25 YEARS

The Geneva Foundation

Celebrating Innovation
From the President and CEO

2018 marked Geneva’s 25th anniversary in service of our mission to advance military medicine.

It has been rewarding and humbling to guide Geneva’s growth over the past 25 years. Geneva was founded in 1993 by Jane Taylor in response to a need to support clinical trials locally at Madigan Army Medical Center. What began as a two-volunteer regionally-based organization has developed into a global organization with over 450 employees supporting research in approximately 50 military treatment facilities and federal laboratories around the world. Geneva’s accomplishments are inspiring and are a direct result of our cherished collaborations with exceptional employees, high-caliber researchers, and dedicated sponsors. Over the next 25 years, Geneva commits to expanding these rewarding partnerships and looks to foster new associations that are in alignment with our growing scope and impact.

Geneva’s success is also due, in large part, to our Board of Directors and Scientific Advisory Board, who provide valuable depth and vision to ensure Geneva’s vitality and long-term effectiveness. We are ever grateful for their contributions and guidance.

Our 25th anniversary year, while being a fitting time for reflection, was also a pivotal time for organizational growth. In 2018, Geneva embarked on a process of strategic initiative development, which has focused on expanding Geneva’s impact through financial sustainability, organizational alignment, and an enhanced researcher experience. While we envision dynamic growth and increased impact in the coming years, Geneva will always remain steadfast to our roots, and our mission of serving others through supporting the advancement of military medicine.

Elise W. Huszar

ELISE W. HUSZAR, MBA
## 25 Years of Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Employees</th>
<th>Revenue</th>
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<tr>
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The Geneva Foundation is a 501(c)3 non-profit organization that advances military medicine through innovative scientific research, exceptional program management, and a dedication to U.S. service members and veterans, their families, and the global community.

Geneva is proud to have over 25 years of experience delivering full spectrum scientific, technical, and program management expertise in the areas of federal contracts, federal grants, and industry sponsored clinical trials.

$51.8M Grant, Contract & Award Revenue
45+ Participating Sites
180 Sponsors & Collaborators
235 Principal Investigators
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## QUALITY
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In 2019, I became the Past Chair of Geneva’s Board of Directors, after serving as a member (2004 – 2009) and then as Board Chair (2010 – 2018). It has been an honor to witness Geneva’s transformation over the past 14 years, including the organization’s programmatic growth, long-term financial stability, and increased scope and impact. In my role as Board Chair, I had the privilege to witness the best and brightest – world-renowned researchers, dedicated employees, and visionary leadership – all of whom are at the forefront of innovation and advancing military medicine with a passion that is unparalleled.

I continue to be impressed by the high level of commitment, expertise, and engagement demonstrated by the Geneva team. Our cadre of investigators and research professionals are contributing to groundbreaking research, in areas including infectious diseases, orthopedics, critical care, and regenerative medicine. The scope of this work extends beyond the military health system, impacting civilian and global populations. I would like to extend my appreciation to Geneva’s President & CEO Elise Huszar and Founder & Chief Strategy Officer Jane Taylor for their unwavering leadership. Their guidance has shaped Geneva into the organization it is today, paving the way for a collaborative, dynamic culture that enhances the researcher experience while maximizing efficiencies and research impact. Their leadership is bolstered by Geneva’s Board of Directors and Scientific Advisory Board, who provide the governance and vision needed to successfully accomplish Geneva’s mission and goals. I am honored to welcome Major General (Ret.) Frank Scoggins as the new Board Chair. MG (Ret.) Scoggins is a seasoned military leader who brings a wealth of knowledge and expertise to Geneva. He has served on Geneva’s Board since 2010, and since that time has made significant contributions to the organization. I am confident that in his new role, he will energize the Board and their support of the organization. It has been a privilege and a pleasure to contribute to Geneva for the past 14 years, and I am excited for Geneva’s continued success in the years to come.

Michael W. Hansch
MICHAEL W. HANSCH
Geneva’s Executive Team has demonstrated expertise in supporting and leading military medical research collaborations on an international scale. Their strategic governance ensures Geneva remains a robust, compliant, and fiscally responsible leader in providing program support to researchers and partners worldwide.

**Executive Team**

**ELISE W. HUSZAR, MBA**  
President & Chief Executive Officer  
Elise Huszar served as Geneva’s Executive Director in 1996 and President since 1998. Her economics background, 25+ years experience in research management and business development, and leadership has ensured Geneva’s enduring success.

**BRENT DE ROSIA, MBA**  
Chief Financial Officer  
Brent De Rosia has 25+ years of financial experience in non-profit and for-profit organizations. He previously served a tour in the U.S. Army where he was deployed during Operation Desert Shield/Desert Storm.

**JANE S. TAYLOR, BSN**  
Founder & Chief Strategy Officer  
Jane Taylor founded Geneva in 1993, and has served as a Board member since 1995. A former critical care nurse, she has a notable track record of successful leadership of for-profit and non-profit organizations.

**+515 Employees Worldwide**

**83% Programmatic Employees**

**17% Corporate Employees**
Geneva’s Board of Directors ensures the organization achieves its mission to support the advancement of military medicine and creates a vision to attain greater potential in the years to come. Geneva gratefully acknowledges the dedication and contributions of the Board of Directors, whose leadership continues to ensure lasting success:

**MICHAEL W. HANSCH**
**CHAIR**
14 Years of Service
“It has been an honor to serve as the Chair of Geneva’s Board of Directors for the past 8 years – there is nothing more important than supporting the military.”

**MAJOR GENERAL (RET.) FRANK SCOOGINS**
**VICE CHAIR**
8 Years of Service
“Geneva is making a huge difference to military members because of its agile approach in supporting breakthrough healthcare research.”

**ELISE W. HUSZAR, MBA**
**SECRETARY**
23 Years of Service
“I am continually inspired by Geneva’s researchers, collaborators, employees, and partners – their work is pushing the limits of scientific innovation, shaping military medicine on a global scale, and improving the lives of our service members and the global public.”

**C.W. HERCHOLD, MBA**
**TREASURER**
5 Years of Service
“Geneva is a global organization that impacts lives through innovative medical research in support of U.S. service members and the public. This capability is wanted universally, and Geneva is well positioned to successfully meet this need.”

**DAVID BLANFORD, CPA**
7 Years of Service
“Geneva is on the forefront of innovation that protects and improves the health and well-being of our service members.”

**LISA COHEN**
1 Year of Service
“Geneva’s bold scientific research will not only benefit my son and his colleagues in the Marine Corps, but also millions of people worldwide.”

**LIEUTENANT GENERAL (RET.) STEPHEN LANZA**
2 Years of Service
“Geneva’s engaged and dynamic leadership is committed to the health and readiness of our military, both now and in the future.”
DAVID A. LITTLE, JD
7 Years of Service
“Geneva identifies the best and brightest of our Department of Defense medical professionals and finds the means to support their research, benefiting not just our military, but all of humanity.”

LINDA NGUYEN
7 Years of Service
“Without Geneva’s expertise and professional services, researchers and research sponsors could not partner to conduct lifesaving research that impacts the lives of our military personnel and global communities.”

CLIFF ROBERTSON, MD, MBA
12 Years of Service
“As a former Army physician, I can say that military medical training is the best in the world. Geneva enhances the educational opportunities for military physicians through its robust support of military clinical researchers.”

DAVID SHOULTZ, PHD, MBA
9 Years of Service
“Serving on Geneva’s Board allows me to be a part of and support the cutting-edge, scientific innovation that is being done every day at centers such as Fort Bragg Research Institute, Uniformed Services University, and Walter Reed National Military Medical Center.”

COLONEL (RET.) PATRICK STEEL
9 Years of Service
“Geneva adheres to the most rigorous criteria in the industry in the manner by which they approach their work, using the highest standards to accomplish medical research.”

JANE S. TAYLOR, BSN
25 Years of Service
“It has been rewarding and affirming to witness Geneva’s growth from a two-person volunteer organization to an organization of 500+ employees supporting military medical research worldwide.”

JANINE TERRANO
2 Years of Service
“Geneva is one of those rare organizations that has the discipline of mission and relentless courage to solve hard problems through life saving innovation.”

NEIL C. VINING, MD, MBA
1 Year of Service
“Being on Geneva’s Board has provided me with immense personal growth and mentorship, all with the singular focus of improving the health and welfare of the military members beside whom I had the honor of serving.”
Geneva’s Scientific Advisory Board provides scientific consult, advisement, and direction to Geneva’s senior leadership, program directors, principal investigators, and research administrators. The Scientific Advisory Board serves as a strategic partner to ensure the science behind the research remains relevant, sustainable, and innovative.

NEIL C. VINING, MD, MBA
SAB CHAIR
6 Years of Service
Orthopedic Surgeon and National Medical Director, TeamHealth
Areas of Expertise: Combat Casualty Care, Orthopedics

“Serving on Geneva’s Scientific Advisory Board has provided a cherished opportunity to help world class researchers conduct cutting-edge medical care to America’s heroes and their families.”

ANNA ALT-WHITE, PHD, RN, FAAN
6 Years of Service
Director, Research and Evidence Based Practice, Office of Nursing Services, Department of Veterans Affairs (Retired)
Area of Expertise: Nursing Research

“Geneva enables scientists to develop and conduct innovative research resulting in improved health care for our military and veteran communities.”

ELEANOR F. BOND, PHD, RN, FAAN
2 Years of Service
Nurse Physiologist & Professor Emeritus in the Department of Biobehavioral Nursing & Health Systems at University of Washington
Area of Expertise: Nursing Research

“It has been a privilege to meet a variety of Geneva investigators who endorse Geneva’s support as outstanding in regard to quality, practicality, innovation, and integrity.”

BRIGADIER GENERAL (RET.) JOHN J. DONNELLY, PHD
2 Years of Service
President, Global Healing
Area of Expertise: Vaccine Research and Development

“The work that Geneva does complements and sustains the vital improvements in military medicine that otherwise tend to take place only in wartime.”
BRIGADIER GENERAL (RET.) GERALD DIETER GRIFFIN, MD, PHARMD
6 Years of Service
Emergency Medicine, MTBI & PTSD Researcher, Clinical Translational Medicine and Professor of Pharmacy Practice (Adj.) University of the Pacific Areas of Expertise: Emergency Medicine, Military Research
“Geneva’s alignment with its core values is enduring and gives a framework of comfort and reliability to the relationship between our organization and its primary reason for existence.”

DAVID SHOULTZ, PHD, MBA
6 Years of Service
Vice President & Head, PPD Consulting Areas of Expertise: Epidemiology, Global Health, Infectious Diseases, Public Health
“Geneva’s SAB is a magnet for a distinguished group of scientists, physicians, and nurses who see the opportunity to make a contribution to Geneva’s mission and directly impact the health and well-being of our active duty service members and their families.”

KENT THOELKE
6 Years of Service
Executive Vice President and Chief Scientific Office, PRA Health Sciences Areas of Expertise: Hematology, Oncology
“Geneva provides an essential link for innovation between military medical research and development to ensure that service members and their families have the best access to novel approaches in healthcare and wellness.”

JUDD WALSON, MD, MPH
6 Years of Service
Associate Professor, Departments of Global Health, Medicine (Infectious Diseases), Pediatrics & Epidemiology, University of Washington Area of Expertise: Infectious Diseases
“Recognizing the opportunities and responsibilities of those who serve is a core part of Geneva’s fabric. From the amazing work transforming the lives of U.S. service members to the dedication and passion of the employees, the desire to have a positive impact permeates the culture of the organization.”
**2018 Year in Review**

**JANUARY**
Geneva’s 4D Bio³ facility is established in Rockville, MD.

**FEBRUARY**
- Scientific Advisory Board Chair Neil C. Vining, MD, MBA and Strategic Adviser Lisa Cohen join Geneva’s Board of Directors.
- Geneva opens Regional Corporate office in Gaithersburg, MD.

**MARCH**
- Uniformed Services University (USU) hosts ribbon-cutting ceremony for 4D Bio³ Laboratory.
- Geneva executes the first third party CRADA with Navy and Gilead resulting in 4 more conducted studies at Naval Medical Center San Diego with Gilead.

**APRIL**
- Geneva receives its first Transforming Technology for the Warfighter clinical trial award from USU totaling $1.95M in funding.

**MAY**
- Geneva representatives attend Research Days at Madigan Army Medical Center, William Beaumont Army Medical Center, and Womack Army Medical Center.

**JUNE**
- Geneva launches the Fort Bragg Research Institute to optimize military performance and scientific innovation through partnerships with military medical investigators and collaborators.
- Geneva welcomes new Chief Financial Officer Brent De Rosia, MBA to the Executive Leadership Team.
AUGUST
Geneva hosts Join the Conversation featuring Geneva researcher and employee Dr. Andriy Batchinsky, Lead Scientist, Extracorporeal Life Support Capability Area Expeditionary Critical Care Department, U.S. Army Institute of Surgical Research.

SEPTEMBER
Geneva participates in Race for a Soldier in Washington state in support of the Permission to Start Dreaming (PTSD) Foundation, and also participates in the Navy-Air Force Half Marathon in Washington D.C.

OCTOBER
Geneva President Elise Huszar presents the 2017 Researcher of the Year award to Dr. Vincent Ho, Chair of Radiology, USU and Chief of Radiology, Walter Reed National Military Medical Center at the USU Faculty Assembly.

NOVEMBER
Jonas Philanthropies and Geneva announce the recipients of a joint scholarship, PhD candidates Lisa Perla, MSN, RN, FNP, CNRN, CRRN and CDR Melissa R. Troncoso, MSN, NPC, CHWC, both pursuing doctoral degrees at USU.

DECEMBER
Geneva’s Grants & Contracts Department submits 226th proposal of the year, totaling $444,981,323 in submissions for the year.

NOVEMBER
Geneva participates in Giving Tuesday, a global day of giving following the Thanksgiving holiday.
Global Collaborations
Geneva proudly supports medical research at approximately 50 sites, federal laboratories, and military treatment facilities worldwide including international sites:

**ALABAMA**
- U.S. Army Aeromedical Research Laboratory

**CALIFORNIA**
- David Grant U.S. Air Force Medical Center
- Marine Corps Air Station Miramar Branch Health Clinic
- Naval Health Research Center
- Naval Hospital Camp Pendleton
- Naval Hospital Twentynine Palms
- Naval Medical Center San Diego
- Navy Trauma Training Center

**COLORADO**
- Evans Army Community Hospital
- U.S. Air Force Academy

**GEORGIA**
- Centers for Disease Control and Prevention
- Dwight D. Eisenhower Army Medical Center
- Telemedicine & Advanced Technology Research Center’s Mobile Health Innovation Center

**HAWAII**
- Tripler Army Medical Center

**MARYLAND**
- 4D Bio³ Laboratory Facility
- Geneva Regional Office
- Malcolm Grow Medical Clinics & Surgery Center
- Military Operational Medicine Research Program
- National Cancer Institute
- Naval Medical Research Center - Frederick
- Telemedicine & Advanced Technology Research Center
- Uniformed Services University
- U.S. Army Center for Environmental Health Research
- U.S. Army Medical Research Institute of Chemical Defense
- U.S. Army Medical Research Institute of Infectious Diseases
- U.S. Army Medical Research & Materiel Command
- Walter Reed Army Institute of Research
- Walter Reed National Military Medical Center

**OHIO**
- Wright-Patterson Medical Center

**TEXAS**
- Brooke Army Medical Center
- Brooks City-Base
- Regional Health Command - Central
- U.S. Army Institute of Surgical Research
- U.S. Army Medical Department Center & School
- Wilford Hall Ambulatory Surgical Center
- William Beaumont Army Medical Center

**VIRGINIA**
- Fort Belvoir Community Hospital
- Naval Medical Center Portsmouth

**WASHINGTON**
- Geneva Corporate Headquarters
- Madigan Army Medical Center
- National Center for Telehealth & Technology

**WASHINGTON D.C.**
- Federal Aviation Administration

**INTERNATIONAL**
- Armed Forces Research Institute of Medical Sciences, Thailand
- Landstuhl Regional Medical Center, Germany

**NEW YORK**
- Keller Army Community Hospital
Geneva is honored to partner with a variety of federal government agencies, corporations, foundations, universities, and other organizations in pursuit of innovative research programs within the military medical community. Thank you to Geneva’s 2018 sponsors and collaborating partners, including:

- AbbVie
- Acerta Pharma
- Ajinomoto Althea, Inc.
- Albert Einstein College of Medicine
- Aldevron, LLC
- Allergan
- Altor
- Aptima
- Athens Orthopedic Clinic
- Auburn University
- Augusta University
- Avanos
- Baruch S. Blumberg Institute
- BeiGene
- BioCryst Pharmaceuticals, Inc.
- BioFactura
- Bioventus, LLC
- Boehringer Ingelheim
- Boston Biomedical
- Boston University
- Boston VA Research Institute
- Brain State Technologies
- Bristol-Myers Squibb
- Castle Biosciences, Inc.
- Celdara Medical
- Celgene Corporation
- Centers for Disease Control and Prevention
- CFD Research Corporation
- Chan Zuckerberg Biohub
- Children’s Oncology Group
- Chiltern
- Cleveland Clinic
- Colorado State University
- Columbia University
- Conatus Pharmaceuticals
- Congressionally Directed Medical Research Programs
- Continuous Precision Medicine
- Control One, LLC
- Creare, LLC
- CytoSorbents
- Defense Advanced Research Projects Agency
- Defense Threat Reduction Agency
- Duke Clinical Research Institute
- Duke University
- Duquesne University of the Holy Spirit
- Echosens
- Emory University
- EpicentRX
- Exalenz Bioscience, Ltd.
- Fraunhofer USA, Inc.
- Galmed Pharmaceuticals, Ltd.
- GE Global Research
- GENFIT
- George Mason University
- GeoVax, Inc.
- Gilead Sciences, Inc.
- Halozyme Therapeutics
- Halyard
- Hamilton Health Care System
- Hightide
- IBEX Preclinical Research, Inc.
- Ichor Medical Systems, Inc.
- Immunetics
- Inovio Pharmaceuticals, Inc.
- Integrated BioTherapeutics, Inc.
- James Madison University
- Janssen Pharmaceuticals, Inc.
- Kessler Foundation
- Kineta, Inc.
- Kura Oncology
- Leidos, Inc.
- Lieber Institute for Brain Development
- Lovelace Respiratory Research Institute
- Mahidol University
- Mapp Biopharmaceutical, Inc.
- Mayo Clinic
- Medpace, Inc.
- Merck & Co., Inc.
- Microbiotix, Inc.
- Military Operational Medicine Research Program
- MiMedx
- MultiCare Institute for Research & Innovation
- Natick Contracting Division
- National Cancer Institute
- National Center for Advancing Translational Sciences
- National Institute of Allergy and Infectious Diseases
- National Institute on Deafness and Other Communication Disorders
- National Institutes of Health
- New Jersey Institute of Technology
- New York University School of Medicine
- Nonin Medical, Inc.
- Northwestern University
- Novartis International AG
- Novocure
• NOWDiagnostics
• Old Dominion University Research Foundation
• OmniCure
• Opiod
• Optical Biosystems, Inc.
• Oregon Health & Sciences University
• Palo Alto Veterans Institute for Research
• Parexel International Corporation
• Pfizer
• PHRI
• Portland State University
• Portland VA Research Foundation, Inc.
• PRA Health Sciences
• Princeton University
• Roche Holding AG
• SAB Biotherapeutics, Inc.
• Sandia National Laboratories
• Society for Simulation in Healthcare
• SOLIUS
• Spectrum Pharmaceuticals, Inc.
• Squire Sleep Systems
• St. Jude Children’s Research Hospital
• Stanford University
• Stephenson & Stephenson Research & Consulting, LLC
• Taiwan Pharmaceuticals Co., Ltd.
• TESARO
• Texas A&M University
• Texas Tech University Health Sciences Center
• TG Therapeutics
• The Ohio State University
• The Research Foundation for The State University of New York Stony Brook University
• Theradaptive
• Thomas Jefferson University
• Tian Medical, LLC
• Tobira Therapeutics, Inc.
• TriService Nursing Research Program
• Tufts Medical Center
• Tufts University
• U.S. Army Medical Research Acquisition Activity
• U.S. Army Medical Research and Materiel Command
• U.S. Army Medical Research and Materiel Command Office of Regulated Activities
• U.S. Army Medical Research Institute of Infectious Diseases
• U.S. Naval Research Laboratory
• Uniformed Services University
• University of Alabama
• University of California, San Francisco
• University of Colorado, Colorado Springs
• University of Colorado, Denver
• University of Delaware
• University of Florida
• University of Georgia, Athens Vet School
• University of Illinois
• University of Maryland Shock Trauma
• University of Maryland, Center for Vaccine Development
• University of Miami, Miller School of Medicine
• University of North Carolina, Chapel Hill
• University of Oregon
• University of Pennsylvania
• University of Pittsburgh
• University of Rochester
• University of San Diego
• University of Texas at San Antonio
• University of Texas Health Science Center at Houston
• University of Texas Health Science Center at San Antonio
• University of Texas Southwestern Medical Center at Dallas
• University of Utah
• University of Washington
• Venesco, LLC
• Vermont Nurses In Partnership, Inc.
• Virginia Commonwealth University
• Wake Forest University Health Sciences
• Western Michigan University
• zCore Business Solutions, Inc.
Honoring Our Employees

Geneva began under the guidance of two volunteers and quickly developed into a global organization with over 500 employees. Geneva’s accomplishments and our growth speak to the commitment of our employees to advancing groundbreaking military medical research.
Wave the Flag

Geneva acknowledges excellence in employees who perform above and beyond in their role, demonstrate Geneva’s values, and strengthen the organization’s mission.

2018 RECIPIENTS

QUARTER 1
GRACE CAMPBELL
Recruiting Specialist, Geneva Corporate Headquarters

QUARTER 2
MELINDA METZGER-ABAMUKONG
Clinical Research Coordinator, San Antonio Military Medical Center

QUARTER 3
CRYSTAL PEREZ
Research Nurse Manager, U.S. Air Force En Route Care Research Center

QUARTER 4
JOEL GASTON
Senior Research Scientist, 4D Bio3 Laboratory Facility

PAST AWARD RECIPIENTS

2017
Nicole Lackemeyer
Eric Wilkinson
Dr. Kevin Kobylinski
Justine Berry

2016
Dr. Victoria Tepe
Stephanie Deleon
Thomas Hiel
Seshamalini Srinivasan

2015
Margherita Person
Christina Lavalle
Edward Kensinger
Audrey Leckner

2014
Nicole Van Deusen
Karol Barstow
Dr. Karen Meaburn
Sara Murphy

2013
Brigit Ciccarello
Krystal Valdez-Delgado
Kathy Robinson
Hector Ruiz

2012
Dr. Crystal Hill-Pryor
Kathy Carey
Cathy Byrne
Jennifer Clanin

2011
Christina Lavalle
Dr. James DeMar
Elissa Thomas
Robert Mueck

2010
Jeremy Johnson
Marjorie Osmer

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Geneva on the Go
In 2018, Geneva traveled across the globe to connect with current and potential customers, support our partners, meet with employees, support local communities, and advance our understanding of medical research. Geneva employees exhibit at premier medical conferences, attend site visits at military treatment facilities and federal laboratories, participate in research symposiums, and support mission-specific events.
Geneva has specialized capabilities in supporting federally funded and industry sponsored research, including researcher-initiated programs, sponsor-initiated programs, and FDA-regulated, multi-center clinical trials.

**GENEVA’S TOP 15 RESEARCH AREAS**

1. Oncology 17%
2. Infectious Diseases 11%
3. Orthopedics 9%
4. Gastroenterology 7%
5. Hepatology 7%
6. Rehabilitative Medicine 6%
7. Neurology 6%
8. Federal Contract Services 4%
9. Critical Care 4%
10. Cardiovascular 4%
11. Behavioral & Mental Health 4%
12. Regenerative Medicine 3%
13. Pain Management 3%
14. Women’s Health 2%
15. Otolaryngology (ENT) 2%

**OTHER RESEARCH AREAS**

- Artificial Intelligence & Robotics
- Chemical, Biological, Radiological, & Nuclear Defense (CBRN)
- Critical Care
- Dental & Oral Health
- Dermatology
- Emergency Medicine
- Endocrinology
- Evidence Based Practice (EBP)
- Family Medicine
- General Surgery
- Genomics
- Health Informatics
- Hematology
- Holistic Medicine
- Immunology
- Nutrition
- Ophthalmology
- Pathology
- Pediatrics
- Pharmacology
- Podiatry
- Pulmonology
- Radiology
- Rheumatology
- Telemedicine
- Urology
The Lassa virus (LASV), endemic to West Africa, infects 300,000+ people annually. Individuals hospitalized and diagnosed with the infection average a mortality rate of 15-20% due to the lethal hemorrhagic fever that accompanies the disease. Out of the infected patients who survive, an average of 33% experience life altering hearing loss. Although the severity of this disease is critical, there are currently no FDA-approved vaccines or treatments available.

To address the urgent need of a LASV treatment, Geneva researcher and employee Dr. Cashman and her research team are working to translate a distinct DNA-based vaccine candidate (INO-4500) against the Category A priority pathogen, LASV. Dr. Cashman’s work currently supports the evaluation of the first-in-human Phase I clinical trial in the prevention of LASV infection.
Operational Readiness

FORT BRAGG RESEARCH INSTITUTE

The Fort Bragg Research Institute (FBRI) was created as a partnership between Womack Army Medical Center (WAMC) and Geneva to link the vast infrastructure of science and technology regionally available to WAMC with the growing needs of operational readiness at Fort Bragg, NC. Together, Geneva’s research teams and collaborators are pursuing grants and other contributions to support FBRI’s goals of optimizing military performance through scientific innovation.

FBRI generates research activities that directly address the operational readiness and sustainment of the warfighter, specifically psychological and environmental monitoring, real-time genetic sequencing to diagnose infectious agents, non-invasive neurosensory technologies, and ruggedized bio-warfare detection.
Auditory Injuries

IDENTIFYING SUBGROUPS OF TINNITUS USING NOVEL RESTING STATE FMRI BIOMARKERS AND CLUSTER EXPLORATION

COL (RET.) CARLOS ESQUIVEL, MD, CHIEF MEDICAL OFFICER, DEPARTMENT OF DEFENSE HEARING CENTER OF EXCELLENCE
Wilford Hall Ambulatory Surgical Center

In collaboration with the University of Illinois at Urbana-Champaign (UIUC), Dr. Esquivel’s recent work at Wilford Hall Ambulatory Surgical Center involves the study of tinnitus which is described as internal sound (humming, ringing, buzzing, etc.) that is heard in the head or ears. This research program, led by Dr. Fatima Husain from UIUC, aims to better understand neural correlates of tinnitus severity, such as those involving attention, auditory, and emotion processing neural networks, and thereby identify subgroups that differ in a systematic fashion within the larger heterogeneous population.
Vestibular impairment and ocular motor dysfunction are prevalent among military personnel exposed to blast-related mild traumatic brain injury (mTBI), and research suggests that these symptoms may play a role in prolonged recovery and restriction from active-duty participation. The research team at JBLM is testing the Vestibular/Ocular Motor Screening (VOMS) tool to screen vestibular/ocular motor impairment and symptoms following mTBI. VOMS is a five-minute clinical screening tool that can be deployed by all levels of military medical personnel with minimal training and materials. By evaluating symptoms like headache, dizziness, nausea, and fogginess after performing a series of head and eye movements, service members can quickly and easily be evaluated following mTBI.

Preliminary findings indicate that VOMS can be reliably administered by military medical personnel, is stable over time in health personnel, and can discriminate concussed from healthy personnel. The data from the current study will provide empirical support for the VOMS, which has recently been added to the new Military Acute Concussion Evaluation-2 (MACE-2) as a standard of care assessment across the Military Health System.
Ketamine is the most common battlefield analgesic administered to combat wounded service members.

Nursing Research

ROLE OF IV KETAMINE ON FEAR MEMORY AND BRAIN ACTIVATION IN MALE & FEMALE RATS

CDR KENNETH RADFORD, PHD, CRNA
Uniformed Services University

Ketamine, a multimodal dissociative anesthetic, is the most common battlefield analgesic administered to combat wounded service members, but little is known regarding potential long-term psychological impacts. A limited number of investigations have explored the effects of post-trauma ketamine administration on fear memory and post-traumatic stress disorder (PTSD) among male subjects, but none have examined effects on females. Women experience psychological impacts at higher rates than men and show greater sensitivity to ketamine dosages and metabolism, which may be impacted by sex-hormone levels. Dr. Radford’s pre-clinical research study is novel in that it is one of the first to use a clinically relevant infusion method to characterize sex-related effects of ketamine on fear memory behaviors and brain glucose metabolism (BGluM) in female rats compared to male rats.
The 4D Bio³ Program

4-Dimensional Bioprinting, Biofabrication, and Biomanufacturing (4D Bio³) is a five-year program funded by the Defense Health Program that serves as a Department of Defense (DoD) leader in the emerging field of advanced bioprinting, biofabrication, and biomanufacturing technology. 4D Bio³ is positioned to deliver biofabrication technologies and novel solutions for advancement of military medicine, biomedical education, and collaborations within the DoD. Areas of focus include warfighter readiness, global health, infectious diseases, biosurveillance, medical countermeasures development, radiation effects, and traumatic brain injury. The program is based at the Uniformed Services University (USU) and represents a collaboration between USU, Geneva, and the Naval Research Laboratory.

4D Bio³ includes a ~6,500 sq. ft. multi-tool facility that supports a broad array of research and education applications, including high throughput screening, novel diagnostic testing, and rapid therapeutic assessments for the warfighters and their families. The facility includes a biofabrication suite, tissue culture room, bioreactor and sensor facility, and medical/surgical simulation room.

1. **TRACE METALS IN THE BLOOD-BRAIN BARRIER** creates a 3D bioprinted blood-brain barrier (BBB) model for evaluation of metals crossing the brain to study the penetration of military-relevant metals that wounded warriors are likely exposed to. If proven effective, this model could be used to study metals that play into future neurodegenerative disease prognoses.

2. **RADIATION AND THE BLOOD-BRAIN BARRIER** develops a 3D bioprinted BBB model to evaluate radiation effects on the brain. This will enable better investigation of complex radiation mechanisms to improve radiation risk mitigation and increase the understanding of clinical radiotherapy issues.

3. **GUT/MICROBIOME** develops a 3D bioreactor system to produce a robust testing system for the human intestinal microenvironment. This pseudo-intestinal system could help clarify the role microflora plays in host health and disease and provide a testing platform for pharmaceutical probiotic therapies.

4. **SKIN/HAIR FOLLICLE** develops a bioprinted dermal hair tissue model, creating next generation skin substitutes that regenerate hair follicles. This will represent a major advance for skin engineering since the biofabricated skin substitute will have superior regenerative properties, function, and appearance.

5. **ZIKA AND THE BLOOD-BRAIN BARRIER** creates a 3D bioprinted BBB model to study the effects of the Zika virus on the brain. This testing platform will allow detailed examination of the pathogenesis of this viral infection, how it crosses the BBB, and how it impacts fetal development and the onset of microcephaly.
2018 4D BIO³ ACCOMPLISHMENTS

Geneva initiates lease of offsite space for 4D Bio³ Laboratory facility

Geneva coordinates renovations and equipment purchases for the 4D Bio³ offsite laboratory

Geneva supports the implementation of BSL2 standards in the offsite laboratory leading to official BSL2 Certification

USU hosts ribbon-cutting ceremony for 4D Bio³ Lab

2nd LT Brian Stevens, USAF, first third-year USU Medical Student rotation through 4D Bio³ program (8-week rotation)

Geneva and 4D Bio³ participate in USU Research Day

4D Bio³ presents as an exhibitor at MHSRS 2018, with a bioprinter onsite at the conference to exhibit some of the programs’ expertise and capabilities

Two 4D Bio³ staff present posters/abstracts at MHSRS 2018

Four research programs are initiated under Phase II of the 4D Bio³ Program

A collaboration is initiated with the United States Military Academy (USMA) to create an educational course for cadets with the intent of expanding bioprinting knowledge and expertise within the DoD
"The Researcher of the Year Award was established by Geneva’s Scientific Advisory Board in 2014 as a way to recognize researchers who spearhead innovative scientific studies within the military medical community. It has been a pleasure to help honor our leading medical professionals whose research has impacted individuals on a global scale.” - SAB Chair Neil Vining, MD, MBA

DR. MARY MCCARTHY
SENIOR NURSE SCIENTIST MAJ (RET.) MARY MCCARTHY, PHD
Madigan Army Medical Center

Senior Nurse Scientist MAJ (Ret.) Mary McCarthy, PhD was selected as Geneva’s 2018 Researcher of the Year in recognition of her longstanding commitment to military nursing research, with notable contributions in research quality and mentorship.

“On behalf of the Scientific Advisory Board (SAB), I would like to extend our appreciation to Dr. McCarthy and her research focusing on the health of service members. The SAB found it fitting that we honor Dr. McCarthy for Geneva’s 25th anniversary, as she was awarded Geneva’s first TriService Nursing Research Program grant 20+ years ago.” said SAB Chair Dr. Neil C. Vining. Dr. McCarthy partnered with Geneva in 1996 and has been instrumental to the sustainment of Geneva’s mission since. Her research conducted at Madigan Army Medical Center focuses primarily on the vital role that nutrition plays in the overall health of service members. Her skills and expertise as a clinical nurse for 15+ years, research nurse for 10 years, and nurse scientist for the past 12 years, have enabled her to contribute to the development and implementation of impactful and translational nursing research efforts.

With support from Geneva, Dr. McCarthy conducts intervention research with service member populations at Joint Base Lewis-McChord and Joint Base San Antonio focusing on health promotion, nutrition, and genomics related to mitigating risk for metabolic syndrome and vitamin D deficiency. This military-relevant research promotes the overall wellness and readiness of service members, addressing critical gaps in the understanding of links between key nutrients, harmful dietary substrates, and the impact on disease risk. Dr. McCarthy develops her research portfolio while serving as a mentor to novice nurse researchers and team members at military treatment facilities nationwide. Barb Szekely, a long-time team member of Dr. McCarthy’s, remarked that “Dr. McCarthy established an environment of teamwork, inclusiveness, and adaptability. As a previous Army Nurse, she is uniquely qualified in understanding the need for military medicine/nursing research to generate innovative, evidence-based recommendations for soldier’s health.”
PAST AWARD RECIPIENTS

2017
VINCENT HO, MD, MBA
Chair of Radiology, Uniformed Services University and Chief of Radiology, Walter Reed National Military Medical Center
“Dr. Ho has an accomplished history with Geneva and is propelling the organization forward with his impactful research efforts.” – Scientific Advisory Board Chair Neil Vining, MD, MBA.

2016
JOHN M. DYE, JR., PHD
Chief of Viral Immunology, U.S. Army Medical Research Institute of Infectious Diseases
“Dr. Dye’s ability to continue rapid innovation in response to the recent Ebola virus epidemic is impressive, as is his commitment to research collaboration and integrity.” – President Elise Huszar

2015
LTC LUIS M. ALVAREZ, PHD
Academy Professor & Director, Center for Molecular Science, United States Military Academy at West Point
“Dr. Alvarez’s commitment to exemplary research is evident in the quality and impact of his work, from the pioneering of groundbreaking technologies addressing traumatic wound injuries to his leadership and collaborative roles within the research community.” – President Elise Huszar

2014
LT. COL. VIKHYAT BEBARTA, MD
Chief of Medical Toxicology in the Department of Emergency Medicine, San Antonio Military Medical Center
“Dr. Bebarta’s dedication to conducting research, while also serving in diverse leadership roles and continuing to practice clinical medicine, is indicative of his incredible passion for and commitment to research.” – President Elise Huszar

490 Research Programs Worldwide
57% Grants & Contracts Department
36% Clinical Trials Department
7% Federal Acquisition Activity Department
The Geneva Discovery Fund

For 25 years, Geneva has partnered with some of the brightest minds in military medicine, exploring critical scientific issues of both military and global significance. Researchers partnering with Geneva explore the boundaries of scientific knowledge related to their fields of expertise. Geneva proudly supports both novice researchers at the beginning of their careers and seasoned researchers that are equipped to push the limits of what is possible.

In 2018, The Geneva Discovery Fund was established, with the goal of providing unique funding opportunities to researchers to aid in their pursuit of scientific discovery. The Geneva Discovery Fund provides seed money for new proof-of-concept research, which is often necessary to demonstrate that a concept or theory warrants further exploration. The Discovery Fund also supports the continuation of research advancements that are beyond the scope of a currently funded opportunity. In each of these ways, The Geneva Discovery Fund enables researchers to advance groundbreaking scientific discoveries in the absence of an existing funding source. Similarly, Geneva’s Community Giving Program provides funding to support military medical events that are not included in departmental budgets or in instances when the department does not have existing reserve funds at Geneva.

The Geneva Discovery Fund was created in acknowledgement of Geneva’s 25 years of service supporting military medical advancements and technologies. We are proud of our past accomplishments and activities, and we recognize that there is more work to be done. Geneva is honored to enhance our mission and expand our impact through The Geneva Discovery Fund, and gratefully acknowledges our generous donors, whose contributions have supported the establishment and growth of The Geneva Discovery Fund.
Five Largest Awards

1. The Collaboratory for Musculoskeletal Injury Rehabilitation Research
   PI: Nelson Hager, MD, MS
   SITES: The Uniformed Services University of the Health Sciences, Carl R. Darnell Army Medical Center, Eisenhower Army Medical Center, Fort Belvoir Community Hospital, Fort Benning, Fort Bragg, Fort Carson, Henry Jackson Foundation, Johns Hopkins University, Keller Army Community Hospital, Kessler Foundation, Madigan Army Medical Center, New Jersey Regenerative Institute, United States Air Force Academy, United States Military Academy, United States Naval Academy, University of Miami, University of North Carolina, Walter Reed National Military Medical Center, Western Virginia University, Womack Army Medical Center
   This work is funded entirely with federal funds under Award Number HU00011920011. The Uniformed Services University of the Health Sciences (USU) is the awarding and administering office.

2. Trauma Management Therapy: An Intensive Treatment Program for PTSD
   PI: Scott R. Mooney, PhD, ABPP DAC
   SITES: Eisenhower Army Medical Center, Naval Medical Center Camp Lejeune, Naval Medical Center Portsmouth
   Funded by the DMRDP JPC 5 Mil Operational Medical Research Program under Award Number W81XWH-18-C-033.

3. Four Dimensional Bioprinting, Biofabrication and Biomanufacturing Consortium (4D Bio³) – Fabae Sports Injury (SI)
   PI: Vincent B. Ho, MD, MBA
   SITES: The Uniformed Services University of the Health Sciences, United States Military Academy
   This work is funded entirely with federal funds under Award HU00011920022. The Uniformed Services University of the Health Sciences is the awarding and administering office of this award.

4. Heparin-Free Minimal Invasive Extracorporeal Life Support Treatment of Acute Lung Injury
   PI: Andriy Batchinsky, MD
   SITE: Brooks City-Base
   Funded by the CDMRP Peer Reviewed Medical Research Program under Award Number W81XWH-18-2-0048. The U.S. Army Medical Research Acquisition Activity, 820 Chandler Street, Fort Detrick MD 21702-5014 is the awarding and administering acquisition office.

5. Translational Portfolio Program Encompassing CGMP Manufacturing and Clinical Development of DNA Vaccine Candidates Against both Lassa Virus and MERS Coronavirus
   PI: Kathleen Cashman, PhD
   SITE: U.S. Army Medical Research Institute of Infectious Diseases
   Funded by Inovio.
## Financials

Geneva has continued to deliver strong financial performance in 2018, with a total revenue for Grants, Contracts, and other Awards of $51.8M.

### Statement of Activities

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Grant, Contract, and Other Award Revenue</strong></td>
<td>$51,791,217</td>
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<tr>
<td>Grant</td>
<td>$26,976,833</td>
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<tr>
<td>Contract</td>
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<tr>
<td>Other Award Revenue</td>
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<td><strong>Program Expenses</strong></td>
<td>$42,440,761</td>
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<tr>
<td><strong>Net Income from Grants, Contracts, and Awards</strong></td>
<td>$9,350,456</td>
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<td><strong>Support Services</strong></td>
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<tr>
<td>General and Administrative</td>
<td>$8,337,542</td>
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<tr>
<td>Fund Development</td>
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<tr>
<td>Total Support Services</td>
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<tr>
<td><strong>Total Other Income (Loss)</strong></td>
<td>($54,297)</td>
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<tr>
<td><strong>Increase in Net Assets</strong></td>
<td>$859,271</td>
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<tr>
<td><strong>Unrestricted Net Assets</strong></td>
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<tr>
<td>Beginning of Year</td>
<td>$3,911,272</td>
</tr>
<tr>
<td>End of Year</td>
<td>$4,770,543</td>
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TOTAL GRANT, CONTRACT, AND AWARD REVENUE

- **$60M**
- **$50M**
- **$40M**
- **$30M**
- **$20M**
- **$10M**
- **$0**


- **52%** Grant Revenue
- **42%** Contract Revenue
- **6%** Other Award Revenue
The future of military medicine. Today.

GenevaUSA.org