

**Educational background**

I completed all my advanced education and training at Duke University. In 1995, I completed a Bachelor of Science in psychology with an unofficial concentration in neuroscience, with independent study in the laboratory of Dr. James McNamara, Professor of Neurobiology. I learned from Dr. McNamara that scientists must ask the right questions. In medical school, I was accepted to work in the immunology laboratory of Dr. Ellen Gravalles at Brigham and Women's Hospital. I committed to spending at least 12 months in the laboratory though it would lengthen my medical school experience to provide ample time to complete a meaningful project. Under Dr. Gravalles's tutelage, I learned not only how to ask good questions, but how to design experiments with appropriate controls to answer them. I remember grumbling about "doing just one more control," but appreciated the importance of being compulsive to produce good science. It sounds trivial but, through my lab experience, I learned the importance of carefully documenting your daily scientific work to ensure that your results are replicable. Doing my own education research today, I keep a "lab notebook" so I can recreate what I have done if asked.

**Training, activities**

I was a compulsive house officer and strong team leader. I worked well with the "tough" attendings because I had the clinical acumen to anticipate what tasks were important for high quality patient care, and I completed those tasks before having to be asked. I did my first clinical research project in residency under the mentorship of Dr. William St. Clair, evaluating provision of informed consent in a rheumatoid arthritis trial. I presented this study as a poster at the 2002 meeting of the American College of Rheumatology (ACR). In my rheumatology fellowship, based on my leadership and performance, Dr. David Pisetsky (Program Director and Division Chief at that time) appointed me Chief Fellow for my second year, a designation which has not been given again since my tenure. During fellowship, I was still drawn to laboratory work and agreed to complete two additional research years in Dr. Pisetsky's laboratory. However, unforeseen circumstances led to my being pulled to cover clinical services for several months. While I enjoyed bench research, the increased integration into clinical medicine made me realize that my aptitudes were more suited to practicing as a clinician educator and forming collaborative relationships for translational research endeavors, a pairing that would allow me to think about science while enjoying the practice of patient care. I therefore agreed to join the faculty as a clinician after a two-year fellowship. As a fellow, I completed a review article on lupus with Dr. Pisetsky and a translational research project with Dr. Virginia Kraus that led to an abstract and two publications. My fellowship activities foreshadowed my career, as I managed divisional activities including rheumatology research conference, grand rounds, and the core curriculum series. I also started three new fellow conferences, including a "classics" conference to review pivotal literature, a musculoskeletal physical examination series and an immunology conference series.

Upon joining the faculty in July 2005, I quickly earned respect as a talented and productive clinician and diagnostician, receiving referrals of complicated patients from rheumatologists around North Carolina. I rapidly met and exceeded productivity goals, and for several years, I was the Division's most productive clinician. I am proud to have been named one of the "Best Doctors in North Carolina (2008-2014)" and "Best Doctors in America (2007-2014)" after only a few years of professional practice.

I have always loved teaching. As I interacted with trainees, I felt our division lacked satisfactory clinical research opportunities for housestaff as well as a framework for clinical care

of patients with lupus, one of my strong interests. Therefore, in July of 2009, along with two colleagues I founded the Duke Lupus Clinic (DLC). The DLC combined my interest in clinical care and education with the others' in research and clinical care. We planned the DLC to provide expert care in an area of medical need as well as providing opportunity for investigator-initiated projects accessible to housestaff. The Duke Lupus Registry has led to several published translational and clinical research projects. Patient care has flourished, leading to Duke's inclusion in the Lupus Clinical Trials Consortium, an international research collaboration with 20 centers participating in the largest ever prospective registry of lupus patients (100/center).

My clinical interests have evolved towards the care of patients with complex, multi-system autoimmune diseases including inflammatory myopathies, especially dermatomyositis and the anti-synthetase syndrome. I have established relationships with national myositis centers and thereby created a regional referral base from the Johns Hopkins Myositis Center and the University of Pittsburgh. Duke pulmonologists and neurologists preferentially refer me patients with inflammatory myopathies. I am exploring research collaboration with the JHU Myositis Center, and in the next five years I will establish a myositis clinical registry and sample repository at Duke to provide a well-phenotyped population for translational research collaborations.

As a member of the faculty, I have always actively taught and mentored trainees in clinic. I decided that the position of Rheumatology Program Director would combine my teaching, mentoring, and administrative skills into a satisfying career position. When the positions became available, I happily became the Associate Program Director in 2009 and Program Director in July 2010. This role has been a turning point in my career. Our program is associated with the three other rheumatology programs in North and South Carolina through the Carolinas Fellows' Collaboration (CFC). Through the CFC, I began scholarly work in education, and ideas generated through this collaboration led to my successful application for the American College of Rheumatology (ACR) Research and Education Foundation Clinician Scholar Educator Award in 2013. Through this career development grant, I am conducting funded education research and earning a Master of Education. I am currently mentoring two residents in education research projects as well as three departmental faculty members. My future career plans are in education research; I am currently developing a business plan to create a Duke Rheumatology education center to provide web-based and in-person educational tools to share locally and globally. My vision is to improve rheumatology recruitment and training by creating an on-line rheumatology curriculum allowing training of fellows throughout the state or nationally through participation in a curriculum that we supply here at Duke. I am now involved in an ACR educational committee and plan to increase my role as an education leader within that organization.

### **Teaching contributions**

When I was course director for the medical student rheumatology elective, my ratings for talks were all 4-5/5. My primary teaching interest is at the GME level. I love teaching medicine residents the musculoskeletal physical examination and rheumatology problem-solving skills at my weekly DVAMC clinic. Through my persistence, I have established "rheumatology emergencies" in the annual medicine residents' noon conference series and speak on other topics including (over the years) anti-phospholipid antibody syndrome, SLE, inflammatory myopathies, performing the musculoskeletal examination and the general rheumatology evaluation. I have rounded on general medicine at Durham Regional Hospital for 2-4 weeks annually since July 2005. My evaluation scores from residents with whom I have worked are always in the superior

range. Selected resident comments from 2013-2014 include “Dr. Criscione-Schreiber models excellent physician educators.” “...I appreciated the time she took to give us didactic sessions on rheumatology. There was a perfect amount of autonomy and supervision, and she was very nice and easy to work with. Excellent attending!” “Excellent balance of teaching, guidance, and allowance of resident independence.”

Since 2010, I have directed the rheumatology rotation for the medicine residency. I re-organized the rotation to an outpatient rheumatology focus, giving residents an accurate picture of rheumatology practice. Recent rotation evaluations have averaged around 4.5/5 for all measures. My evaluation scores have been high; for July 2013-June 2014, I ranked first in the rheumatology division in resident evaluation scores, averaging 9.63 on a 10-point scale.

As rheumatology program director, I have revitalized the education mission and involved faculty members more extensively in fellow training, including leading faculty development seminars. I am proud of having advised development of the new Resident as Teacher GME concentration. Our first cohort was selected in fall 2014; I am the formal mentor for a resident in OB/Gyn and direct her education research project, modules, and readings. I am mentoring an additional resident in Medicine on an educational research project.

### **Academic achievements and scholarship**

I successfully re-certified in Internal Medicine in 2013. I also received the inaugural Education Achievement Award from the Duke University Department of Medicine (DOM), Division of Rheumatology and Immunology. I was honored to receive the 2007-2008 Durham Regional Hospital General Medicine Teaching Award, an unusual distinction for an outpatient sub-specialist! I was nominated for the DOM Outpatient teaching award for the 2013-2014 academic year; this is a great honor for me as I work hard to emphasize learning in clinics

I have been active in clinical research activities as site PI and sub-investigator on many clinical trials. The Duke Lupus Clinic has facilitated collaboration with Dr. Pisetsky's laboratory producing an important paper about microparticles and SLE. I have co-mentored a med-psych resident in a project presented at Duke Research Day, the ACR meeting, and a manuscript in press describing the implications of depression in the Duke Lupus Clinic. Dr. Megan Clowse is my collaborator in all research activities from the Duke Lupus Clinic. We are very interested in quality of life in patients with SLE and are collaborating with Drs. Frank Keefe and Tammy Sommers in psychology to assess and initiate interventions to improve coping skills in people with SLE. With Dr. Clowse, I am moving in a new direction that merges her expertise in women's health and autoimmunity with mine in education research by assessing patient and physician knowledge about contraception. These data provide background for planned patient and provider educational projects to improve patient care.

My background in bench research has informed my conduct of research in education through my focus on thoughtful study design. One of my recent projects was creation of a video on performing the rheumatologic musculoskeletal examination. Duke CME is interested in using this video as a prototype to create enduring CME materials offered by Duke Medicine. My ongoing research involves testing the efficacy of this video in changing confidence and competence in performing and interpreting MSK exams. My funded research project is to create and validate a rheumatology objective structured clinical examination (OSCE) for national use. I have carefully designed this study using principles learned in my graduate classes and through collaboration with statisticians and the Duke Research Management Team.

Since January 2014, I have been a senior faculty mentor in the Duke Department of Medicine Faculty Development Academy (Education Branch). Along with formal mentoring, I began collaborating with two of my mentees on projects and anticipate further fruitful collaborations.

**Administrative leadership, if applicable**

As Rheumatology Program Director since July 2008, fellow research has been productive, trainee satisfaction has been excellent, and faculty participation in the education mission has improved. In 2012 I led our successful ACGME RRC recertification, earning a five-year cycle. I have successfully competed for outside grant funding to make our training program nearly self-sustaining. I plan to continue succeeding in funding our fellowship and serving as a model in the Department for doing so. I anticipate taking a leadership role in Duke GME or CME over the next several years.

**Institutional service**

As Rheumatology Clinic Director from 2006-2010, I served on PDC committees, including the faculty survey committee in 2011 (results of which ultimately led to the decision to purchase Epic). Since 2010, I have been a non-voting member of the ICGME and was just designated a voting member representing the Department of Medicine. Through CChAMP participation in spring 2014, my study group advised Health System leadership regarding creation of a faculty education academy at Duke. Pursuant to the CChAMP project, I served on the Duke Enterprise-Wide Planning Initiative sub-committee on development of a faculty academy (Chair: Colleen Grichnik, PhD).

**Local, national and international leadership**

I was the academic representative on the North Carolina Rheumatology Association Executive Board for four years. We grew the conference from about 70 to over 110 participants.

I am on the ACR In-Training Examination (ITE) Sub-Committee of the Committee on Training and Workforce (since 2013). I write exam questions and we meet annually at the National Board of Medical Examiners to evaluate the psychometric properties of previous ITE questions and review submitted questions. I hope to co-chair this sub-committee after my three-year service term. Over the next 5-10 years, I envision taking a role in leading educational initiatives in the American College of Rheumatology through additional committee membership.

**Grant support**

Since July 2013, I have been supported by the ACR REF Clinician Scholar Educator Award, a career development award of \$60,000/year for 3 years to promote my development into an education scholar. I have received three Duke GME Innovations Grants since 2010; my most recent grant provides material and project management support for my ACR REF CSE project on creation of a national rheumatology OSCE.

I have had salary support from a number of clinical research grants during my time on faculty. I have also been awarded the ACR REF Amgen/Wyeth Fellowship Training Grant in the amount of \$25,000 in 2011 and 2013 to support fellow salaries.