WASHINGTON UNIVERSITY NEUROFIBROMATOSIS (NF) CENTER

The Washington University NF Center was first established in 2004 by David H. Gutmann, MD, PhD, with the mission of fostering collaboration between clinicians and laboratory scientists aimed at accelerating scientific discovery and its application to the care of people with Neurofibromatosis and related conditions. Over the last two decades, the Washington University NF Center has grown to become one of the largest and most comprehensive NF centers in the world. From research excellence to outstanding multidisciplinary patient care to integrative complementary care approaches, the NF Center is pushing the boundaries of what is possible for people affected with NF. Today, the Washington University NF Center is internationally recognized as one of the premier clinical and research programs focused entirely on NF.

Community engagement is a major element of our success in the Washington University NF Center. Partnering with local institutions, like Ranken Jordan Pediatric Bridge Hospital, Jazz St. Louis, Schnuck Markets, the St. Louis Science Center, and the Missouri Botanical Garden, we offer Music Heals, Club NF, Camp NF, Totally TEEN, and NF Family Day programming to extend our therapies and education beyond the hospital. In addition, we regularly host laboratory tours to share our progress with families, legislators, and individuals interested in NF.

The **NF Clinical Program** has offered expert medical care across the lifespan for children and adults with NF1, NF2, and Schwannomatosis for the past 30 years, with 10 dedicated practitioners and numerous subspecialty consultants. As one of the founding members of the Department of Defense-funded NF Clinical Trials Consortium, our families receive the most cutting-edge treatments available. In addition, we share our expertise with colleagues worldwide through the St. Louis Children's Hospital International Virtual NF Tumor Board.

The **NF Research Program** is one of the world's largest collective of scientists whose individual laboratories are focused on a wide variety of medical problems seen in people with NF using a large number of diverse approaches. Investigators are focused on learning, attention deficit and autism, brain tumors, neurofibromas, and MPNSTs. We are specifically interested in defining the risk factors for NF-related clinical features and using advanced bioinformatic methods to personalize our approach to caring for people living with NF. Over the past 30 years, we have published more than 400 papers, filed 6 patents, and secured numerous multi-investigator collaborative grants.

To share our knowledge and expertise, we have initiated several **training programs**, including the NF Undergraduate Scholars Program, to expose college students and post-baccalaureate trainees early in their careers to NF research. In addition, we provide numerous opportunities for graduate students, postdoctoral fellows, and clinical fellows as part of our efforts to train the next generation of NF researchers and clinicians.

NF CENTER
WASHINGTON UNIVERSITY
NEUROFIBROMATOSIS CENTER

2003
Developed the first small-animal model of NF1-associated optic glioma

2005
Identified rapamycin as a rational therapy for NF1-associated tumors

2006
Selected as one of the original participating sites in the Department of Defense NF Clinical Trials Consortium

2008
Determined how the *NF2* gene controls brain tumor growth

2009
Demonstrated that nerve cell death underlies vision loss in mice with *Nf1* optic glioma

2010
Developed the first mouse model of attention deficit

2011
Launched the first play-based therapy program for children with NF1 (Club NF)

2013
Established the first jazz music therapy program for toddlers with NF1

2015
Described the frequency and features of autism in children with NF1

2017
Identified the reason why female, but not male, mice with *Nf1* optic gliomas lose vision

2018
Discovered a new biomarker for MPNST progression

2020
Demonstrated that T cells are required for *Nf1* optic glioma in mice

2021
Developed the first mouse model of dermal neurofibromas

2022
Repurposed an anti-seizure medicine to block the growth of optic gliomas and neurofibromas in mice

About Dr. David Gutmann, MD, PhD

Dr. Gutmann received his undergraduate, graduate and medical degrees from the University of Michigan, where he trained in immunogenetics. During his residency in Neurology at the University of Pennsylvania, he worked with Dr. Kenneth Fischbeck who sparked his interest in neurogenetics. He then returned to the University of Michigan for research fellowship training in Human Genetics with Dr. Francis Collins. During that time, he identified the *NF1* protein and began to elucidate its function as a negative RAS regulator. In late 1993, Dr. Gutmann was recruited to Washington University, becoming a full professor in 2001 and the Donald O. Schnuck Family Professor in 2002. He established the St. Louis Children's Hospital Neurofibromatosis Clinical Program in 1994 and the Washington University Neurofibromatosis Center in 2004.

As director of one of the world's largest centers focused on NF and related disorders, Dr. Gutmann has trained numerous clinicians and researchers in NF and developed several innovative community-based therapy programs to provide integrated medical care for this population across the lifespan. Moreover, he has led numerous international efforts to establish medical practice guidelines for the field and facilitate the translation of laboratory and clinical discoveries to improve patient care. As part of his commitment to training and global partnerships, Dr. Gutmann developed an international NF virtual tumor board with colleagues in Pediatric Oncology that currently serves physicians in over 20 countries worldwide. Leveraging a five-year Berlin Institute of Health fellowship, he co-established an investigative team at the Max Delbrück Center with Professor Helmut Kettenmann to provide international training opportunities and research partnerships.

He has published over 500 peer-reviewed manuscripts, and his research laboratory has been continuously funded by the National Institutes of Health since 1993, including a National Institute of Neurological Disorders and Stroke R35 Research Program (MERIT) Award. He has been honored with numerous awards for his achievements, including election to the National Academy of Medicine, American Association for the Advancement of Science, and the American Association of Physicians.