DIVISION OF RHEUMATOLOGY

NEW FRONTIERS

SUMMER 2017

Leading in education, therapeutic approaches and innovative research
A message from the chief

Leading in education, therapeutic approaches and innovative research

Wow! I don’t know how to begin to sum up all that has transpired in rheumatology since our last publication in 2014. With the bullet points below I will briefly describe some of the highlights of those years and hope that you will take time to read more about the incredible achievements of our extremely talented division members.

• The dramatic expansion of our faculty with the addition of Drs. Marcus Snow, Mike Feely and Tina Mahajan during the past three years. This has allowed us to double our clinical output but even more importantly expand our clinical and research expertise. Dr. Snow has opened a scleroderma clinic and Dr. Feely a myositis clinic, both at our new Village Pointe site in west Omaha. Dr. Mahajan and Dr. Bryant England (who joined our faculty in July 2017) have developed a rheumatoid arthritis (RA) inception cohort clinic at UNMC.

• The number of major research, teaching and mentoring awards that our faculty have won over the past three years has been truly mind boggling. These include National American College of Rheumatology (ACR) and American Rheumatology of Health Professionals (ARHP) awards for clinical research, multiple Master awards from both the ACR and ACP, the Arthritis Foundation’s prestigious Howley prize, national fellow awards, innovation teaching awards, mentoring awards and I could go on and on. Truly amazing!

• Continued expansion of our research footprint, highlighted by the $23 million VA STOP Gout trial that began enrolling in March 2017, our manuscript and abstract productivity, multiple plenary talks at the ACR, the opening of the clinical research clinics in the areas mentioned above and by Dr. Ted Mikuls becoming vice chair for research for the department.

• Continued excellence in student, resident and fellow education. Under the direction of Dr. Cannella, our fellowship program continues to become one we are more proud of every year. Accomplishments include 100% ABIM pass rate, marked year-to-year improvements on the rheumatology in-training exam and ever expanding research productivity of our fellows, residents and student. Under the direction of Dr. Geoffrey Thiele, the Enhanced Medical Education Track (EMET) in autoimmunity continues to serve as a model for similar programs across UNMC. Further, with the help of all our faculty, we have continued our over a quarter of a century place as the No. 1 subspecialty in the department with regard to resident performance on the ABIM and in-training examination.

It continues to be a privilege, an honor and most importantly a daily pleasure to work with the talented faculty as well as our administrators, coordinators and nurses. The accomplishments above are truly a remarkable team effort. I hope you enjoy reading this 2017 update of all that is going on in our division. Our future is indeed bright as we hire terrific new faculty and study coordinators and develop programs to improve health outcomes for arthritis patients across Nebraska and the Great Plains region.

James R. O’Dell, M.D.
Chair, Division of Rheumatology
Professor of Internal Medicine
The Division of Rheumatology is a national and international leader in the diagnosis and treatment of diseases that affect the joints, connective tissue diseases and autoimmune diseases. We are pursuing state-of-the-art approaches in research, clinical care and education programs in rheumatic diseases, with areas of expertise to include rheumatoid arthritis, osteoarthritis, granulomatosis with polyangiitis, gout, systemic lupus erythematosus, myositis, scleroderma and Raynaud’s disease. Private donations have led to the founding of the Nebraska Arthritis Outcomes Research Center (NAORC), have directly supported the world renowned Rheumatology and Arthritis Investigational Network (RAIN) and have allowed us to lead research efforts devoted to improving the quality of life for our patients.
NEW FACULTY

Michael Feely, M.D.
Joined UNMC Division of Rheumatology in 2015.
Former chief resident in internal medicine and former fellow in the UNMC Division of Rheumatology.

Research interests: Myositis (attended the first international myositis conference in Stockholm, Sweden, in May 2015), active member of the International Myositis Assessment and Clinical Studies Group (IMACS)

Current focus: Collect tissue, blood and DNA from patients with myositis and other connective tissue diseases for a tissue biobank.

Goal: Determine why variation in presentation and prognosis differs among patients with these rare diseases that are difficult to study due to low prevalence and heterogeneity.

Tina Mahajan, M.D.
Joined UNMC Division of Rheumatology in July 2015.

Major interests: Clinical rheumatology, education and clinical research of rheumatoid arthritis

Current focus: Recruit patients for a Prospective Observational Study of newly diagnosed rheumatoid arthritis patients.

Goal: Develop a specialized research clinic for patients with newly diagnosed rheumatoid arthritis to evaluate their cardiovascular and pulmonary risk compared to that in people without the disease. Also, to determine whether auto-antibodies can predict the course of rheumatoid arthritis and determine whether there are links between the disease activity and other conditions (ie. periodontal disease).

Marcus Snow, M.D.
Joined UNMC Division of Rheumatology in 2015.
Former fellow in the UNMC Division of Rheumatology.

Research interests: Scleroderma and Raynaud’s disease

Current focus: Evaluate nailfold videocapillaroscopy (NCV), a diagnostic tool to analyze microvascular abnormalities in autoimmune rheumatic diseases, in patients with connective tissue disease.

Goal: To understand these understudied diseases better by collecting clinical and serologic data in those with scleroderma and scleroderma related diseases.
VA contributes to growing registry

Since its inception in early 2003, the Veterans Affairs Rheumatoid Arthritis registry (VARA), has seen a steady increase in the number of participants, said Ted Mikuls, M.D., M.S.P.H., its founder and principal investigator on VARA research.

More than 2,500 rheumatoid arthritis patients from 13 Veterans Affairs medical centers have enrolled in VARA, a big jump from the few hundred who enrolled during the first few years of its existence.

Along with Omaha, VA medical centers in Dallas, Iowa City, Little Rock, Philadelphia, Pittsburgh, Portland, Birmingham, Brooklyn, Washington, DC, Salt Lake City, Denver and Jackson, Miss., have contributed to the registry.

In order to glean as much usable information as possible from it, Dr. Mikuls, in collaboration with investigators from the VA medical center in Salt Lake City, have been working on fully automating data abstraction using natural language processing (NLP) technology.

The investigators hope to identify and pull data elements from the clinical notes provided in participant’s electronic health records. These data are then linked with other datasets available in the VA that provide information such as pharmacy dispensing, laboratory and imaging studies, vital status and cause of death, as well as other health care utilization.

“Integrating NLP in the registry’s day-to-day workflow is quite powerful, as it greatly reduces or even eliminates the burden posed to our researchers and at the same time reduces data entry errors,” Dr. Mikuls said.

VARA has served as an important resource for both VA and non-VA researchers across the country, serving as a focus for a wide scope of clinical and translational research.

Work coming from VARA has ranged from studies of disease outcomes and their determinants, disease epidemiology and biomarker validation, among others. In contrast to many other disease registries, VARA links NLP capture of disease activity measures with a rich array of administrative data.

“We believe that once we get these novel and highly efficient approaches of data capture more widely implemented, it may have the real potential of letting us build VARA even more and make a broader impact in arthritis research,” Dr. Mikuls said.
MAA may be the new disease predictor

It’s just a small molecule, but it has the potential to predict if coronary artery disease is in your future.

Or rheumatoid arthritis (RA).
Or diabetes.
Or a multitude of other diseases, all due to the level of inflammation.

It’s called the malondialdehyde-acetaldehyde adduct (MAA), which Geoff Thiele, Ph.D., a professor of internal medicine, began studying in 1996 to better understand its relationship with alcoholic liver disease and hepatitis.

Recently, he and Ted Mikuls, M.D., M.S.P.H., Umbach professor, rheumatology, noticed that the presence of antibodies to MAA, was linked to high levels of inflammation in patients with RA. As a result, they developed a test that determines whether a patient is harboring increased levels of these antibodies to MAA.

“It’s the ultimate pan-marker – an indication of inflammation in any disease process,” Dr. Thiele said. “Using this test, the physician may gain insights into the level of inflammation that is occurring over time as well as possible co-morbidities associated with RA. Now, we’re looking at whether the antibodies to MAA can aid in the prediction of cardiovascular disease.”

The team began an interdisciplinary collaboration with Dan Anderson, M.D., Ph.D., associate professor of cardiology, who has a frontline view of the battle against the world’s most prolific killer.

“We know that inflammation is important in cardiovascular disease,” Dr. Anderson said. “But we don’t understand a lot about why or how.

“To be alive is to be inflamed, and it’s when cells are stressed with high cholesterol, RA or diabetes that they create high MAA and anti-MAA levels.”

But imagine a test that could both predict these diseases years before they manifest and advance preventive medicine, saving millions of lives and dollars.

Right now in the U.S.:

- Nearly everyone over age 50 - more than 98 million Americans – has some level of coronary artery disease. So do 70 percent of 40-year-olds. About one-half of people in their 20s and 30s probably have it too.
- Cardiovascular disease causes about 2,200 deaths a day, averaging one death every 40 seconds. The annual direct and indirect costs of cardiovascular disease and stroke are about $315 billion.
The aqua colored areas in this confocal microscopic view show where MAA and citrulline (another marker for RA) overlap in synovial tissues from a patient with RA. This confirms that MAA is playing an active role in RA.

- 52.5 million suffer from arthritis; 1.3 million have rheumatoid arthritis. Americans pay $39.2 billion a year in direct, indirect and intangible costs for this No. 1 cause of disability in the country.
- 50 million individuals suffer from autoimmune disease. The annual direct health care cost is $200 billion.

Dr. Anderson envisions this test being part of the normal blood panel.

“The ideal test would be to draw blood from young patients and follow them. We could predict from initial blood work who would develop any of these diseases later in life,” he said.

By current measures, Dr. Anderson said, about 30 percent of people with heart disease slip through the cracks. Too often, the first indication of trouble may be a killer heart attack.

But others with the disease suffer few, if any, ill-effects. Predicting which patients will develop the deadlier form of heart disease is little more than a guess.

“From a clinical diagnostic perspective, this becomes invaluable to help understand those different groups of patients,” Dr. Anderson said.

Dr. Thiele said he hit a dead end studying alcoholic liver disease in humans. First, in this disease the animal models simply do not mimic the disease. Secondly, it was difficult to get liver samples from patients early in the course of alcoholic hepatitis. Finally, there is no current reliable biomarker to use in following these patients. But he did notice that wherever there was inflammation, high levels of MAA and anti-MAA antibodies were present.

MAA is produced during inflammation and binds to proteins in your body. Normally, our immune system does not react to our own proteins. “We have shown that when proteins are modified with MAA, the immune system sees these as foreign. The immune system produces antibodies and T-cells to MAA and to the proteins to which it is attached and begins to attack,” said Dr. Thiele.

The problem now is to identify which protein is related to which disease. The answers may rest within the dozen or so biobanks of tissue and blood at UNMC and around the country that provide him with more than enough research samples. “I walked into a gold mine when I started working with Dan and Ted,” he said.

His collaboration with Drs. Anderson and Mikuls has opened his research to several national studies including one with Harvard University. Now, MAA is linked to new studies of oxidative stress and aneurisms.

The research team and UNMC’s technology transfer office, UNeMed Corporation, are working with Chinese scientists to replicate Dr. Thiele’s study to apply it to atherosclerosis disease, which is closely linked to stroke – the fourth leading cause of death in China.

UNeMed also is looking for entrepreneurs to start a company that will conduct trials to further validate the MAA adduct and antibodies to MAA, and then seek a partner to license the patents of the diagnostic marker.

The next round of testing will be critical to understand how accurate the test can be, particularly studies that follow individual patients over the course of five or 10 years, Dr. Thiele said.

“This little molecule holds a lot of promise.”
Omaha Rheumatologist to Lead Department of Veterans Affairs–funded $23 million study to compare treatments of gout, ‘most painful’ chronic disease

FOR IMMEDIATE RELEASE | 15 May 2017

90 percent of patients do not receive optimal treatment suffer needlessly

OMAHA, Neb. — An Omaha, Neb., rheumatologist is heading up the world’s largest study of gout with a U.S. Department of Veterans Affairs Office of Research & Development-$23 million grant that will compare the effectiveness of the two most widely used and effective therapies to treat gout.

James O'Dell, M.D., principal investigator of the national study, is chief of rheumatology at the VA Nebraska-Western Iowa Health Care System, and chief of the University of Nebraska Medical Center division of rheumatology and immunology. Researchers will recruit 950 patients. Those eligible are patients seen at 19 VA sites across the country, including the Omaha VA Medical Center. In addition, the study is open to patients in clinics of the Rheumatology and Arthritis Investigational Network (RAIN), which includes Nebraska Medicine in Omaha, Yankton Medical Clinic, in Yankton, S.D., Sanford Health in Bismarck N.D., and the Mayo Clinic in Rochester, Minn.

Gout, which affects about 4 percent of the population, has increased to near epidemic proportions due to a variety of reasons, including an aging population, a significant increase in obesity and chronic kidney disease, said Dr. O’Dell.

Ted Mikuls, M.D., M.S.P.H., is the principal investigator for the study at the Omaha VA Medical Center, where he is a rheumatologist. Dr. Mikuls is also an Umbach Professor of Rheumatology at UNMC. Amy Cannella, M.D., is the principal investigator for UNMC sites.

Gout, the most common form of arthritis, is caused by a build-up of elevated uric acid in

“Gout is a horribly painful chronic disease – the most painful chronic disease there is.”
the blood that deposits in tissues and joints and causes inflammation and excruciating pain. It tends to affect the lower extremities and start in men in their 40s and women in their late 50s to 60s. The big toe is the most common location for gout initially, but any joint can be affected later in the disease.

“Gout is a horribly painful chronic disease — the most painful chronic disease there is,” said Dr. O’Dell. “Patients can experience so much pain that they can’t go to work because it’s so painful to walk. They show up in emergency rooms. The economic impact is substantial.”

“Most people don’t get diagnosed correctly, they don’t get put on uric acid-lowering therapies; and if they do, they don’t have the dose adjusted to their individual needs,” Dr. O’Dell said. “We hope that the study will educate patients and health professionals and make the point that this is important and it’s not hard to successfully treat gout.”

The study will compare the effectiveness of Allopurinol vs. Febuxostat – both of which lower uric acid and reduce attacks of gout. It also will look at treatment of gout in patients with kidney disease, which commonly go together.

Anyone who has a gout diagnosis and meets the enrollment criteria can participate.

To be considered for the study, males must be age 19 and over and females at least 50 years old, be diagnosed with gout and have high blood uric acid levels. In the first six months of the study, patient medications will be titrated to appropriate levels. Between the 12- and 18-month timeframe, researchers will record the number of patients who have gout flares.

Though high uric acid levels may be hereditary, Dr. O’Dell said other contributing factors can lead to gout including being overweight, drinking alcohol, particularly beer, eating rich foods, particularly organ meats and shellfish. Some medications, particularly diuretics used to treat high blood pressure, can cause higher uric acid levels as does kidney disease.

Over the last decade, gout prevalence in the U.S. has increased by more than 50 percent in men, 25 percent in women and more than 100 percent among individuals over the age of 80. The increase in gout frequency is most prominent among older men, which is a common demographic encountered in the VA health system, Dr. O’Dell said.

Study medications will be paid for, as well as visits to monitor uric acid levels and adjust medication dose accordingly.

Dr. Mikuls said it’s anticipated that when the drugs are used appropriately, which surprisingly has never been done in the context of a real-world study, they will be similarly effective and both well-tolerated.

“This is important to know, however, since the drugs have very different cost implications,” Dr. Mikuls said. “The study will be the first to ever examine and compare two first-line drugs available for the treatment of gout, and administering these agents in a manner that is consistent with best-practices in gout care. The study has the real potential of informing gout care for decades to come.”

Symptoms of gout include a sudden onset of very severe pain in a joint, particularly a lower extremity joint that often becomes red, hot and swollen. Another indicator is attacks that come and go. Once patients have had three or four attacks of gout, the upper extremities also can be affected.

For more information about the study, contact Cindy Marr, rheumatologyresearch@unmc.edu or 402-559-7288.
Why does the UNMC Division of Rheumatology and Immunology have such a big impact on education within the College of Medicine?

“It’s our culture,” said Amy Cannella, M.D., associate professor of internal medicine, rheumatology, and director of the Rheumatology Fellowship Program. Rheumatology tends to attract teachers, and education is a priority within the division, emphasized and protected from the top-down.

Division Chief James O’Dell, M.D., Stokes-Shackleford Professor of Medicine, asks his educators to think about what they want to accomplish, Dr. Cannella said. He then follows through with the resources to help make it happen – including time.

So it’s no surprise rheumatology has a significant role on educational initiatives within the College of Medicine.

Gerald Moore, M.D., professor of rheumatology, is senior associate dean for academic affairs within the college. He also helps set the tone.

“He is a pioneer in education at the College of Medicine,” Dr. Cannella said. “Many of the rheumatology faculty are part of his legacy, having been his students in the College of Medicine.”

Following in his footsteps, several rheumatology faculty also have been involved in multiple areas of medicine curriculum.

• Drs. Moore and Cannella are on the Curriculum Transition Group.
• Dr. Moore is on the Curriculum Committee.
• Alan Erickson, M.D., associate professor of rheumatology, is chair of the Student Evaluation Committee.
• Dr. Erickson is on the Admission Committee, and Dr. Cannella is a past member.
• Dr. Cannella is on the Core Director Committee.
• Dr. Moore is on the Clerkship Director Committee.

“The rheumatology division is committed to medical education by having members on these important College of Medicine committees,” Dr. Erickson said.

They don’t just teach or consult on rheumatology, but also work with staff and students in other areas.

“It’s in part because we love to teach and in part a little bit selfish,” Dr. Cannella said. She hopes to “hook people early” on rheumatology. “That is what happened to me,” she said.

As noted above, rheumatology faculty have taken on leadership roles in the innovation and development of medicine curriculum. Faculty continue to study new ways in which UNMC can reach millennial learners, by helping to develop and implement Training the Physicians of Tomorrow (TPT), a new active learning-based curriculum that emphasizes hands-on learning techniques, small-group interaction, technology and research and inquiry.

“It’s been a Herculean effort,” Dr. Cannella said.

Students want to experience clinical medicine earlier in their medical education. Previously, “I saw students were frustrated,” she said. “They learned basic science, out of clinical context, that was rote memorization.” Through TPT, the College of Medicine is now
bridging the basic and clinical sciences from the beginning of their education.

Additionally, rheumatology is always working on its divisional education initiatives, including residency education, where rheumatology is consistently a top score among residents in the in-training exam.

Allison Blatchford, residency and fellowship program coordinator, continues to explore the use of Apple technology. Rheumatology will make movies and iBooks, adapting its curriculum into an iTunes U course.

This puts everything into one consolidated place, and ensures that when rheumatology fellows leave, they will still always have access to the educational material. This will keep former fellows connected to UNMC.

Rheumatology, led by the efforts of Blatchford, also is working on making an app for on-the-go evaluations. Evaluating is crucial – and such an app would allow students and faculty to do real-time evaluations of their interactions with patients.

The division also is among the nation’s leaders in incorporating musculoskeletal ultrasound (MSUS) into its rheumatology fellowship curriculum.

Dr. Cannella was among the first cohort to take the MSUS certification exam, and is a mentor for the Ultrasound School of North American Rheumatologists. She also is leading the effort for the development of a standardized fellowship curriculum in MSUS with the American College of Rheumatology.

Speaking of the fellowship program, it boasts a 100 percent pass rate for board exam, and a dramatic improvement in scores from the in-training exams.

In all aspects of rheumatology fellowship and general medical school education, students are engaged in active, team-based and experiential learning experiences, thanks in part to rheumatology educators.

“We have a great opportunity here to learn from our students as we teach them,” Dr. Cannella said. “We saw that our students could be more satisfied with what we are teaching them and how they are learning it.”

Research trainees tout experiences at UNMC

What is it like to be a research trainee in the UNMC Division of Rheumatology and Immunology?

“A great privilege,” said Brian Coburn, an M.D./Ph.D. student, who received the Internal Medicine Medical Student Research Award.

“Critical to developing the necessary foundation of knowledge and research skill set to begin a career as a clinician-investigator,” said Bryant England, M.D., who studies cellular messaging and cancer mortality in patients with rheumatoid arthritis.

“One of the greatest experiences in my life,” said Gulsen Ozen, M.D.

Each won awards, published papers and made presentations at prestigious gatherings.

Just a small sampling, Dr. England won the Marshall J. Schiff, M.D., Memorial Fellow Research Award from the Rheumatology Research Foundation. Dr. Ozen presented at top meetings in the U.S. and Europe and contributed to a publication in a prestigious journal, a study that attracted widespread media attention.

“The experience I received in the division of rheumatology has opened doors for me that are not available to my classmates,” Coburn said.

But the experience as a research trainee went beyond simply attaining new highlights for one’s C.V.

“I was surrounded by a diverse group of investigators who challenged my ideas and opened my mind to new opportunities,” said Coburn, who studies gout and disease management among patients.

“The mentorship I have received has been truly incredible,” Dr. England said.

“I have met incredible people at UNMC rheumatology who inspired, motivated and supported me all the time. I didn’t feel like I was thousands of miles away from my family,” said Dr. Ozen, who came from Turkey and studies the rate of diabetes in rheumatoid arthritis patients and the impact of drug treatments.

“I have not only had an amazing research experience here, but also a great time in this chapter of my life.”

From left to right: Brian Coburn, Ph.D., Gulsen Ozen, M.D., and Bryant England, M.D.
Several novel biomarkers associated with lupus disease parameters have been identified since the launch of the lupus clinic in the division of rheumatology at UNMC.

Collaborators Kaihong Su, Ph.D., an associate professor in the department of pathology and microbiology, and Michelene Hearth-Holmes, M.D., MEd, assistant professor in rheumatology, said the lupus clinic is a boon for clinicians and researchers looking for ways to better treat this debilitating disease.

Since its inception in 2014, the lupus clinic in the division of rheumatology has become a biorepository for the serum, urine and blood cells that were collected over the past five years, Dr. Su said. Currently, there are samples from 140 lupus patients and more than 200 healthy patients.

“The UNMC cohort is a valuable asset for researchers who are interested in the identification of disease-associated biomarkers and the development of novel diagnostics,” Dr. Su said.

“Those biomarkers are in further evaluation and validation for publications and potential patent applications,” she said.

In just the past year, the biorepository has grown with more than 200 healthy people who are of the same age and sex as their counterparts who suffer with lupus and live in the Dominican Republic.

“This cohort of people has a unique genetic background and is valuable for the identification of genetic and epigenetic factors that contribute to the development of lupus,” Dr. Hearth-Holmes said.

Both the UNMC and Dominican Republic registries are part of the Rheumatology and Arthritis Investigational Network database, she said.

Using the Dominican Republic cohort, the collaborators have identified genetic alleles in human leukocyte antigens (HLA) and non-HLA genes that associate with systemic lupus erythematosus and lupus nephritis. These alleles act as biomarkers of the disease. The results were presented at the 2016 annual meeting of the American College of Rheumatology.

“We are in the process of identifying species of small regulatory non-coding RNAs (called microRNA) that may contribute to the pathogenesis of lupus using the Dominican Republic cohort,” Dr. Hearth-Homes said.
Biobank provides insights into arthritic diseases

Information is powerful.

Omaha philanthropist Ruth Scott knew it in 2007 when she and Bill Scott donated money to create the Nebraska Arthritis Outcomes Research Center (NAORC), a joint venture between the UNMC Division of Rheumatology and the UNMC Department of Orthopaedics.

And she would be happy to know that their thoughtful investment has contributed to more than $1.5 million in new grant funding that has led to volumes of new knowledge in arthritis research.

Research that will lead to some amazing outcomes.

“The idea that we would find a way to prevent rheumatoid arthritis was just a dream when I came to UNMC 10 years ago, and now it’s becoming a real possibility,” said Kaleb Michaud, Ph.D., associate professor of internal medicine, rheumatology.

These advances are due in no small part to the growing base of knowledge collected from patients participating in the National Data Bank for Rheumatic Diseases (NDB) and the RAIN clinical database, which Dr. Michaud leads.

NAORC leads the nation in the development of a biobank that has literally thousands of patient samples, all stored at UNMC.

“The biobank continues to grow and the research we are able to conduct because of it also continues to provide us with new insights into arthritic diseases,” Dr. Michaud said.

Insights such as – the increasing public health burden of arthritis and other rheumatic conditions in the state; cardiovascular risk and the use of biologic agents in rheumatoid arthritis; and increased incidence of herpes zoster among patients with systemic lupus erythematosus.

These are just three of the more than 100 research papers Dr. Michaud has published in the past 10 years, all utilizing data from NAORC.

The data also has led to some significant journal articles, he said, pointing to a 2015 study that described quality of life indices in patients who suffer with either rheumatoid arthritis versus osteoarthritis and had total knee replacements. The results showed that while significant improvements in pain, function and other health-related quality of life indices was found in both groups, maximum improvements were found in patients who only had osteoarthritis.

“That’s because patients with rheumatoid arthritis tend to have more joints affected that cause pain in other parts of their body,” Dr. Michaud said.

It’s the type of research that clinicians can use right away.
Research Awards

Bryant England, M.D., former fellow, who joined the UNMC Division of Rheumatology in July 2017, received the Marshall J. Schiff, M.D. Memorial Fellow Research Award from the Rheumatology Research Foundation.

Kaleb Michaud, Ph.D., received the Association of Rheumatology Health Professional Distinguished Scholar Award. This award is presented to a member who demonstrates exceptional achievements in scholarly activities pertinent to arthritis and the rheumatic diseases. Dr. Michaud also received the Distinguished Scientist Award at UNMC. The award recognizes researchers who have been among the most productive scientists at UNMC during the past five years.

Lynell Klassen, M.D. (center), is the recipient of one of the highest honors bestowed by the American College of Rheumatology (ACR) – its Masters designation. The designation is conferred on members, age 65 or older who have made outstanding contributions to the ACR and the field of rheumatology through scholarly achievement and/or service to their patients, students and profession.

James O’Dell, M.D., is a recipient of the Distinguished Clinical Investigator Award, an honor bestowed on a clinical scientist making outstanding contributions to the field of rheumatology. Dr. O’Dell also is a recipient of a Mastership in the American College of Physicians (ACP). The ACP, which is the largest specialty organization in medicine that represents internal medicine specialists, bestows the Mastership for recognition of outstanding and extraordinary career accomplishments. It includes teaching clinical medicine (research or practice), improvements in health care and contributions to the medical literature.

Bryant England, M.D., UNMC former fellow, who joined the UNMC Division of Rheumatology in July 2017, received the Marshall J. Schiff, M.D. Memorial Fellow Research Award from the Rheumatology Research Foundation.
Selected Faculty Publications

- **27015606**  

- **26213106**  

- **25417811**  

- **23755969**  

- **27110000**  

- **26474325**  

- **26097231**  

- **27836820**  

- **27762196**  

- **26822094**  

- **26857699**  

- **27477806**  

- **28121495**  

- **27449546**  

- **26784147**  
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UNMC and VA Rheumatology and key collaborators impact the world!