Explore & Expand in a Top 10 Residency Program
I’ve had the great privilege of serving for more than 30 years as chair of the University of Utah’s Department of Ophthalmology and Visual Sciences, and in that time I’ve seen medical and surgical care evolve in truly amazing ways. Ophthalmology is a dynamic field, and many of the best minds are working to ensure that our ability to preserve and restore sight will continue to improve. Our goal at the Moran Eye Center is not only to train residents and fellows who can provide the current best standards of care, but to help them develop as innovative thinkers and explorers who will stay competitive and expand on their skill sets throughout their careers. These pages will give you a taste of the depth and breadth of our educational program and will hopefully encourage you to consider the Moran Eye Center for your ophthalmology training.

Randall J Olson, MD
Professor and Chair, Department of Ophthalmology and Visual Sciences; CEO, John A. Moran Eye Center, University of Utah

We are tremendously excited to build on our Top 10 residency ranking by reaching higher, embracing value, and continuously improving quality. —Dr. Jeff Pettet

Jeff Pettet, MD, Residency Program Director, Assistant Clinical Professor, University of Utah Department of Ophthalmology and Visual Sciences; Director of Ophthalmology, VA Hospital

Transforming the Future of Health Care

From nearly 500 competitive applications, four individuals are selected each year to begin residency training at the Moran Eye Center. When we combine their immense potential with our education-focused culture and resources, the results are exceptional.

Our goal is to empower residents to challenge the status quo and become the kinds of leaders who have the vision and skills to create patient-centered, accessible, and sustainable ophthalmic practices—a must in today’s evolving health care market.

Patients and insurance companies are demanding value: better quality care and services for lower cost. All improvements in quality and service must be balanced by an impact on cost. And all cost reductions must happen without a negative impact on quality and service. It’s a huge challenge, but I believe we are up to it.

As a leader in value transformation, University of Utah Health Care has shifted its focus from volume to value and to measuring outcomes that matter to patients. Recently, it launched Value University, a resource that helps clinicians to transition from episodic care to population management; it helps them find ways to deliver care through integrated teams and coordinated processes, improve information flow, and emphasize illness prevention—all while offering convenient, accessible, reliable, and empathetic care.

While the future of health care may be complex and unclear, I am confident that Moran graduates are entering that landscape with exceptional clinical and surgical training and will carry with them a culture and a skill set that is transforming the future of health care.
Making the Most of Your Time in Residency

The Moran Eye Center has more than a 3:1 faculty to resident ratio. This allows our trainees to graduate with some of the highest surgical volumes in the country.

Residents begin performing surgery during the first two years of residency and operate as primary surgeon for the most part of their third year—always under the supervision of a board-certified ophthalmologist. Moran’s surgical simulation and wet lab curriculums are timed to provide experiences that thoroughly prepare residents to move on to hands-on patient care.

### ONE ALUM’S PERSPECTIVE

Brian Stagg, MD, a recent Moran resident and Heed Fellowship Award winner, was one of 20 applicants accepted into the University of Michigan’s National Clinician Scholars Program—a two-year fellowship that offers interdisciplinary training for clinicians to become change agents who will drive policy-relevant research and partnerships to improve health and health care in the US.

Stagg largely credits his successes as a resident to Moran’s personalized program and high-caliber physician-mentors.

“The Moran Eye Center residency is nationally recognized for its clinical and surgical training. We spend one-on-one time with top physicians from day one. We do large numbers of high-quality surgeries. For each of these surgeries we are closely mentored: We operate with an attending who walks us through each step early on, and who then gives us more autonomy as we progress. We do enough cases with each of these attendings that they come to know our strengths and weaknesses and can give us personalized feedback to help us improve.

“However, what really makes Moran stand out is the large number of nationally and internationally recognized physicians who are willing to serve as personal mentors for residents. Drs. Alan Crandall, Jeff Pettey, Randall Olson, Mark Mifflin, and Albert Vitale used their personal time to help me become a better physician, researcher, and person. They helped me tailor my education during residency to meet my interests and needs.”
Moran’s Quality Improvement Program Creates Game-Changers

Judith Warner, MD, chair of Moran’s resident selection and quality improvement committees, and former academic fellow Zachary Joos, MD, developed a “Quality Improvement” curriculum that empowers residents to challenge the status quo while giving them the tools, support, and time to identify and develop their own solutions to the question, “How can we provide better care and service and improve our quality?”

One resident-generated quality improvement project is transforming glaucoma treatment for veterans at the VA Hospital. Residents Eileen Hwang, MD, PhD; Adam Jorgensen, MD; and Ashlie Bernhisel, MD, analyzed cases where patients with severe glaucoma did not do well after surgery and identified areas for improvement. “We determined that sutures could be cut earlier after trabeculectomy, which has been associated with surgical success in the literature, and looked at the timing of laser suture cutting,” said Hwang. Residents then met with glaucoma faculty and fellow residents to help them refine their protocol for post-operative care and to create measures to evaluate surgical success. “Quality improvement projects are an important teaching tool,” says Warner. “Residents learn the fundamentals and concepts of creating long-term projects and how they can potentially change and optimize patient outcomes.”

Hands-On Patient Care

From day one, residents see patients during regular clinics and provide primary care at the Resident Continuity Clinic, where they learn how to become the provider in a well-supervised setting with graduated levels of responsibility. Residents follow their patients for the entire course of care—treating issues from vision loss to complications of diabetes and stroke, gaining a range of experience and building patient-relation skills as they progress.
Residents who have a strong research interest are given protected research time one-half day each week throughout their residency, allowing them to collaborate in studies, publish, and present at national meetings. Moran also provides avenues for funding and matching grants.

**RESIDENT RESEARCH AWARDS**

**Nikko Ronquillo, MD, PhD,**
Moran intern, received the 2016 Achievement Rewards for College Scientists (ARCS) Foundation’s Randall J Olson Scholar Award in October, 2015. The award allows Ronquillo to continue his research into Senior-Loken Syndrome during his residency. ARCS awardees receive $15,000; Moran matches the award each year, providing an additional $30,000 support.

**“Investing in the scientist, not solely the science.”**  
—Brian Stagg, MD, Moran ARCS Scholar Alum

Researchers and physicians at the John A. Moran Eye Center are responsible for some of the most widely known and respected online sites in vision education.

**Moran Clinical Ophthalmology Resource for Education (Moran CORE) morancore.med.utah.edu**
CORE, produced by the Moran Eye Center in partnership with the University of Utah’s Spencer S. Eccles Health Sciences Library, is a growing, open-source multi-media supplement to the ophthalmology curriculum used by students, residents, fellows, teachers, and doctors at the Moran Eye Center and worldwide to improve ophthalmic education. Educational surgery videos on the website are selected from more than 7,000 ophthalmic surgeries at Moran each year. CORE will soon contain all 250 unique resident-lecture videos given by Moran faculty members to residents—a first in the ophthalmology industry. Our grand rounds video presentations, medical images, and peer-reviewed case studies can also be viewed on Moran CORE.

**Neuro-Ophthalmology Virtual Educational Library (NOVEL) novel.utah.edu/Moran**
Working with the North American Neuro-ophthalmology Society (NANOS) and the University of Utah’s Spencer S. Eccles Health Sciences Library, Kathleen B. Digre, MD, professor of ophthalmology and neurology, director of neuro-ophthalmology fellowship, University of Utah School of Medicine, and former president of NANOS, was instrumental in developing NOVEL—an open-access repository of digital materials: images, video, lectures, articles, and animations in neuro-ophthalmology. This resource is available at no cost to educate students, residents, researchers, healthcare professionals, and patients in neuro-ophthalmologic conditions. NOVEL is accessed over 2.5 million times from over 150 countries each year.

**Webvision webvision.med.utah.edu**
Webvision is an ever-evolving, interactive “textbook” administered by Bryan W. Jones, PhD, one of the Moran Eye Center’s scientists involved in connectomics research exploring retinal circuitry in health and disease, and he is part of the team that completed the first connectome dataset: the Retinal Connectome for Vision. Webvision summarizes recent advances in knowledge and understanding of the visual system through dedicated chapters and discussion to serve as an international clearing house for all things related to retina and vision science. Webvision was founded in 1994 by Helga Kolb, PhD, now professor emerita of ophthalmology and visual sciences.
Uveitis Fellowship Expands Teaching Capacity

The Uveitis and Ocular Immunology Division at the John A. Moran Eye Center now offers an intensive one-year Association of University Ophthalmology Professors-compliant clinical fellowship, which provides comprehensive training in both the medical and surgical management of a wide variety of ocular inflammatory diseases. In addition, the fellow has an opportunity to participate in ongoing clinical trials, investigator-sponsored studies and epidemiologic projects, and to formulate study in an area of particular interest.

The Moran Eye Center has the only uveitis service in the Intermountain West, drawing patients from six neighboring states and beyond. It is unique in being the consulting service for patients with ocular infectious and inflammatory disease for the Divisions of Infectious Disease, Adult and Pediatric Rheumatology, Internal Medicine, and the Huntsman Cancer Institute at the University of Utah. Fellows can expect to see the full spectrum of pathology—from the routine and common to the unusual and complex: infectious and non-infectious anterior, intermediate, posterior and panuveitis; pediatric uveitis; ocular complications of HIV/AIDS; autoimmune retinopathy; and neoplastic disease. Fellows are trained in both medical and surgical diagnostic and therapeutic modalities, including appropriate use of laboratory investigations and ancillary testing; application and interpretation of multimodal imaging; safe and effective implementation of immunomodulatory medications; proficiency with uveitic cataract surgery and anterior chamber and vitreous biopsy techniques; and the implantation of sustained release intravitreal steroid devices. Fellows rotate with Albert Vitale, MD, and Akbar Shakoor, MD, and are expected to assist the residents with in-hospital uveitis consultations.

“Ocular-inflammatory diseases are frequently sight-threatening and present management issues that many ophthalmologists may be unfamiliar with or uncomfortable handling on their own. They may be difficult to diagnose, and they can be complicated,” says Moran uveitis specialist and educator, Albert T. Vitale, MD. “But it is important for all ophthalmologists—whether they become retina or cataract surgeons—to know the basic principles of the diagnosis and treatment of patients with ocular inflammatory disease—including appropriate initial work up and treatment—and when to refer to these patients a uveitis specialist. With my colleague, Dr. Akbar Shakoor, we now have the critical mass to launch a clinical fellowship in this specialty. It’s a truly unique aspect of Moran’s program.”

Moran’s Uveitis Fellowship is one of only 15 in the US.

Akbar Shakoor, MD, former Moran fellow, specializes in retinal diseases and surgery, uveitis, and ocular immunology.
Elective Time

Chief residents get two months of elective time that they can use for extra work in any area, including research, a subspecialty of interest, or for a humanitarian rotation abroad. Humanitarian rotations involve either three-week stints at international ophthalmic institutions in countries that include Nepal, Ghana, Cambodia, and Ethiopia or being part of a Moran surgical and training mission to a developing country. In these unique settings, residents learn new techniques and gain experience in conditions not often seen in the United States.

Learning While Giving Back

Moran residents, fellows, and alumni with an interest in providing care to underserved communities have numerous opportunities to work with our Global Outreach Division.

Utah Strip of the Navajo Nation. Eye disease and preventable blindness are epidemic in this isolated land surrounded by the striking formations of Monument Valley, where 25 percent of the population lives below the poverty level and lacks running water and electricity. Teams of Moran physicians and volunteers travel to this vast “eye care desert” every month, working in a unique partnership with Utah Navajo Health Service and Blue Mountain Hospital, serving all ages.

Operation Sight Day. Created by Moran residents and University of Utah medical students, this bi-annual event has become a national model adopted by the American Society of Cataract and Refractive Surgery Foundation to deliver eye care to local underserved and uninsured populations. Residents are the primary organizers of Operation Sight Days and assist physicians with complex cataract and pterygium surgeries and corneal transplants.
**International Outreach.** Moran conducts approximately 25 international eye camps each year in countries as remote as Micronesia and Tanzania and as close as Guatemala and Haiti. In one week, residents help screen hundreds of patients and assist as surgeons perform hundreds of surgeries. Our sustainable model is based on training local partners as we work to provide basic eye care, to use donated diagnostic and surgical equipment, and to improve their surgical skills.

Moran alumni frequently join Moran’s Global Outreach team, performing surgeries and training local staff.

Moran alumni in Guatemala, May, 2016. L to r, Roger Furlong, MD; Lloyd Williams, MD, PhD; Slade Snow, MD; Meng Lu, MD

**Training in Nepal.** Senior residents may opt to do a three- to four-week rotation at the Tilganga Institute of Ophthalmology in Kathmandu, Nepal. There, they experience clinical and surgical settings they may never see in the US. From lightning-induced cataracts to open globes caused by stork attacks, residents get an entirely new perspective on eye trauma. They also join Tilganga teams on outreach medical eye camps throughout Nepal.

**International Fellowship.** Fellows from Moran or elsewhere who have completed a year’s training in cornea, glaucoma, or retina may apply for a second-year international fellowship. This option includes eight to ten months working in the developing world teaching and practicing clinical and surgical aspects of ophthalmology. The balance is spent at the Moran Eye Center. Our fellows network overseas with organizations including the Himalayan Cataract Project and Orbis.

Haiti Street Clinic