling discoveries that will lead to life-changing treatments.

The Lois Pope LIFE Center is the home of our basic science research and serves as the pipeline to our Clinical Trials Initiatives. Within its walls our researchers have seen significant advancements in our hypothermia, axonal regeneration, drug discovery, gene therapy, cell transplantation, and our world-class neural engineering programs.

The Christine E. Lynn Rehabilitation Center helps bring our basic science discoveries into clinical reality. The Lynn Center houses all our clinical science programs, including our brain computer interface research, neuromodulation and activity-based plasticity laboratories, motor rehabilitation and functional electrical stimulation spaces, and much more.

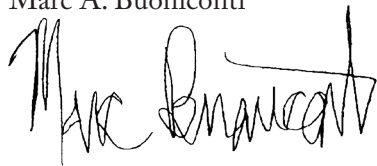
We have never been more excited and enthusiastic than we are today about the mission and success of The Miami Project and The Buoniconti Fund, including our expanded research focusing on all neurological disorders and diseases.

Not a day passes that I do not think about my dad and everything he did to change the lives of millions of spinal cord injured people all over the world. His legacy continues to inspire us and motivates every researcher, staff member and volunteer to never give up until a cure for paralysis is found!

Thank you, our loyal friends, for your continued dedication, commitment, and belief in our mission. We want to thank all our wonderful donors, tireless volunteers, and our University of Miami family.

**THANK YOU FOR STANDING UP FOR THOSE WHO CAN'T!**

Marc A. Buoniconti

A handwritten signature in black ink, appearing to read 'Marc Buoniconti', with a stylized, cursive script.

President and Co-Founder



# THE MIAMI PROJECT TO CURE PARALYSIS





## A Message from The Miami Project



Drs. Barth A. Green, W. Dalton Dietrich, and Allan D. Levi

The Miami Project therapeutic pipeline is helping to move new discoveries to the clinic with treatment interventions targeting the acute, subacute and chronic phases of injury.



The Miami Project to Cure Paralysis is thankful to our friends, volunteers and the spinal cord injury community for supporting our research, educational and outreach programs. Over the past year, we have made significant advances in our translational and clinical programs for spinal cord injury and other neurological disorders.

With our Department of Neurological Surgery colleagues, we have expanded our multidisciplinary programs and established new collaborations using innovative approaches addressing complex issues related to brain and spinal cord injury.

The Miami Project therapeutic pipeline is helping to move new discoveries to the clinic with treatment interventions targeting the acute, subacute and chronic phases of injury. Significant progress is being made in the area of acute care where the cellular and molecular mechanisms underlying neuroprotective interventions such as therapeutic hypothermia are being clarified to enhance our human trials.

More exciting news includes recent NIH funding for a significant drug discovery program to identify and test novel compounds to promote successful axonal regeneration in people living with spinal cord injury. Working with industry, innovative approaches are being developed for enhancing motor function by stimulating cranial and intraspinal circuits, and are also showing great promise in enhancing motor function in people living with chronic paralysis. Also, our human Schwann cell program is now testing the benefits of small extracellular vesicles released from human cells to promote regenerative processes in preclinical as well as clinical studies.

The new Christine E. Lynn Rehabilitation Center is providing outstanding care for people with many types of injuries and disabilities. There, clinical researchers are evaluating rehabilitation approaches including neuromodulation to activate and enhance circuit function responsible for motor and sensory function in people living with disabilities. Our growing scientific community is fortunate to work in two state-of-the-art facilities where new discoveries in the Lois Pope LIFE Center can be seamlessly translated to the Lynn Rehabilitation Center where everyday advances are being made to change medical care.

These are exciting times for The Miami Project as we translate spinal cord injury discoveries to other neurological disorders including stroke, traumatic brain injury and neurodegenerative diseases. We sincerely appreciate the continued support of our friends and colleagues for our programs focusing on novel strategies to improve the quality of life of all individuals living with paralysis and other neurological disorders.

Barth A. Green, M.D., F.A.C.S - Co-Founder

W. Dalton Dietrich, Ph.D. - Scientific Director

Allan D. Levi M.D., Ph.D., F.A.C.S. - Clinical Director

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# SPINAL CORD

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# International Trial on Non- Invasive Spinal Cord Stimulation

**R**esearchers at The Miami Project to Cure Paralysis have been working diligently to contribute to an international sponsored, multi-center clinical trial to investigate the effect of neuromodulation paired with rehabilitation on upper limb, arm, and hand function. The study, led by Principal Investigator Dr. James D. Guest, M.D., Ph.D., Clinical Professor, Department of Neurological Surgery and The Miami Project, has met its recruitment targets, and data collection has concluded with all participants in The Miami Project's arm of the study.

The study, registered with the U.S. National Library of Medicine under the identifier

NCT04697472, recruited people with chronic incomplete tetraplegia due to cervical spinal cord injury (SCI), resulting in impaired but some remaining hand function. The study sponsor, ONWARD Medical, Inc., is developing a line of non-invasive and invasive spinal cord stimulation devices that they have branded as "ARC" therapies. For this trial, investigators were provided with the non-invasive, or transcutaneous (through the skin), spinal cord stimulator targeting commercialization as a product named ARC<sup>EX</sup> ("ex" for "external"). This form of neuromodulation was paired with rehabilitation, with electrodes placed on the skin in the region of the cervical spine and stimulation applied

Dr. James Guest with a research volunteer.



during a standardized battery of upper extremity reaching and grasping tasks. The robust design of the trial included a lengthy stimulation-free run-in period with rehabilitation alone to ensure that plateaus in functional gains from rehabilitation were achieved and any further benefit with the addition of simulation was due to the device's neuromodulatory effect.

The study data set is complete, and while the final phase of statistical analysis is in progress, an Onward press release announced that the pivotal study achieved its primary effectiveness endpoint of improvement in upper extremity strength and function. At The Miami Project site, preliminary analysis suggests that participants experienced various gains in the form of increased functional independence and dexterity in everyday tasks, including being able to receive phone calls by swiping a touch screen, enhanced trunk control, lifting water bottles, greater hand force and new voluntary movement in the legs of one subject. A tabulation and assessment of all the participant's responses is required to draw any generalizable conclusions, but this study is a significant step in exploring how non-invasive stimulation can enhance rehabilitation outcomes. Furthermore, this study is a demonstration of international team-based science. The Miami Project's expertise contributed



Dr. Deena Cilien working with a study participant.

to a pool of data generated by nine institutions in the United States, two in Canada, two in the Netherlands, and one in the United Kingdom. The final recruitment total across all sites is 65 participants, a formidable task for any one site for such an involved trial that would take years to accomplish without spreading the workload across sites and personnel. Combined efforts are possible only because of distributed expertise, demonstrable experience, and strong research infrastructures. Indeed, the trial's Principal Investigators include Chet Moritz, Ph.D. from the University of Washington, and former Miami Project scientist Edelle Field-Fote, P.T., Ph.D., now of the Shepherd Center – Crawford Research Institute. The training, deployment, and mobilization of a network of international academic and

industry partners is an exercise where The Miami Project researchers excel and have a rich history.

During the active data collection phase of this LIFT trial involving what will become the ARC<sup>EX</sup> stimulator, ONWARD-affiliated scientists released an impactful peer-reviewed paper showcasing their epidural stimulator targeting commercialization as a product named ARC<sup>IM</sup> (“IM” for “implanted”). The paper included details on the device, such as how it is specifically designed to target spinal cord locations, descriptions of pre-operative planning, intra-operative surgical techniques, programming for different activities, and initial outcomes from a case series of three individuals who were implanted.



# Experts Convened for Unique Climate Hazard Risk In Those With Spinal Cord Injury



Miami is flat, snowless, has no state income tax, and is home to world-class academic medical centers—such as the University of Miami Miller School of Medicine, home of The Miami Project to Cure Paralysis—delivering and advancing paralysis care. Combined, these factors make the region a lighthouse for people with mobility impairment, exemplified by the fruitful and abundant community of people with spinal cord injury (SCI). However, juxtaposed to these enabling conditions are very real climate hazards in the form of hurricanes, heat, and flooding. The Miami Project's David W. McMillan, Ph.D., a newly onboarded assistant professor, is partnering with various local experts to leverage the region's unique climate position and point the best and brightest in this area toward the special case and unique needs of SCI community.

Climate hazards are a risk to all life on Earth, brought more sharply into focus with the recent landfall of the deadly Hurricane Ian in Florida, but certain places and people are at disproportionate risk. Miami is certainly one such place, and those with SCI have specific and unique needs in the face of these hazards. Certain climate health risks in this population are outwardly self-evident, for example wheelchairs are mechanical vectors to liberty but only within the narrow constraints of the built environment they are designed to operate within. Wheelchairs of all types poorly traverse even the smallest obstacle, and power wheelchairs in particular are incongruent with water. But other risks are invisible and yet important in the context of climate and health. Neurogenic restrictive and obstructive respiratory function compromises breathing and worsens outcomes if lung infection sets

in; the inability to sweat due to paralysis of blood vessels and sweat glands worsens risk of heat illness during the hot hurricane season; the fragile and highly consequential breakdown of paralyzed skin; bowel, bladder, and other self-care routines require a high throughput of consumable supplies; and so many others. Even at first glance the logistics are daunting, and upon further reflection the strategic considerations make the solution space seem as complex as the storms that pose the predicament in the first place.

For precisely these reasons Dr. McMillan is turning to the tool of research to wrangle an understanding from the problem space—and hopefully yield some actionable recommendations. In 2018, under the leadership of Dr. David R. Gater Jr., M.D., Ph.D., professor and chair of





Department of Physical Medicine and Rehabilitation and Miami Project researcher, Dr. McMillan and a team of other Miami Project faculty, staff, and students began to investigate hurricane preparedness in the local SCI community. The investigation began due to sentiments shared with the team at a spinal cord injury support group meeting. Initial efforts included production of a SCI-specific hurricane preparedness resource packet, gathering local resources into a single document and modifying them for SCI-specific needs. A survey was also deployed, exploring broadly current state of the community's situation to characterize knowledge, attitudes, and behaviors surrounding hurricane preparedness. The results of this survey show that knowledge of hurricane preparedness resources varies by resource location. People with SCI reported a relatively neutral attitude toward hurricanes in general and high confidence in their ability to respond. However, behaviorally they did not report the practices that would indicate successful resource utilization during times of need.

To understand the under-utilization of climate disaster resources, and also scale the approach to adjacent climate hazards such as heat and flooding, Dr. McMillan applied for and was awarded a University of Miami Laboratory of Integrative Knowledge (U-LINK) Resilience Challenge award titled Using community-engaged research to launch climate change resilience

from an inclusive design beachhead starting with Southeastern Floridians living with SCI. "This project, now in official partnership with the very SCI support groups that spurred the initial investigation, and takes advantage of our Rosenstiel School's concentration of climate scholars," said Dr. McMillan. "My aim is simply to take advantage of our institution's amazing climate affordances by putting these authorities in the room with people with SCI and honing their expertise onto this population."

The project includes three other faculty to achieve these ends: Dr. Katharine J. Mach, Ph.D., professor for Rosenstiel School of Marine and Atmospheric Science and faculty scholar at the Abess Center for Ecosystem Science and Policy, Joanna Lombard, A.I.A., L.E.E.D. A.P., professor of Architecture and Public Health, and Trevor Green, senior lecturer of Journalism and Media Management. Dr. Mach, lead author of a chapter of the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report, shares her experiences on the project so far.

"This collaboration has been a profound and powerful experience. My expertise is in adaptation science – understanding how people and societies are preparing for the changing climate and its novel threats and also supporting ongoing decision-making. People living with SCI experience unique and elevated risks, whether from heat,

hurricanes, or flooding. Solutions already being implemented point to both innovations and needs relevant in the future. Insights from this collaboration also reverberate much more broadly, as we work to create an inclusive, supportive community and built environment that is easy to navigate, safe, and vibrant in both the near and long term." Updates to the project begin with translation of the resource packet into a website, and a series of workshops to spread knowledge about resources. These communication efforts go under the name Subtropical & Tropical Climate Health (STiCHH), and are in official partnership with National Oceanic and Atmospheric Administration (NOAA) as an approved Weather-Ready Nation Ambassador™ site. There is also an expansion of the research approach to distill the community's experiences into rich, contextual qualitative data that can provide a framework for moving forward. Finally, the grant includes official government partners in the workshops and research to augment the implementation of the findings.

"As a lighthouse, it is our responsibility to help our unique community face their unique climate risk," said Dr. McMillan. "In rising this resilience challenge, this U-LINK affords the opportunity to unite experts from all three campuses—Main, Medical, and Marine—to explore needs and generate hypotheses for future solutions that if applied to this community will scale for the benefit of all."

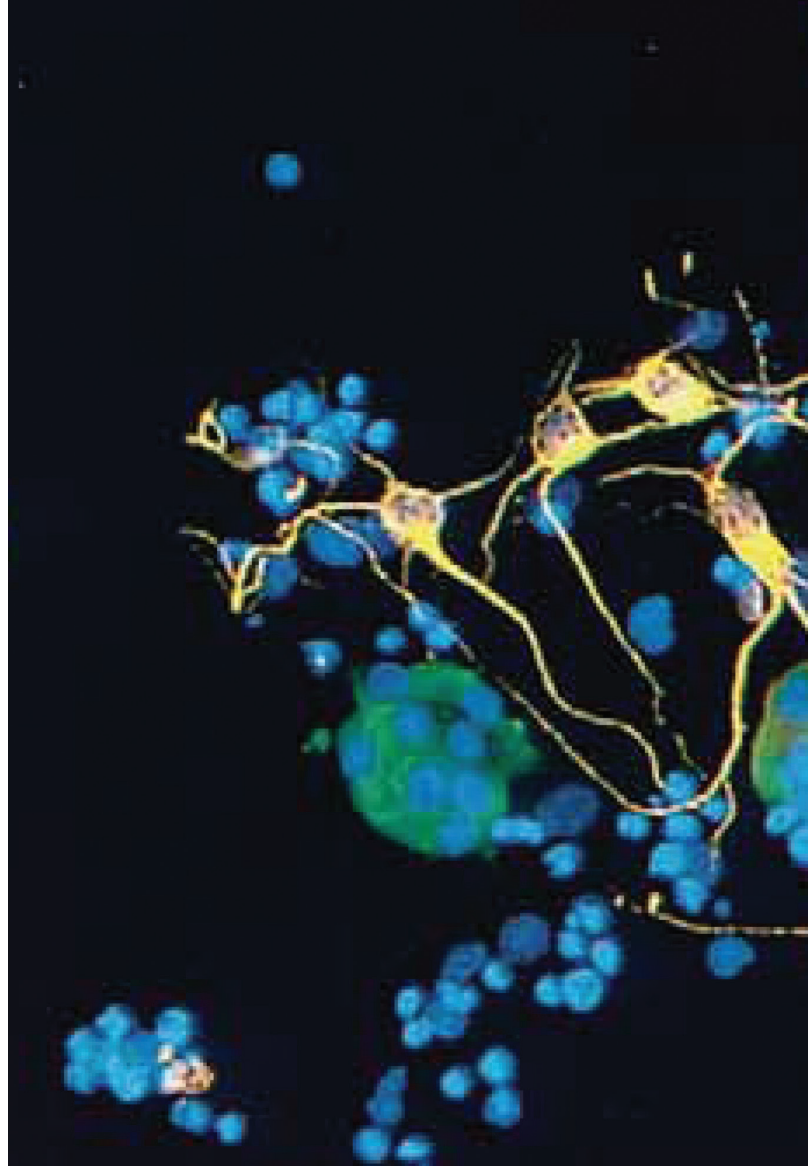


# Modern Technology Allows for Realization of Existing Insights on Cell Transplantation for Pain

Altered sensation sits at the top of shifted perceptual experience following paralysis, and the presence of post-paralysis pain has the potential to consume those affected. Accordingly, The Miami Project to Cure Paralysis has been long pointed at this problem, with a stack of research approaches including application of technology usually not associated with pain management. Now modern techniques are allowing for revitalization of past accomplishments that abutted biological limits.

Cell transplantation offers the potential for a one-time intervention to develop into a wide and lasting effect. Broadly, transplanted cell therapies work when the new cells develop, divide, and/or active manufacture and export of molecular cargo. Different approaches—including the use of different cells and different transplantation sites—have been used to target different outcomes, most emblematically targeting the restoration of voluntary movement. However, The Miami Project faculty Dr. Jacqueline Sagen, Ph.D., has been exploring cell transplantation for reducing neuropathic pain since the 1980s. Now, modern techniques show the potential to overcome what have been the cell's rate limiters, and combination strategies might maximize their effect.

Dr. Sagen's initial insights began with identifying a specific type of cell, paired with a transplant site that complimented the cell's characteristics. Chromaffin cells naturally reside in the adrenal glands, atop the kidneys, where they carry out various functions. Of their roles, they are secretors; waiting for signals generated by the brain sent through the autonomic nervous system to secrete a class of molecules called catecholamines (including adrenaline, also known as epinephrine).



As such, they are functionally cellular pumps, producing catecholamines within and then exporting the molecules into their immediate environment. Normally, chromaffin cells in the adrenal glands serve an endocrine function, releasing catecholamines into the blood stream for non-targeted systemic distribution. It just so happens that catecholamines in the spine have been shown to inhibit pain, but usually a selective vascular filter surrounding the brain and spine limit entry of adrenal catecholamines into the spinal cord. One solution could be opening the door to circulating molecules, but this comes with a host of externalities and unintended consequences. What if instead the cellular pumps could be brought in, doing their business locally where their work might have the greatest potential to impact pain?

Transplantation of chromaffin cells, and other synergistic cell types such as neural progenitor cells, was previously achieved, with transplants being well





Co-culture of neuronal progenitor cells stained for  $\beta$ -tubulin III (yellow processes) with DAPI counterstain (blue nuclei) with chromaffin cells (green)

tolerated. However, two rate limiting problems were immediately evident. First, cells were derived from the adrenal glands of human organ donors and could not be made to reproduce after donation. This meant that each cell transplant required a donor, greatly limiting the number of transplants that could be performed and hindering the feasibility of scaling. Furthermore, there were logistical considerations for cell treatment so that the recipient's immune system did not reject the transplant.

Induced pluripotent stem cells allow for certain, common types of developed cells to be walked back through their differentiated development to a type of progenitor cell—a pluripotent stem cell—that has the potential to become many other kinds of cells. That cell can then be coerced to differentiate into a target cell type different than the cell type that the stem cell was derived from, such as a chromaffin cell. Inducing these desired cells from cells that are naturally in abundance

overcomes the problem of insufficient cell numbers. Furthermore, if the original cell type used to derive the stem cell is taken from the same person that will receive the induced transplant, immune rejection is much less likely. Thus, these induced autologous (derived from the recipient) cells overcome the two biological rate limiters that previously gave pause to certain cell transplant approaches targeting neuropathic pain. Now, Dr. Sagen's team has preliminarily demonstrated the ability to utilize induced pluripotent stem cells from adult human cell types that are abundant and obtained with minimal donor burden (blood and skin), bypassing ethical constraints regarding the use of embryonic germ cells which were once considered the only source of pluripotent stem cells. The induced cells were then differentiated into chromaffin-like cells, or co-cultured with their common neural progenitor cell colleagues. Transplantation of different combination of these cells is now showing promising pre-clinical results. Our preliminary results indicate that chromaffin cells derived from human induced pluripotent stem cells produce sustained alleviation of chronic pain symptoms in preclinical chronic pain models including that following spinal cord injury. This was achieved using a relatively non-invasive intrathecal cell injection, similar to a spinal tap procedure. Further, the use of these cell sources may be tailored for pain type, location, and severity using analgesic gene enhancement, matrix embedding, or co-transplantation with complementary cells.

Included in Dr. Sagen's team on this project was Lauren Tierney, an undergraduate student in the Steinbrenner Scholars Program, a 10 week funded, merit based, research driven summer internship. The application of emerging technology to realize latent insights combined with the training of the future generation of neuroscientists surely gives reason for hope. Experiments are also ongoing to test the combined effect of cell transplant plus therapeutic adjuvants, such as exercise which has been shown to reduce inflammation within the spinal cord. By creating supportive environments for cell transplants, these conjunctive therapies might unlock or optimize the potential of the transplanted cells.





# New Surgical Trial Examining Nerve Transfer in Chronic Cervical Spinal Cord Injury





**H**and function is consistently ranked as the most desired function to regain in the case of impairment due to spinal cord injury (SCI), even above that of bowel and bladder. It stands to reason—with approximately half of SCI occurring in the cervical spine—that The Miami Project to Cure Paralysis researchers have directed their attention on recovery of upper extremity function. Dr. S. Shelby Burks, M.D., a burgeoning academic neurosurgeon in the Department of Neurological Surgery, under Miami Project Clinical Director Allan Levi, M.D., Ph.D., is our site Principal Investigator on a new multi-center study examining the effect of nerve transfers on reaching and grasping function, and quality of life, in people with tetraplegia.

Traumatic SCI, defined as an injury caused by physical insult to the nerves within the spinal cord, interrupts signals traveling through the central nervous system. In many cases, however, the nerves that exit the spine at nerve root, located below the level of injury are still capable of conducting or transmitting signals. The problem with these nerves is input, not transmission. It has long been established that peripheral nerve axons have the capacity to naturally regenerate—unlike their central nervous system counterparts that will require external modification to do so. Combined, surgeons have realized that peripheral nerves originating from roots above the injury can be cut, repositioned, and then fixed into different peripheral nerve that arises from below the level of injury. This nerve transfer allows for the signal generated by a nerve supplied at a higher level above the injury to be transferred down the nerve normally supplied by a lower level below the injury.

Although numerous clinical trials have been conducted in cervical SCI population, thus far no efficient treatment has been established. The central nervous

system, particularly the spinal cord, seems to be extremely challenging when it comes to inducing regeneration. The design of this trial intends to circumvent the issue with unsuccessful attempts to regenerate the spinal cord after the injury. The idea is that above the injury, the spinal cord is completely intact, while below the injury, the peripheral nerves are also completely intact. Therefore, reattaching a nerve from above the injury, which has seemingly redundant function to the dysfunctional but highly important nerve below the injury, could increase the quality of life of persons suffering SCI.

Nerve transfer surgeries, especially those to treat brachial plexus and peripheral nerve injuries, have become increasingly popular in the last 25 years. When compared to nerve grafting and nerve repair, these surgeries have improved re-innervation timelines and functional outcomes. Only recently have nerve transfer surgeries been considered as potential treatment options for patients with cervical SCI. This study, therefore, aims to broaden the evidence base for the clinical benefits of cervical nerve transfer in tetraplegia.

The overall trial, funded by the United States Department of Defense, is headed by Dr. Wilzon Z. Ray, M.D., at Washington University School of Medicine and involves at least eight sites in the United States and Canada with The Miami Project's efforts lead by Dr. Burks. Soon, once The Miami Project has finalized the regulatory onboarding process, recruitment will begin seeking participants who meet the study's inclusion criteria. The trial is registered with the U.S. National Library of Medicine under the identifier NCT04023591. This study demonstrates the expanded potential afforded by a diversification of The Miami Project's portfolio of expertise across various neurological conditions.

Opposite page, S. Shelby Burks, M.D., performing surgery in the O.R.



# Miami Project Teams up with Falci Adaptive Motorsports to Unveil Brain-Controlled Driving Technology

German with safety driver  
Ryan Dussex

**O**n May 18, 2022 Miami Project researchers, along with industry leader Falci Adaptive Motorsports (FAM), showcased their revolutionary brain-controlled driving technology for the very first time at Pikes Peak International Raceway. The event helped bring to life a dream of driving a NASCAR racecar for a previously paralyzed research participant.

German Aldana Zuniga is a research participant in the University of Miami Miller School of Medicine's Miami Project to Cure Paralysis brain-machine interface program and has a sensor implanted on the surface of his brain which can

detect electrical signals generated by his thoughts. The scientists and engineering collaborators at The Miami Project and FAM combined forces to be able to capture a specific thought or “electrical fingerprint” from German and feed that information into FAM’s computer interface which controls the drive mechanism of the racecar.

German, controlled the throttle of the NASCAR racecar with thought, using the sensor implanted on the surface of his brain by neurosurgeon Dr. Jonathan Jagid from UM’s Department of Neurological Surgery and using other existing technologies. What once was unimaginable is now a reality







Delmy, German's mother, with German and his aide Mercedes Quesada



German with Kevin Davis



German with safety driver Ryan Dussex

thanks to FAM's technological advancements paired with brain machine interface technology as part of a special collaboration between the University of Miami's The Miami Project, Department of Neurological Surgery and Biomedical Engineering.

"I never had my driver's license before my accident and I come and I see this race car looking intimidating ... when you accelerate, it doesn't go slow, it goes very fast," said Zuniga. "After the first lap, I felt that rush and freedom. It felt good. I just wanted to do more and more laps."

Through this unique partnership, a brain-machine-controlled driving system came together to enable thought alone to operate a vehicle. When the brain creates a thought, an electrical signal or "fingerprint" is generated by the brain, specific to the particular thought. An electrode placed strategically on the surface of German's brain captures the brain's electrical signals generated from the natural task of him

imagining moving his hand. Then sophisticated computer algorithms were developed to recognize the various "electrical fingerprints" specific to different imagined hand movements. The computer, after recognizing the electrical signature from a particular thought, can then turn the brain activity into a digital signal that can send commands—via a computer—to different devices, in this case the car's throttle mechanism.

Initially the experimental implant was intended to help German use an orthotic device for increased hand function and movement. Once that proved successful in the lab setting, the research team tested an at home device that included specialized gloves that allowed him to do things for himself that would have been impossible before the surgery and extensive training.

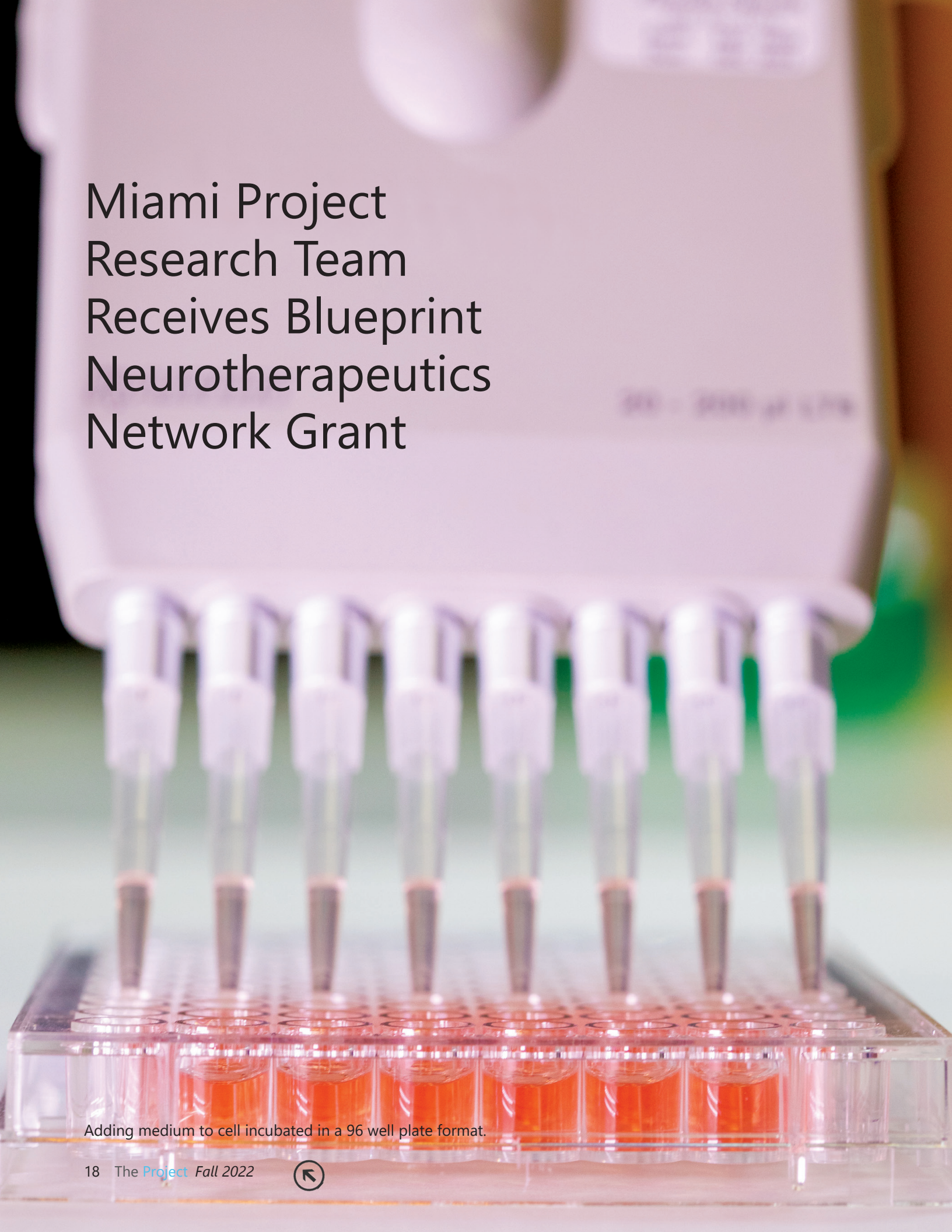
"What's unique about this device is that German is able to use this device in a meaningful way outside of the lab setting. So he's able to take this device into his home,"

said Dr. Jonathan Jagid, a Professor of Clinical Neurological surgery at the University of Miami Miller School of Medicine and The Miami Project. "We're not just doing something in a lab. We're trying to create stuff that improves the quality of life right now for people who have spinal cord injuries."

This first successful phase of the project had German pulling out of "pit row" and accelerating around the track using thought alone. Turns and braking were executed with movement of the driver's head through an in-car camera and helmet system.

"I am blessed to experience the joy and inspiration these folks receive every time they get into our racecar...FAM and its mission has simply been a joy for me and I look forward to what this new collaboration may do to help with mobility and independence," said Dr. Scott Falci, Founder of Falci Adaptive Motorsports.



A multi-channel pipette is shown dispensing a red-orange liquid into a 96-well plate. The pipette has eight channels, each with a white tip. The plate is partially filled with the same liquid. The background is blurred, showing a laboratory setting.

# Miami Project Research Team Receives Blueprint Neurotherapeutics Network Grant

Adding medium to cell incubated in a 96 well plate format.





A group of researchers from The Miami Project to Cure Paralysis at the University of Miami Miller School of Medicine has received a grant from the NIH/ NINDS Blueprint Neurotherapeutics Network to fund investigation of a treatment for spinal cord injury (SCI).



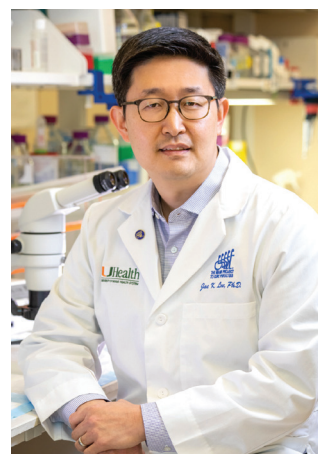
Hassan Ali, Ph.D.



John Bixby, Ph.D.



Vance Lemmon, Ph.D.



Jae K. Lee, Ph.D.

**I**t is estimated that the total value of the award could reach \$10 million if all project milestones are met as planned. The University of Miami will retain intellectual property rights for any drugs developed through the Blueprint Network. The grant is in response to the team's proposal, entitled "Developing a kinase inhibitor drug to treat spinal cord injury," and will allow for the optimization of a lead compound, complete pre-clinical development, filing of an Investigational New Drug (IND) application with the FDA, and the execution of a Phase 1 clinical trial.

"Given pharma's current reluctance around early-stage drug development for neurological indications in general, and spinal cord injury specifically, this funding program constitutes a lifeline that will allow us to de-risk our therapeutic candidate, creating a viable path toward regulatory approval that may not exist,"

said principal investigator Hassan Ali, Ph.D., M.S.M., assistant professor in the Departments of Neurological Surgery and Medicine and The Miami Project.

## Promoting CNS Axon Regeneration

The research is based on the use of novel phenotypic screening and machine learning approaches that have identified a series of compounds that strongly promote CNS axon regeneration. The other researchers include John Bixby, Ph.D., professor in the Departments of Molecular and Cellular Pharmacology and Neurological Surgery, Vance Lemmon, Ph.D., the Walter G. Ross Distinguished Chair in Developmental Neuroscience, and professor in the Department of Neurological Surgery, Jae K. Lee, Ph.D., professor in the Department of Neurological Surgery, and Alberto



**“We believe that the strength of our current scientific program, combined with the wonderful team that has been assembled, gives us an excellent chance to move this candidate forward.”**

Martinez-Arizala, M.D., clinical associate professor in the Departments of Neurology, Neurological Surgery and Orthopedics & Rehabilitation Medicine, all of whom are also affiliated with The Miami Project.

“I’m immensely grateful to the talented team at The Miami Project who make all of this possible — especially Drs. Lemmon and Bixby who have laid the scientific foundation for us to build upon,” Dr. Ali said.

The researchers have validated the *in vivo* efficacy of these compounds using multiple animal models of SCI, where the compounds consistently promoted axon regeneration as well as behavioral recovery.

## Potential Benefit to Millions

“This support is so very important for the translation of a novel treatment that could potentially benefit millions of individuals living with disabilities associated with SCI and other neurological disorders. Congratulations to Drs. Ali, Bixby, and Lemmon, and their collaborators on this most exciting development,” said W. Dalton Dietrich, Ph.D., the scientific director of The Miami Project.

This application addresses the critical need for a therapeutic to promote axon growth after spinal cord injury. Axon regeneration in the central nervous system (CNS) is limited due to both the absence of intrinsic regenerative capacity in adult CNS neurons, and the extrinsic inhibitory microenvironment confronting damaged axons. The team has shown that a small

molecule kinase inhibitor can promote robust neurite outgrowth *in vitro* and axon regeneration in SCI rodent models, as well as functional recovery. The axon growth is due primarily to the kinase inhibitor’s ability to inhibit both pathways, which target intrinsic and extrinsic axon growth repression.

The project will use the Blueprint Neurotherapeutics Network program to design and screen molecules for improved potency, stability and safety profiles, confirm target engagement *in vitro* and *in vivo*, and demonstrate efficacy in two rat injury models as part of the IND preparation.

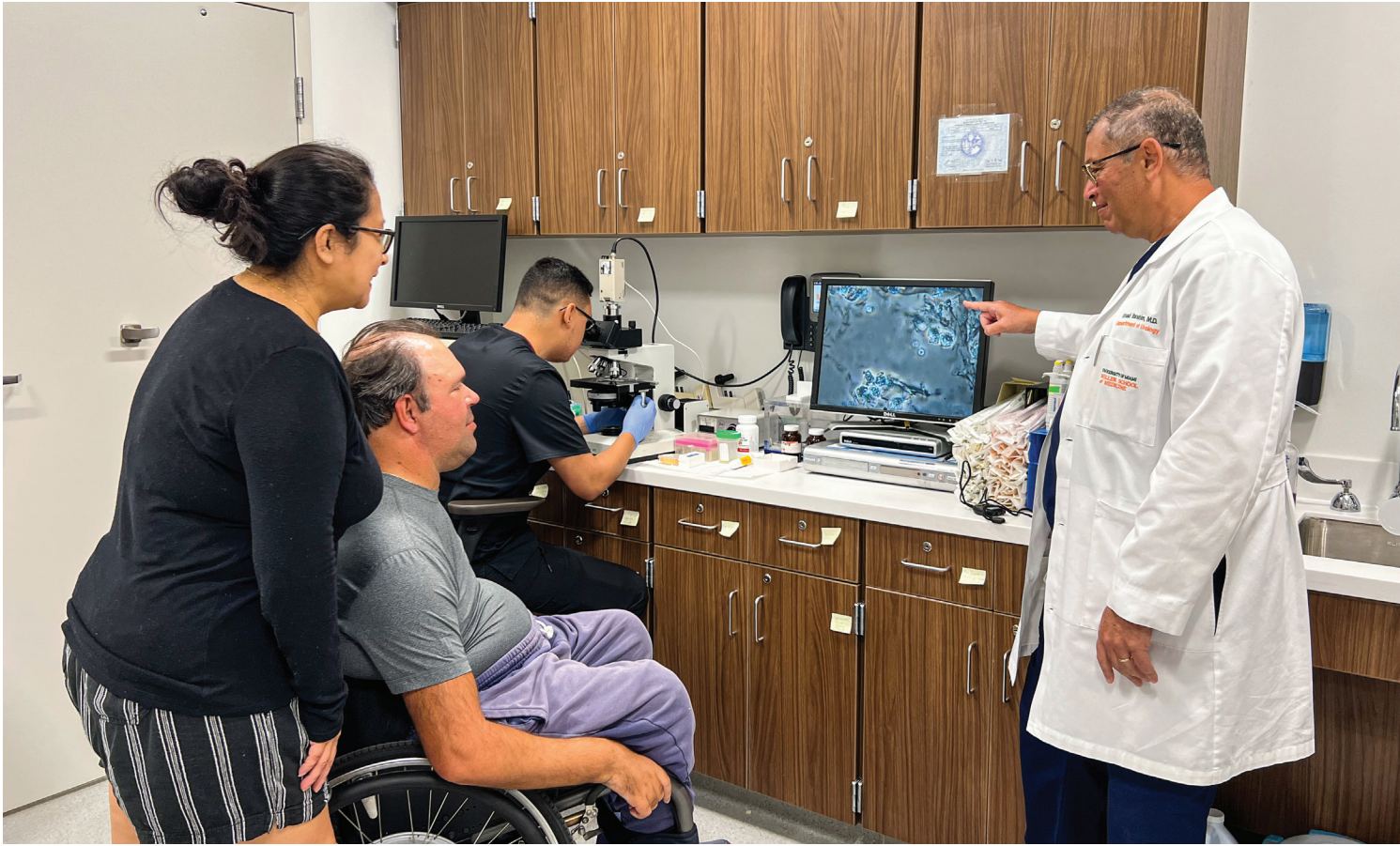
## The Time is Right

“Dr. Lemmon and I participated in this innovative NINDS translational program way back at its inception in 2011, but we did not have the right therapeutic candidate in our pipeline,” Dr. Bixby said. “More important, we did not have Dr. Ali leading our team. We believe that the strength of our current scientific program, combined with the wonderful team that has been assembled, gives us an excellent chance to move this candidate forward.”

Added Dr. Lemmon, “Third time’s the charm. Our team submitted a proposal to the Blueprint Neurotherapeutics Network program three times over three years. Our persistence allowed us to cross the threshold into the funding range. This gives us the opportunity to take our kinase inhibitor with remarkable polypharmacology into a program to develop a drug for CNS injury. It’s a dream scenario for any scientist and a wonderful example of team science. Thanks to all members of our lab, past and present, whose rigorous science enabled this.”

This work is supported by the National Institute of Neurological Disorders and Stroke of the National Institutes of Health under Award Number UG3NS124630. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.





Dr. Ibrahim consults SCI patient Eric Rosemary about fertility options.

## Becoming a Parent Despite a Spinal Cord Injury

After growing up in a big family in Long Island, Eric Rosemary knew from an early age that he wanted a family of his own, that he wanted to be a dad.

Then came Memorial Day weekend of 2009. While boating with friends off Peanut Island, he fell into shallow water and shattered his C-4 and C-5 vertebrae, immediately turning Rosemary into a quadriplegic.

“(The doctors) were blunt in the beginning,” he said. “They said, ‘You’ll never do this, you’ll never do that.’ A lot of never going to do things.”

But Rosemary, now living in Boca Raton, kept pushing to fulfill his dream of fatherhood.

After agonizing through two years of physical therapy, he regained the use of both his arms and one hand. It was enough to get back to his job as a mortgage company branch manager and to move out of his parent’s house back into his.



He kept pushing. He gave online dating a try and matched with a woman named Christina. They met, hit it off, and moved in together within three months. The couple married three years later, unleashing a secret, choreographed dance number at the reception that left their 150 guests in a pool of tears.

He kept pushing. It was time to try for a baby and Rosemary had his doubts.

But then he went to The Miami Project to Cure Paralysis. Working with Emad Ibrahim, M.D., the director of the Male Fertility Research Program, they sorted through the options, chose the best one for his condition, and started trying to conceive.

Finally, on September 1, 2019, Christina played a game that forced Eric to wear noise-canceling headphones and guess what she was saying. After a few failed attempts, he finally got it: "I'm going to be a dad."

"I couldn't believe it actually all worked out and happened," said Eric Rosemary, who's now the father of 2-year-old Grayson Rosemary. "It was just surreal."

About 90% of men who suffer a spinal cord injury (SCI) cannot conceive through sexual intercourse, so they must use other methods to extract sperm. That's where the Male Fertility Research Program comes in.

Founded by the Miami Project's late Scientific Director, Dr. Richard Bunge, and expanded by SCI fertility pioneer Dr. Nancy Brackett and her colleague Dr. Charles Lynne, the program has established itself as the preeminent research site for SCI fertility.

Now led by Dr. Ibrahim, the program has helped more than 300 men father children, including the Rosemary's. Dr. Ibrahim says he can't help but form a bond with each couple he helps.

He works with each of the men to find the right treatment for their injury and helps the women track their ovulation cycles. When the day comes that they successfully conceive, Dr. Ibrahim struggles to contain his emotions.

"When they send you the ultrasound picture, I'm like the dad who jumps for joy," he said. "They have a lot of tough times, but when it's successful and you reach the ultimate goal, that's all you need as a reward. You're starting a whole new life, a family, when they were told many years ago, 'Forget about it. Just have somebody for companionship.'"

Getting there has taken decades of intense, exhausting research. Men who suffer an SCI experience infertility because of disruptions to the nerves supplying their reproductive system. Those disruptions can lead to impairments in erection, ejaculation and semen quality.

When the Miami Project's team members started their research, little was known about the fertility in men with SCI.

When Dr. Ibrahim joined the team in 2004, he was also starting from scratch. Born and educated in Egypt, he was trained as a urologist and spent years studying tuberculosis. That research brought him to South Florida, where he started collaborating with researchers at Nicklaus Children's Hospital. He later moved on to the University of Miami after completing his fellowship and was invited to join the fertility team.

"I had no clue what they were doing when I started," he said. "When you graduate from urology, you have zero exposure to people with spinal cord injury in most programs."

Ever since, he's not only carried on the work of his predecessors but taken the research to new levels.

Dr. Ibrahim's team has performed multiple procedures to overcome ejaculatory dysfunction so common in men with SCI. That includes a range of penile vibratory stimulation, electronic ejaculation, prostate massages and, the most expensive form, surgical sperm retrieval.

Dr. Ibrahim has also tested ways to overcome another major hurdle: the quality of sperm.

For men without an SCI, on average, about 40% of their sperm



is mobile. The sperm motility score for men with SCI can drop as low as 2%.

But extensive research revealed it is not the sperm that is damaged. Instead, the problem is the fluid that is mixed in when men are about to ejaculate, known as seminal plasma. That fluid is filled with chemicals produced to protect the body from injury. But in men with SCI, the fluid mistakenly attacks sperm, causing irreparable harm.

“The sperm touches this fluid, and it automatically starts to slow down and eventually die,” Dr. Ibrahim said.

Dr. Ibrahim is testing medications that men with SCI can take to lower the harmful chemicals in their seminal plasma. He has already seen progress and is applying for grants to provide medication to more men for longer periods of time.

The program had to shutter its doors during the COVID-19 pandemic, but as the nation eases out of quarantines and closures, he is hoping to recruit more patients to his program. The sessions and treatments are free, since the men’s experiences become part of the research that Dr. Ibrahim and his team are conducting.

Dr. Ibrahim is also trying to spread the message of their work. He was awarded a grant to lead workshops to teach doctors from across the country about the breakthroughs they’ve made.



Eric and Christina Rosemary with their son, Grayson, and Christina’s daughter, Isabella Santos.

“We’re trying to spread the knowledge so that people from all over the country and all over the world will be able to do these procedures,” Dr. Ibrahim said.

Eric Rosemary was so overwhelmed by his results that he has continued to volunteer for anything Dr. Ibrahim needs. If a team of doctors need to observe the stimulation processes used by Dr. Ibrahim’s team, Rosemary will drive the hour down from Boca Raton and show them. If Dr. Ibrahim needs patients for new studies, he jumps in.

“Whenever they call me for clinical trials or whatever they need, I’m there because I want other people to know about them because they’re amazing,” said Eric Rosemary.

Christina Rosemary sums up her feelings about the project another way: “They gave me the best thing

in the world.” Grayson is now a thriving, energetic, chatty 2-year-old.

He loves riding on his father’s lap as he zooms around the house in his power-assisted wheelchair. They go to baseball games together and play around the house. And every morning, when a nurse comes to help Eric Rosemary out of bed and prepares him by saying, “One, two, three,” Grayson runs into the room, grabs his father’s legs and screams, “One, two, three.”

The Rosemarys are now hoping to continue building the family that Eric always dreamed of. They are returning to Dr. Ibrahim’s office to try for another baby.

“I think it would be nice to have a girl,” he said.



# I STA ND UP

Recognizing the devastating effects of sustaining a spinal cord injury, the United States Senate has declared September as National Spinal Cord Injury Awareness Month. This Resolution, sponsored by Senators Marco Rubio (R-FL) and Tammy Baldwin (D-WI), sends a strong message across the country that new therapies and resources need to be advanced to find a cure for paralysis.

In addition, the resolution honors the individuals and family members who have sustained a spinal cord injury and the dedication of local, regional, and national organizations, as well as researchers, doctors and volunteers across the country who are working to improve the lives of individuals living with paralysis every day.

“Over the years, improved research and public awareness efforts have helped us come a long way in treating and preventing spinal cord injuries. The inspiring work of The Miami Project to Cure Paralysis has touched the lives of millions of young athletes, accident victims and troops in harm’s way, and I commend them for it. By designating September as National Spinal Cord Injury Awareness Month, I hope we can further educate the public about how crippling accidents can be prevented while promoting the important work being done to help victims walk again,” said Senator Rubio.

In 2011, when we first launched September as National Spinal Cord Injury Awareness Month with our *“Stand Up for Those Who Can’t”* campaign, more than 600 national media outlets have covered this story reaching an estimated audience of more than 23 million people. Marc Buoniconti was on 20 regional and national radio shows talking about the need to find this cure.

Since then, we have been building upon that success ever since. Last year, when we launched our *“Faces of Paralysis”* campaign we could never have imagined the amazing support and feedback we received from people around the world thanking us for helping to share their story and bringing attention to this issue. Our goal was to make it a global conversation and we did just that! It is exciting to see so many other organizations, corporations and the world-wide community participating in this movement.





Marc Buoniconti with the Steinbrenner Scholars after the Awards Ceremony, Andrew Hefley, Tyler Benjamin, Aditi Gorthy, Lauren Tierney, Aidan Kunju, Abby Snipes, Jasmine Estape, David W. McMillan, Ph.D., and Zachary Lawrence

## 2022 Miami Project to Cure Paralysis Henry G. Steinbrenner Scholars Program

"This program is unique in that we seek a specific type of applicant that comes in with certain foundational skills and mind set"

The end of summer marked the conclusion of the 2022 Miami Project to Cure Paralysis Henry G. Steinbrenner Scholars Program, a 10-week funded, merit-based, research-driven summer research internship. The program achieved its objective of expanding and diversifying the next generation of scientists in the clinically relevant yet underrepresented field of neurotrauma, culminating with the Steinbrenner Scholars Research Day where a panel of expert judges dubbed winners from



oral and poster presentations given by the program's participants on the research they conducted during the program.

The mission of The Henry G. Steinbrenner Scholars Program is to train the next generation of neuroscientists focused on developing new treatments and cures for some of the world's most complex neurological conditions including traumatic brain and spinal cord injury, multiple sclerosis, amyotrophic lateral sclerosis, muscular dystrophy, Parkinson's disease, Alzheimer's disease, stroke, and dementia. The regularity of these conditions—affecting more than one billion people alive now—increases in an aging global population and represents some of the most substantial health care challenges facing the world today. Great strides have been made, but remaining challenges warrant our efforts to align the brightest young minds to the field. Since its inception, The Miami Project has trained more than 500 post-doctoral fellows, graduate students, and visiting scholars. The Steinbrenner Program continues this mission.

“This program is unique in that we seek a specific type of applicant that comes in with certain foundational skills and mind set,” says program director David W. McMillan, Ph.D., The Miami Project's Director of Education and Outreach. “From day one the participants are paired up with a faculty mentor and hit the ground running in the lab,” Dr. McMillan



says, adding “...explaining, in part, the high quality of the research projects they contribute to.” Along with the 40 hour per week, mentored laboratory research experience, the program achieves its educational mission via thrice weekly classroom sessions including didactic and career development lectures and facilitated “journal club” interactions.

This year's Steinbrenner Program included eight participants, and

along with the broad mission of training the next generation of neuroscientists, they achieved the goal of diversifying the pool of young neuroscience trainees. The class of 2022 was 33% White non-Hispanic, 25% Hispanic, 25% Asian, and 17% Native Hawaiian/Pacific Islander. At the program's onset the class was comprised mostly of aspiring clinicians, with one biomedical engineer. At the time of the mid-term assessments, the participants research interests







Clockwise from top left, Aditi Gorthy delivering her poster presentation, Abbey Snipes, Elizabeth “Liz” Felix, Ph.D., W. Dalton Dietrich, Ph.D., Marc Buoniconti addressing the Steinbrenner Scholars, Andrew Hefley delivering his oral presentation.



and confidence had grown so that all but one reported a strong interest in applying to combined M.D./Ph.D. programs to pursue a physician-scientist career as both researchers and practitioners.

“I am so encouraged about the next generation of neuroscience students when I hear what they have done in their short time with us as part of the Henry G. Steinbrenner Scholars Program at The Miami Project,” said Marc Buoniconti, President of

The Miami Project. He continued, “It is inspiring to meet all these young brilliant researchers and realize the field will be in great hands going forward.”

The program crescendoed at the Steinbrenner Scholars Research Day where the program’s participants gave two minute “pitch”-style oral presentations about the research they conducted, followed by in-depth communication of their findings

via the classic poster dissemination format. A panel of three expert judges—pulled from The Miami Project’s deep talent pool representing clinical, translational, and basic science with government and industry partnerships—scored the participants on six categories. Aditi Gorthy ranked first, Aidan Kunju second, and Lauren Tierny third. All participants were awarded the prize of Marc Buoniconti’s company and stirring speech he gave to motivate them to carry on contributing to advancements in the field of neuroscience. A special thank you to Maria Chagoyen from The Miami Project for facilitating this important program and coordinating all the logistics, especially for the Steinbrenner Scholars Research Day.





*“My Mom wanted to make sure my brother Timothy, who is paralyzed, and the millions like him could one-day benefit from stem cell research and find a cure for paralysis.”*

**W**e all seek financial security for ourselves and our families and we all wish to make the world a better place. There is a way to accomplish both – either through a bequest or a planned gift.

Margaret Ripley passed away a few years ago and made a five hundred thousand dollar bequest to The Miami Project for stem cell research. “Through the bequest, my mother was able to make a significantly larger donation to The Miami Project than she otherwise could have. The bequest allowed her to take care of her family while she was alive while at the same time knowing that she left a legacy that will last forever through medical science,” said St. Clair Ripley. “My Mom wanted to make sure my brother Timothy, who is paralyzed, and the millions like him could one-day benefit from stem cell research and find a cure for paralysis.”

There are many reasons for the popularity of charitable bequests. The opportunity to memorialize one’s personal life values, the satisfaction of perpetuating an important cause for future generations, the increased financial ability we now have to make generous bequests. Through a bequest, a family can make a significant donation that doesn’t affect their current financial situation but will leave a lasting legacy. If you would like to include The Miami Project in your estate plans, please use the following sentence: *I bequeath the sum of \_\_\_ dollars to the University of Miami, a charitable organization located in Coral Gables, Florida to be used only by The Miami Project to Cure Paralysis.*





21<sup>ST</sup> ANNUAL

## THE BUONICONTI FUND CELEBRITY GOLF INVITATIONAL AT THE BEAR'S CLUB

Hosted by Jack Nicklaus  
to benefit  
The Buoniconti Fund  
to Cure Paralysis



- Golf legend Jack Nicklaus will play with the Presenting Sponsor in this tournament.
- Golf with sports and entertainment stars at this exclusive golf course, The Bear's Club.
- Seated dinner at The Bear's Club clubhouse on Sunday evening of event.
- Silent Auction featuring one-of-a-kind Sports Memorabilia, Exquisite Jewelry and Exotic Getaways on Sunday evening of event.
- Early morning breakfast at The Bear's Club clubhouse on Monday morning of event.
- Dazzling day of golf with on-course contests.
- Awards ceremony luncheon following golf invitational.
- First class golfer gifts.

[www.thebuonicontifund.com/bearsclub](http://www.thebuonicontifund.com/bearsclub)

## WHEN

Sunday and Monday  
Spring 2023

## WHERE

The Bear's Club  
Jupiter, Florida

## CONTACT

For sponsorship and golf  
information, please contact:

Jackie Manzano  
305-243-4656 or  
[jmanzano@miami.edu](mailto:jmanzano@miami.edu)





*Save the Date*  
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**GREAT SPORTS LEGENDS DINNER**  
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FALL 2023  
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The Buoniconti Fund's federal tax identification #65-0244316.



# Poker4life™

## The Positive Power of Poker!

**P**oker4Life 2022 was held in June to benefit The Buoniconti Fund to Cure Paralysis. The 17<sup>th</sup> edition of the event, held on-line, had all players vying for the coveted P4L bracelet and a seat in the World Series of Poker Main event. The evening's event was packed with excitement as our generous supporters and players maneuvered for final table glory. The night kicked off with a moving welcome from Buoniconti Fund President Marc Buoniconti.

Congratulations to all final table players, including our 2022 Poker4life.org Charity Poker Champion, Sarah Gray, runner up, Russ Kolbert and 3rd place winner, Kenneth Platt. It was an incredible run by all 3 individuals, and we wish them the very best of luck at the WSOP and their chosen tournaments.

Each year we are humbled and proud of what can be accomplished together. So many have been steady participants year after year, in person and on-line. The gratitude we have for that continued support is more than we can put into words. Poker4Life continues to work hard to create this positive poker experience, but it is because of the dedicated supporters that this community has become a powerful movement.

A hearty congrats as well to the other 2022 Final Table Winners: 4<sup>th</sup> – Mark Steinberg, 5<sup>th</sup> – Amanjit Arora, 6<sup>th</sup> – Greg Parsons, 7<sup>th</sup> – John Papianou, 8<sup>th</sup> – Rolph, 9<sup>th</sup> – David Forbes.

We would like to extend a special thank you to our Poker4Life 2022 leading sponsors, Jewelry on 5th, Semper Funds and Tumbling Dice. We hope to see everyone next year at the 18th Annual Poker4Life™ Charity Poker Championship, hopefully in person again in New York City.

### 17th Annual Charity Poker Championship

to benefit

presented by

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*Thank You to our Sponsors*

**Thursday, June 16th**  
7pm ZOOM Kick-Off  
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or enter MTG ID:  
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## Jack Nicklaus Hosts 20th Annual Buoniconti Fund Celebrity Golf Invitational Presented By Tudor Group

Twenty years is a tremendous milestone to reach for any golf tournament. It is especially distinct when you have the greatest of all time, **Jack Nicklaus**, as host with **Marc Buoniconti**. Because of their continued involvement, the 20<sup>th</sup> Annual Buoniconti Fund Celebrity Golf Invitational presented by Tudor Group was another resounding success. Held each year at Nicklaus' home club and course, The Bear's Club in Jupiter, Florida, the exciting celebrity golf tournament on the impeccably maintained Bear's Club course, continues to astound the participants. The tournament, held this year on April 24<sup>th</sup> and 25<sup>th</sup>, is always a diverse gathering of business leaders and celebrities, joining forces to help find a cure for paralysis and other neurological injuries, diseases and disorders. Since the event's inception, millions of dollars have been raised to help fund the spinal cord injury research programs at The Miami Project to Cure Paralysis at the University of Miami Miller School of Medicine.





Marc Dalton and Marc Buoniconti with Jack Nicklaus.

The Buoniconti Fund offers special thanks to **Mark Dalton** and **Barbara** and **Jack Nicklaus** for their continued generosity toward our cause, and this important fundraising event.

“We can’t thank all our sponsors, namely **Mark Dalton** and **Tudor Group**, and our wonderful hosts **Jack** and **Barbara Nicklaus**. They have done so much to advance our cause for more than twenty years. They each have done so much for so many, and we are fortunate to be among the many worthwhile causes they continue to support,” said **Marc Buoniconti**, President of The Buoniconti Fund.

Golfers and celebrities, included Former Dolphins Receiver **Fred Banks**, 1972 Olympic Long Jump Champion **Bob Beamon**, Former Bears and Dolphins Receiver **Marty Booker**, Retired Bengals Running back **Ki-Jana Carter**, Former MLB pitcher with the Indians and Yankees **Rick Cerone**, Super Bowl Winning Offensive lineman **Jeff Dellenbach**, Former



Team Tudor on the green.

Rams and Dolphins Tight End **Troy Drayton**, Captain of the 1980 Olympics Gold Medal winning “Miracle on Ice” Hockey Team **Mike Eruzione**, Five-Time All-Star and Two-Time Gold Glove First Baseman from the Rockies, Cardinals, and Braves **Andres Gallaraga**, Retired Dolphins Running Back **Lorenzo Hampton**, Former Receiver with the Dolphins and Miami Hurricanes, Two-Time National Champion **Randall Hill**, Retired NY Giants Linebacker **Brian Kelley**, Three-Time Super Bowl Champion Cornerback from the 49ers **Tim McKyer**, Two-Time Super Bowl Champion with the Patriots and Rams, Running Back **Sony Michel**, Miami Dolphins receiving legend **Nat Moore**, Former Falcons, Jags and Cowboys receiver **Laurent Robinson**, Former Dolphins and Two-Time National Champion Receiver with the Miami Hurricanes **Lamar Thomas**, Actor **Aiden Turner**, Retired Tight End with the Miami Dolphins and New England Patriots **Jed Weaver**, Two-Time Miami Hurricanes National Champion and longtime NFL Cornerback **Darryl Williams**.



## Woody Foundation Golf Classic

The Woody Foundation held its Annual Golf Classic on April 21<sup>st</sup>, at Top Golf Doral in Doral, Florida. Both The Woody Foundation and The Buoniconti Fund to Cure Paralysis have been hard at work making a difference in the lives of those living with paralysis. The Golf Classic has been able to raise over \$450,000 in the past nine years due to the amazing support of companies and organizations that support this annual event. The Woody Foundation has been working hard to improve our Woody Pack Program with SMART home items while our friends at The Miami Project to Cure Paralysis are hard at work finding a cure so that Woody and Marc will be able to walk alongside us one day soon. James “Woody” Beckham suffered his spinal cord injury making a rugby tackle in January 2011.



Otto Foerster, James “Woody” Beckham, Lucy Foerster, Bill Beckham and Alex Altizer

## Red Door Classic Golf Tournament



Tom and Rebecca Jelke at the Red Door Classic Golf Tournament

The Red Door Classic proudly boasts that it is one of “South Florida’s funnest and most memorable charity golf tournaments,” but it also may be one of the most successful ones in the area. This event has raised over \$300,000 for charity since its inception in 2015. The tournament is held at beautiful Miami Shores Country Club and hosted by the Thomas B Jelke Foundation in conjunction with FIU SigEp Alumni, and presenting sponsor, Mark Marandino and Associates. The tournament raises funds and awareness for three great causes: The Buoniconti Fund’s efforts to cure paralysis through spinal cord injury research, as well as scholarships for FIU First Generation students, and FIU SigEp First Generation Students.

## The 23rd Annual Kevin Kitchnefsky Golf Tournament

In 1996, while on the job for a construction company in New Jersey, Kevin Kitchnefsky was unloading two stacks of chain-link fence from a tractor-trailer when 27 units of chain-link fence, each weighing about 100 pounds, slid off the truck and pinned him against the tractor-trailer, leaving him paralyzed. Determined to improving the lives of those living with a spinal cord injury, Kevin launched his first golf tournament in 2000 to fund paralysis research.

Kevin and The Kitchnefsky Foundation for Spinal Cord Research held its 23<sup>rd</sup> Annual golf tournament at the Tunkannock Stonehedge golf course. More than 144 golfers and friends attended the event for a day of entertainment and celebration. To date, the Foundation has raised more than \$700,000 to fund spinal cord injury research. An additional \$150,000 has been raised to provide quality of life grants to individuals in Pennsylvania who are living with a spinal cord injury. The Miami Project is grateful to Kevin and his family for being a beneficiary of this tournament.



## The Ricky Palermo Foundation Spinal Injury Golf Tournament

In 1996, Ricky Palermo became paralyzed in a car accident after the truck he was in rolled off the road. As Ricky was pulled back into the truck seat, he realized that something was wrong. The next time he woke up, he was in a hospital room. At the age of 21 years-old, Ricky was told he will never walk again. That year, with the help of family and friends, The Ricky Palermo Spinal Injury Golf Tournament was created. In their first year, they raised \$11,000 now 26 years later, The Ricky Palermo Foundation has become one of the largest golf tournaments in Western New York and has donated more than \$1.8 million to their local community and to The Miami Project's research program.



Ricky Palermo riding in the helicopter for the tournament golf ball drop.

This year's golf tournament was held on August 6<sup>th</sup> at the Terry Hills Golf Course in Batavia, New York where 200 golfers enjoyed the day and watched a helicopter golf ball drop. In addition, the Batavia community came out in full support for Ricky as more than 365 dinners were sold. Other events the Foundation produced this year included a one-day soccer clinic where 80 kids participated. In June, they held a concert where the world's number 1 Bruce Springsteen tribute band – BRUCE in the USA performed. The Miami Project is grateful to Ricky, the Palermo family, and the Batavia community for their continued support and commitment to finding a cure for paralysis.

## The Katie Samson Foundation Lacrosse Festival



NY Giant's Mark Herzlick with Katie Samson at the 15th anniversary tournament

Katie Samson grew up in Wayne, PA and attended Radnor High School where she was a goalkeeper for the girls' lacrosse team. Katie then attended Middlebury College where she played Division III lacrosse and helped her team capture a National Championship in 1999. The following winter, Katie suffered a spinal cord injury while sledding and became a quadriplegic. Katie, her family and friends created a lacrosse festival to raise money for spinal cord injury research. The event grew to become the largest high school lacrosse event in the United States, spanning two decades in multiple locations; the community raised over \$2 million dollars to support medical research and quality of life programs for people with spinal cord injuries. The festival celebrated competition, sportsmanship, and the spirit

of lacrosse in Southeastern Pennsylvania. The event showcased adaptive sports in the region and introduced high school students to the concept that athletics is more than wins and losses. The Miami Project is grateful to Katie, the Foundation, and the community for their support.





## National Volunteer Chapters

Chapters of The Buoniconti Fund were established in 1992 in an effort to enhance the research efforts of the scientists at The Miami Project. Led by volunteer regional directors, each Chapter is made up of its own volunteer committee members who donate their time and energy into garnering support for their local events. Committee members provide the grass roots efforts in their respective communities by spreading the message of The Miami Project, its ongoing research and its message of hope.

We are incredibly grateful to have the support of these volunteers across the country who give of their energy and time selflessly, all to raise funds and awareness of The Buoniconti Fund. Because of the efforts of these amazing people, the Chapters have helped raise significant monies to enhance the groundbreaking research ongoing at The Miami Project to Cure Paralysis. We thank each volunteer and Chapter supporter for Standing Up for Those Who Can't.

The Orlando Chapter hosted its 24<sup>th</sup> Annual Golf Tournament on May 6<sup>th</sup> at the MetroWest Golf Club in Orlando, Florida. Each year, Nick Buoniconti and friends make this annual event a huge success full of fun, golf, on-course contents, and so much more, and this year was no exception with a sold out tournament. Mark your calendars for May 5, 2023 at MetroWest!

The Indianapolis Chapter's 5<sup>th</sup> Annual Pub Crawl held on July 23<sup>rd</sup> included three stops along Speedway Boulevard. First stop was Big Woods Speedway, followed by Daredevil Brewery and ended at Foyt Wine Vault with fun and games.

This year's Charleston Chapter Tailgate Party held on September 10<sup>th</sup> at the home of the Barnes Family with The Citadel vs ETSU serving as the backdrop to bringing together Marc Buoniconti, Herman Jacobs of ETSU and combined members of both 1985 football teams. Marc's teammates each year come together to celebrate friendship and family reuniting at The Citadel, all while raising funds for The Buoniconti Fund.

The Pittsburgh Chapter's 18<sup>th</sup> Annual Golf Tournament held on September 10<sup>th</sup> at Carmichaels Golf Club was once again a sold out event! Members of the community continue to enjoy a fun day of golf, on course contests, great food and so much more. Special thanks to our sponsors who each year, without fail, continue to invest in the local Chapter and its mission.

A note of special thanks to Colleen Walsh Jednak and her family for their continued support of the Ryan Walsh Traumatic Brain Injury Fund at The Buoniconti Fund. Throughout the year, friends and family rally together to raise significant funds by holding online fundraising events as well as organizing the Ryan Walsh Walk-n-Roll-a-Thon each year.



We are pleased to announce that we have a **NEW CHAPTER COMING SOON**

Are you in the Los Angeles area and interested in joining a new Chapter? We are in the process of re-organizing the LA Chapter with our new Volunteer Regional Director Bill McMillan. Their first event is scheduled for the Spring of 2023.

To become involved in a Chapter, or to help create a new Chapter in your area, please contact us at [bfchapters@miami.edu](mailto:bfchapters@miami.edu). We would love to hear from you!



Clockwise from top left, The Indianapolis Chapter's 5th Annual Pub Crawl, Orlando Chapter 24th Annual Golf Tournament, Pittsburgh Chapter's 18th Annual Golf Tournament, Herman Jacobs and Marc Buoniconti at the Citadel Tailgate, General Glenn M. Walters, with Marc Buoniconti and Citadel classmates, Collen Walsh Jednak participating in the Ryan Walsh Walk-n-Roll-a-Thon.





Brad Keselowski fishing on Lake Lloyd.

NASCAR Driver Brad Keselowski led his team to first place honors with a three-fish total of 5.4 pounds at this year's Hot Rods & Reels Charity Fishing Tournament to benefit The Darrell Gwynn Chapter of The Buoniconti Fund to Cure Paralysis. NASCAR drivers and Legends convened on Lake Lloyd at Daytona International Speedway February 18<sup>th</sup> for the charity-fishing event that kicks off the racing season.

Joining Keselowski for the event were Bobby Allison, Donnie Allison, Christopher Bell, Greg Biffle, Ryan Blaney, Noah Gragson, Michael McDowell, Max Papis, David Ragan, and Martin Truex, Jr. The Keselowski team's three fish total edged out Gragson's team that came in 2nd with 5.04 pounds, and Donnie Allison's team came in third with a total of 4.85 pounds.

The largest fish, weighing 2.2 pounds made Brad Keselowski and his team eligible to try to win the Global Electronic Technology Million Dollar Challenge. There were 300 specially marked envelopes, with one holding a certificate for a million dollars. Unfortunately, they did not open the lucky envelope, but it was an exciting moment and all had a great time for a great cause.

"Our friends, the drivers, Daytona International Speedway and sponsors and anglers come out each year to help us raise funds so we can change people's lives who are living with paralysis. We can't thank them enough for continuing to stand up for those who can't," said Darrell Gwynn.



Hot Rods & Reels Charity Fishing Tournament annually benefits The Darrell Gwynn Quality of Life Chapter of The Buoniconti Fund to Cure Paralysis. This year Darrell donated a \$20,000 custom wheelchair to a 5-year-old spinal cord injured boy from Deltona, Damiano Respo. The wheelchair will allow him to more safely get to and from his rehabilitation, as well as be more active.

Event sponsors include Daytona International Speedway, Bass Pro Shops, Bass Online, Stanley / Black & Decker, Global Electronic Technology, NASCAR, Dobbs Equipment, Kaulig Giving, Richard Childress Racing, Halifax Health, Yeti, HUK, and DMR.



Darrell Gwynn with Daytona International Speedway President Frank Kelleher.



Darrell Gwynn delivering a new custom wheelchair to young Damiano Respo.



## Darrell Gwynn Wheelchair Challenge Rolls On....

Each participant is asked to sit in their chair and spend some time trying to do every day, normal things in their home or office.



Max Papis taking the Wheelchair Challenge.

**D**arrell Gwynn's idea to help everyone understand the challenges our friends in wheelchairs have to deal with on a daily basis turned into the Darrell Gwynn Wheelchair Challenge and has become a great program in terms of raising awareness and funds for paralysis research. Started two years ago as a way to commemorate the 30<sup>th</sup> anniversary of the ADA, the 30<sup>th</sup> year of Darrell's paralyzing accident, and as a kickoff to September as Spinal Cord Injury Awareness Month, the ongoing campaign has become a staple of Darrell's fundraising and awareness efforts.

Since its inception, the campaign has garnered support from an amazing group of sports and business leaders, raising more than \$500,000 and counting for paralysis research. To date we have had many noteworthy philanthropic minded supporters take the challenge. NASCAR personalities Tony Stewart, Ryan Newman, Kelley Earnhardt, Noah Gragson, and Bill Elliot. On the business and entertainment side we had businessmen Pete Coors from Coors Brewing and Johnny Morris from Bass Pro Shops and dozens of others who choose to Stand Up for Those Who Can't.

For those who agree, the goal is simple... to depict even for a short time what it is like to be in a wheelchair. Each participant is asked to sit in their chair and spend some time trying to do every day, normal things in their home or office. They are also encouraged to have someone video them doing these everyday things, and then describe how it feels to have this new barrier in their lives, if only temporarily.

The Wheelchair Challenge participants are asked to challenge one of their friends or colleagues to also sit in the wheelchair and take the challenge. The idea is get everyone to understand the challenges faced by our friends in wheelchairs every day. If you know someone who would like to take the Darrell Gwynn Wheelchair Challenge, email [bfinfo@miami.edu](mailto:bfinfo@miami.edu).



## In Memoriam



J. Ira Harris

In memory of our longtime friend  
and Buoniconti Fund  
Board Member

April 13, 1938 - February 21, 2022



## In Memoriam

### Dr. David R. Gater

The Miami Project to Cure Paralysis mourns the unexpected passing of David R. Gater Jr., M.D., Ph.D., M.S., principal investigator of Miami Project clinical trials, a tenured professor and Chair of the Department of Physical Medicine and Rehabilitation, and chief medical officer of the Christine E. Lynn Rehabilitation Center for The Miami Project to Cure Paralysis at UHealth/Jackson Memorial Hospital, Spinal Cord Injury Medicine Fellowship director, amongst many other roles.



A truly prolific physician-scientist, we celebrate Dr. Gater's life and work alongside a scoping international family of those living with paralysis and the experts serving them whom he influenced. As a model for servant leadership, Dr. Gater will be remembered for his steadfast centering on people with spinal cord injury, brilliant and passionate ideation, and fearlessly enabling leadership. Dr. Gater came to The Miami Project and Miller School in 2019 from The Pennsylvania State University Milton S. Hershey Medical Center and Penn State College of Medicine, where he was inaugurally named Rocco Ortenzio Chair of Physical Medicine and Rehabilitation, a tenured professor, and residency program director for physical medicine and rehabilitation.

Along with his above listed roles, Dr. Gater was also the Chief of the Physical Medicine and Rehabilitation Service for UM Hospital and Clinics, Jackson Memorial Hospital, and the Miami Veterans Affairs Medical Center; co-director of the National Institute on Disability Independent Living and Rehabilitation Research (NIDILRR) South Florida Spinal Cord Injury Model System center; president of the Academy of Spinal Cord Injury Professionals; author of extensive peer-reviewed scientific articles with editorial contributions to many journals; and an infectious orator of hundreds of presentations to a wide variety of audiences.

At the memorial celebrating the life and work of Dr. Gater, held here at the Christine E. Lynn Rehabilitation Center, Dr. Henri Ford, dean of the Miller School, "We are devastated by the loss of this great leader and his departure has created an enormous void in our lives. Yet, I rejoice. Because I know that David was a man of faith. So rather than mourn his departure. Let us rejoice and celebrate the legacy."

Here at Lynn Rehabilitation Center, Dr. Gater provided steadfast leadership for the opening of the state-of-the-art Christine E. Lynn Rehabilitation Center during the COVID-19 pandemic. While empirical study has shown that other SCI rehabilitation centers lost beds during the pandemic, Dr. Gater's efforts not just protected but expanded care to 72 beds while also regaining full accreditation as a center of excellence by the Commission on Accreditation of Rehabilitation Facilities. Furthermore, during this time the UHealth Physical Medicine and Rehabilitation research division thrived, resulting in a notable climb in the division's national ranking in National Institutes of Health and other grant funding.

Dr. Gater is survived by his wife, Denise; their children, Brett (Brittany) and Felicia; and his first grandchild, Levi, whose arrival he celebrated three months ago. His legacy will be carried on by the many he led, inspired, trained, and rolled alongside here at The Miami Project and beyond. In honoring his legacy, the Gater-Aid Fund for Spinal Cord Injury Research and Education will support research and training programs aimed at the mission of spinal cord injury in the Department of Physical Medicine and Rehabilitation at the University of Miami Miller School of Medicine.



# The Project

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## For Those Who Can't

#StandUpForThoseWhoCan't #CureParalysis

