2018 Update: Division of Rheumatology and Immunology
Looking back on 2017, I’m struck by a familiar feeling of fulfillment. As usual, my colleagues in the Division of Rheumatology and Immunology here at The Ohio State University have initiated or completed work that matters. Their contributions continue to make a difference within the field of rheumatology — and among the patients who turn to us for care.

As I reflect, I’ve been considering the idea of “connections.” The meaning of that word has shifted during the last 20 years. Today we often speak of connectivity in terms of new devices, apps and wireless technology. Because we are interconnected, we can reach a larger audience and get more done, more quickly than ever before.

I certainly rely on my smart phone and embrace the potential technology offers. But I’m also reminded that people are at the heart of all meaningful connections. It’s people who motivate us to find better treatments. And of course, people are responsible for all the scientific and medical accomplishments you’ll read about in these pages.

By partnering with colleagues across (and outside of) Ohio State, we’re strengthening patient care and bringing research from the bench to the bedside. For example:

• In July, Ohio State rheumatologist Alexa Meara, MD, helped launch a multidisciplinary vasculitis clinic along with pulmonologist Lynn Fussner, MD, nephrologist Salem Almaani, MBBS, and dermatologist Benjamin Kaffenberger, MD.

• We’re studying plasma thermograms, a promising new test for lupus, with Nichola Garbett, PhD, from the University of Louisville. Thanks to $1.8 million in NIH funding, by 2022 we may be closer to assessing lupus disease activity or organ involvement with a simple blood test. I’m proud to be part of this team along with my colleagues Stacy Ardoin, MD, Brad Rovin, MD, and Guy Brock, PhD.

• We launched a study with Dana Ascherman, MD, from the University of Miami to better understand inflammatory pathways in myositis. With the help of a $1.7 million NIH grant, we hope to identify new therapeutic targets for myositis and other inflammatory muscle diseases.

During the past year we also connected with our peers at professional conferences around the world:

• At the most recent American College of Rheumatology (ACR) meeting in San Diego, 23 of the accepted presentations were given by Ohio State faculty and fellows.

• Research presented at ACR by Nicholas Young, PhD, has also made international headlines, including publication in U.S. News & World Report. His ongoing studies in mouse models and humans suggest moderate exercise and stress reduction may suppress the inflammatory response in people with lupus.

I’d be remiss not to mention rheumatology’s rising stars. Our recently expanded fellowship program continues to attract some of the best and brightest minds. We recently completed interviews for our 2018-2019 program year. It was an impressive effort, considering we had 134 applicants — our strongest pool ever.

A final, shining example of human connection is my colleague Ronald Whisler, MD, former director of the Division I’m so fortunate to lead. A rheumatologist who has devoted his entire career to Ohio State, Dr. Whisler was recently recognized for his distinguished service with an endowed chair in his honor. When I think of the countless relationships he established with patients and their families during his 40-year career, I’m reminded of the profound difference one person can make.

Thank you for letting me share our 2017 achievements. I am inspired by the people who make Ohio State such a great place to work — and by the people we’re lucky enough to care for. I encourage you to send me your comments or questions by e-mailing me at Wael.Jarjour@osumc.edu.
Ohio State Establishes $2 Million Endowed Chair in Rheumatology and Immunology

Ronald Whisler, MD, joined the faculty in The Ohio State University’s Division of Rheumatology and Immunology in 1977. Forty years later, in December 2017, Ohio State has created the Ronald L. Whisler, MD Chair in Rheumatology and Immunology.

The new position honors Dr. Whisler’s legacy and leadership, and will support a prominent physician or PhD faculty member specializing in immunology research. In addition to the initial endowment of $2 million, the Division of Rheumatology and Immunology will support the chair through ongoing fundraising efforts.

Dr. Whisler’s long history with Ohio State stretches back to 1968, when he graduated with his medical degree. After completing his residency in Internal Medicine at Ohio State in 1973, Dr. Whisler spent four years at the Mayo Clinic, where he obtained a clinical fellowship in Rheumatology and a research fellowship in Immunology.

The Ohio native returned to his roots in 1977, rejoining Ohio State as an assistant professor and quickly ascending to a leadership role. In 1980, Dr. Whisler became director of the Division of Rheumatology and Immunology — a position he held for 29 years.

“The division grew in size and scope under Dr. Whisler’s leadership,” says Wael Jarjour, MD, current director of Ohio State’s Division of Rheumatology and Immunology. “Not only did he usher in an era of modern rheumatology and immunology as director, he has also cared for countless people in central Ohio. Dr. Whisler is loved by his patients and respected by primary care physicians and rheumatologists across the region.”

Dr. Whisler, who is still an active member of the Division, says he felt surprised and honored when the new chair was announced. “It’s a privilege to have the university recognize my career in this way,” he says. “But more importantly, the endowment lays the groundwork for continued expansion in the division. I’m happy to know we’ll be able to support a new investigator who is devoted to advancing our understanding of autoimmune diseases.”

Dr. Whisler was honored at a reception to mark the establishment of the endowed chair named for him. K. Craig Kent, MD, dean of The Ohio State University College of Medicine, gave the keynote address on Dr. Whisler’s remarkable career. Faculty, staff, and grateful patients in attendance also expressed their admiration and appreciation in celebration of his exceptional medical leadership and patient care.

Joseph Flood, MD receives Receives Top Honor from American College of Rheumatology

The American College of Rheumatology (ACR) honored Joseph Flood, MD, FACP, a rheumatologist with the Columbus Arthritis Center and Clinical Professor of Internal Medicine at The Ohio State University College of Medicine, with the designation of Master during the 2017 ACR/ARHP Annual Meeting in San Diego. Recognition as a Master is one of the highest honors that the ACR bestows on its distinguished members.

“I am honored to be recognized for my commitment to advancing the health of patients with rheumatic diseases and teaching medical students and residents about these diseases. This is a capstone recognition culminating my service to the ACR as well,” said Dr. Flood. “I am truly humbled to receive this designation and join the ranks of many distinguished rheumatologists.”
Seven Years After Launch, Ohio State’s Lupus Clinic Continues to Flourish

The Lupus Clinic at The Ohio State University continues to exceed expectations. In 2010, a group of four rheumatologists and nephrologists simply wanted to test whether lupus patients would benefit from seeing multiple specialists in a shared space. Today, their modest effort to streamline care is now a nationally renowned clinic with nine attending physicians, unique fellowship training opportunities and a robust research program.

Even though the clinic is widely regarded as a success, its providers are not willing to rest on their laurels. Team members continue to seek and implement new opportunities that make it easier for patients to manage their condition, and to live well despite their complex diseases.

Using research to foster understanding, bolster outcomes

The Lupus Clinic was also founded on a belief that eligible patients should have access to clinical trials. Seven years later, nearly half of the clinic’s patient population participates in studies for promising new therapies.

“The idea of using clinical research to improve patient care is exactly what we should be doing as an academic medical center,” says Brad Rovin, MD, director of the Division of Nephrology at The Ohio State University Wexner Medical Center.

“The Lupus Clinic’s model of care is similar to what we’ve seen in the field of oncology,” he explains. “Through a broad effort of aggressive clinical trial creation, management and recruitment, oncologists have been able to transform how cancer is treated, including reducing the side effects of chemotherapy and dramatically improving life expectancy. We’re hoping to have the same kind of transformative effect in patients with lupus.”

At any given time, the Lupus Clinic offers clinical trials for systemic lupus erythematosus as well as lupus nephritis, glomerular disease, vasculitis and other complex autoimmune diseases. Additionally, The Ohio State Lupus, Vasculitis and Glomerulonephritis Registry — now in its fourth year — collects clinical data and/or biospecimens so researchers can follow patients over time.

“To date we’ve added more than 420 patients to the registry,” says Stacy Ardoin, MD, chief of the Pediatric Rheumatology section at Nationwide Children’s Hospital, and the registry’s principal investigator. “It’s given us an unprecedented ability to better understand their condition, improve outcomes and conduct research on the pathogenesis and effects of lupus.”

Training the next generation of lupus experts

The Lupus Clinic’s scientific and clinical reputation has also attracted talented physicians seeking advanced training in autoimmune disorders. Three to four senior fellows in rheumatology or nephrology rotate through the clinic each year. And physicians who want to sub-specialize in autoimmune diseases can apply for an additional year of fellowship that includes clinical and research training in lupus and glomerular diseases.

“Our fellowships provide tremendous opportunity and benefit to trainees and patients alike,” says Wael Jarjour, MD, director of Ohio State’s Division of Rheumatology and Immunology.

“Graduates are leaving our program with specialized expertise and an interest in providing care that’s historically been hard to find. These physicians could one day start multidisciplinary clinics of their own, which strengthens care in the communities they serve.”

Patient education and support

Lupus is a life-altering disease that is still misunderstood. Even in communities where leading rheumatology or nephrology care is available, patients may feel like they’re facing uphill battles.

Knowing that supportive services can be just as vital as medical treatments, the Lupus Clinic offers patients a growing number of resources in conjunction with the Lupus Foundation of America. These include peer support groups, classes for newly diagnosed patients, and annual “lupus summits” where patients are invited to hear physicians discuss the latest advances in lupus care.
“Patients often say they appreciate the amount of time we spend answering questions,” says Dr. Rovin. “Many are young and just starting out, trying to come to terms with their diagnosis. They appreciate having someone to talk to about what to expect, including the side effects of treatment, whether they can work or finish school, and whether they can have children.”

Looking ahead
As the Lupus Clinic continues to evolve, it will do so with an eye toward helping patients who need highly specialized care. Additional programs under development include:

• A new multidisciplinary vasculitis clinic in collaboration with Ohio State pulmonologists, nephrologists and dermatologists
• A pediatric lupus clinic in collaboration with Nationwide Children’s Hospital
• Advanced care for pregnant women with autoimmune disease, in partnership with Ohio State’s Department of Obstetrics and Gynecology

To coordinate a physician-to-physician consultation or patient referral with Ohio State’s Lupus Clinic, please call 614-293-4837. Early intervention is ideal, as together we can manage your patient’s treatment plan — or enroll them in a clinical trial — before their disease is too advanced.

New Vasculitis Clinic Streamlines Patient Care, Stimulates Research

Building on the success of its multidisciplinary Lupus Clinic, The Ohio State University Wexner Medical Center has launched a new clinic that simplifies care for people with vasculitis.

The Vasculitis Clinic brings together experts in rheumatology, pulmonology, nephrology and dermatology, offering a convenient, one-stop experience for vasculitis patients who often require visits with multiple specialists. Working together in a shared space, providers can now quickly collaborate on the most challenging cases.

“We’re fortunate to have physicians at Ohio State who have experience diagnosing and managing all forms of vasculitis, including ANCA-associated disorders and large vessel subtypes,” says Alexa Meara, MD, an assistant professor in the Division of Rheumatology and Immunology who helped develop the Vasculitis Clinic. “We realized we could make it even easier for people to obtain the care they need by collaborating under one roof. Now our vasculitis patients spend less time traveling to our individual offices, and they appreciate the collective knowledge we offer as a team.”

In addition to providing leading vasculitis care, the new clinic also fosters investigator- and industry-sponsored research opportunities. Ohio State’s new vasculitis registry is already enrolling patients. Researchers will follow these patients over time to learn more about vasculitis to improve outcomes. In addition, a partnership with the international Vasculitis Clinical Research Consortium expands patient access to clinical trials.

Dr. Meara also conducts research on patient-physician communication, with the goal of improving patient health literacy and shared decision-making.

“I want to help make office visits more valuable, especially for patients who have complicated conditions,” explains Dr. Meara. “Our vasculitis patients often have multi-organ involvement and have fluctuating medication regimens. Improving their access to care is critical, but so too is making sure they understand their condition and how to manage it, such as taking their medications safely and knowing when to report side effects or new symptoms to their doctor.”

The Vasculitis Clinic was co-developed by Lynn Fussner, MD, assistant professor in Ohio State’s Division of Pulmonary, Critical Care, and Sleep Medicine. Team members also include nephrologist Salem Almaani, MD, MBBS, and dermatologist Benjamin Kaffenberger, MD.

To schedule a physician-to-physician consultation or coordinate a patient referral, please call 614-293-4837.

Teamwork is Essential to Providing Excellent Patient Care
Some of our clinical team members are pictured here.
Left to Right: Melissa Lashley, Tracy Walker, Myron Hobbs, Beth Liming, Tanya Kirkling, Andi Gilliland, Shelley Brogan, and Kimberly Goodman

Clinic Staff: Patient models: Laurie Greenlaw (Cover), Nikki Bickers and Douglas Wagner (Research)
A group of physicians and scientists from the University of Louisville School of Medicine and The Ohio State University Wexner Medical Center may be one step closer to diagnosing systemic lupus erythematosus using a simple blood test. Aided by a five-year, $1.8 million grant from the NIH, the six-person team will evaluate whether blood plasma “heat profiles” (plasma thermograms) can accurately detect lupus and indicate disease progression.

The study, led by Nichola Garbett, PhD, assistant professor at the University of Louisville, builds on her previous research showing plasma thermograms can reliably diagnose and stage cervical cancer. It will draw from Ohio State’s substantial pool of autoimmune-related biospecimens, including an active lupus registry that has enrolled more than 420 patients. And it will rely on the clinical experience of three physicians who help run Ohio State’s nationally renowned Lupus Clinic.

**An emerging use of decades-old technology**

Differential scanning calorimetry (DSC) is a thermal analysis technique often used to measure the heat capacity of natural and synthetic polymers and other materials. It’s used in a variety of industries, including pharmaceuticals and nanotechnology.

Dr. Garbett and her colleagues were among the first to apply DSC to biofluids, specifically human blood plasma. They found that when plasma is heated to a high temperature, its major proteins create a distinct shape or pattern. This unique profile, or thermogram, provides clues about a person’s health.

Continued research has shown that plasma thermogram patterns correlate with specific diseases, ranging from cancer to type 1 diabetes, as well as different demographics.

“Thermograms could replace some of the more invasive procedures we use to test for specific organ involvement in lupus,” says co-investigator Wael Jarjour, MD, director of Ohio State’s Division of Rheumatology and Immunology. “An earlier study found key differences in plasma thermogram profiles of 300 lupus biospecimens compared to an equal number of matched controls. Speaking as a clinician and a scientist, I’m excited to add to this body of work — and potentially remove much of the guesswork that comes with managing this disease.”

**A laser focus on lupus**

Along with Drs. Garbett and Jarjour, the research team includes Ohio State’s Stacy Ardoin, MD (rheumatologist), Guy Brock, PhD (bioinformatics) and Brad Rovin, MD (nephrologist), as well as Michael Merchant, PhD, a mass spectrometry and proteomics expert from the University of Louisville.

Together they’ll assess whether thermograms can improve early detection of lupus — a condition where the most relied upon laboratory tests have a high rate of false positives.

Their efforts will:

- Compare thermogram profiles to other diagnostic test results, including serological markers.
- Assess whether thermograms can distinguish between lupus and other autoimmune diseases, including rheumatoid arthritis.
- Determine whether thermograms are sensitive enough to detect lupus specific organ involvement or disease activity. For example, thermograms may be able to answer: Has organ damage already occurred? Is the patient in a period of remission or experiencing a flare-up?
- Confirm whether thermograms normalize when prescribed treatments are working.
- Use mass spectrometry to interrogate the plasma proteome, to better understand the biochemical basis of each thermogram profile and potentially identify novel biomarkers associated with lupus.

If validated, the team’s findings could provide the momentum needed to move plasma thermograms out of the research phase — and down the path toward licensing, FDA approval and widespread clinical adoption.
University of Miami, University of Pittsburgh and Ohio State Launch Innovative Study of Inflammatory Pathways in Myositis

*Collaboration may lead to identification of novel therapeutic targets*

Renowned researchers from the University of Miami School of Medicine, the University of Pittsburgh, and The Ohio State University Wexner Medical Center have joined forces to investigate the mechanisms by which inflammation occurs in myositis.

Supported by a five-year, $1.7 million grant from the NIH, the team aims to better understand how the transcription factor NF-kB regulates innate immune response and impacts muscle inflammation and degeneration. They also hope to identify small molecule inhibitors that may prevent activation of key pathways associated with myositis and other inflammatory muscle diseases.

**A novel model meets novel imaging**

It's broadly accepted that NF-kB helps turn on genes associated with the body's immune response and inflammation. But the precise pathways that lead to muscle inflammation are not well understood.

To learn whether NF-kB activation triggers inflammatory cascades that lead to myositis, the team is using a unique, antigen-induced model created by principal investigator and rheumatologist Dana Ascherman, MD, from the University of Miami. It was the first model system generated by immunization with a protein called histidyl-tRNA synthetase (HRS). It recapitulates a subtype of myositis called antisynthetase syndrome — potentially making it more applicable to human disease.

"Previous iterations of our HRS-induced model not only produced muscle disease, but also lung disease, which is one of the most common extra-muscular targets of myositis," says Dr. Ascherman. He explains that having a reliable working model is critical to understanding this condition. Because myositis is rare, it's harder to conduct studies in humans.

"Our preliminary data suggests NF-kB is activated in the animal model, particularly in the initial phase of the autoimmune response," says co-investigator Wael Jarjour, MD, director of Ohio State's Division of Rheumatology and Immunology. "In this next phase of research, we want to define the direct and indirect pathways that lead to muscle inflammation."

Dr. Jarjour and fellow Ohio State team members will help confirm the relationship between NF-kB activation and muscle dysfunction using in vivo assessment tools such as bioluminescent imaging. This imaging technique allows researchers to observe inflammation in live mice. When NF-kB is activated, areas of inflamed tissue glow.

**From bench to bedside**

While myositis can be treated with steroids and other medications, patients who take them are prone to severe side effects. If the team identifies relevant pathways that can be selectively targeted, it may lead to better treatments that do not pose the same risks as global immune-suppressing drugs.

"My team and I have collaborated with Dr. Ascherman on other projects going back several years," says Dr. Jarjour. "Combining his expertise in cellular immunology and myositis, and our own experience with myositis animal models, is a natural next step that we hope will produce unprecedented results."

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A selection of journal articles from the impressive list of publications authored or co-authored by our faculty:


Ganesan LP, Mates JM, Cheplowitz AM, Avila CL, Zimmerer JM, Yao Z, Maiseyeeu A, Rajaram MV, Robinson JM, Anderson CL. Scavenger receptor B1, the HDL receptor, is expressed abundantly in liver sinusoidal endothelial cells. *Scientific Reports.* 2016 Feb 11;6:20646.


Meara A, Chan R, Husa M. A Case of TailS, *Archives of Rheumatology,* Volume 31 - Issue 4 - December 2016


Meara A, Chan R, Husa M. A Case of TailS, *Archives of Rheumatology,* Volume 31 - Issue 4 - December 2016


