Academic departments, like most organizations, are really about the people. Since arriving in Morgantown in 2018, I have been impressed by the excellence found in our clinical and research faculty, administration, staff and trainees. Their commitment to helping the people of West Virginia through their efforts in direct patient care, research and the creation of opportunities for enhanced service is evident daily. Their can-do spirit and teamwork have been evident during the historic COVID-19 pandemic. I have witnessed small acts of kindness and heroism by this group on a daily basis.

The department has made a number of advances and expansions over the past three years, which are described in the following pages of this report. They include important discoveries by our research team, along with additions of faculty, space and funding to that effort. Our clinical enterprise has also grown in depth and breadth. Clinical research has increased significantly with the addition of a large multicenter glaucoma trial led by Tony Realini, M.D., M.P.H. Our residency and fellowship programs have both grown recently and continue to be very competitive for recruits. Our residency program has expanded to four residents per year and we have active fellow positions in glaucoma, retina, oculoplastics and cornea.

Our faculty ranks have grown with the addition of researchers Wen Tao Deng, Ph.D., and Michael Robichaux, Ph.D. Recent additions to our clinical faculty include Cornea Specialist Annahita Amirescandari, M.D., Pediatric Ophthalmologist Ryan McGuire, M.D., Glaucoma Specialists Joel Palko, M.D., Kevin Halenda, M.D., and Sumeet Gupta, M.D., Vitreoretinal Surgeons Nicole Pumariega, M.D., and Mona Singh, M.D., Uveitis Specialist Grace Levy-Carle, M.D., Optometrist Jordan Gjolberg, O.D. and Neuro-Ophthalmologist and Pediatric Ophthalmologist Praveen Jeyaseelan, M.D.

We have also made significant strides in better serving the entire state by opening outreach clinics in Summersville, Buckhannon and Bridgeport. These have all been in collaboration with each area’s local WVU Medicine Hospital — including Summersville Regional Medical Center in Summersville, St. Joseph’s Hospital in Buckhannon, and United Hospital Center in Clarksburg. Each of these facilities have provided local resources for patients who receive specialty eye care.

Our core facility in Morgantown has also expanded. Our research team moved to expanded Vision Research space in the Erma Byrd Research Building, while our clinical services have expanded into the third floor of the Eye Institute, which previously housed neuroscience services.

I hope you enjoy reading about our department in the following pages and get a feeling for our commitment to providing the very best eye care to the people of West Virginia and providing outstanding experiences to the future ophthalmologists of our state and creating new knowledge that will lead to better understanding of eye function and disease.
## CONTENTS

2 Education

4 Faculty

7 Fellows

7 Residents

8 Research

8 Rejuvenating Eye Health of West Virginians with an Emphasis on Basic Science Eye Research

11 Multidisciplinary Team at West Virginia University Combines Expertise to Provide Treatment for Uveal Melanoma

12 Glaucoma Research Driven by Curiosity

14 History of the WVU Eye Institute

16 Publications (2020-2021)

21 Research Grants

24 Department of Ophthalmology and Visual Sciences At-A-Glance
Resident selection process
Each year the Department of Ophthalmology and Visual Sciences receives approximately 400 medical student applications for four residency positions. Of these, the committee selects 56 candidates to interview in December, with four students matching with us in January. They start training in July, initially as hospital interns, but then transitioning to full-time residents in ophthalmology for the next three years. We are fortunate to continuously attract talented medical school graduates throughout the country to our residency program.

Expanding training opportunities
The department also supports five clinical fellows in the areas of cornea, glaucoma, oculoplastic surgery and retina. These trainees work closely with their subspecialty faculty on rotations both at J.W. Ruby Memorial Hospital in Morgantown and at the Louis A. Johnson VA Medical Center in Clarksburg.

Within the WVU Eye Institute, residents and fellows have the benefit of learning how to perfect their surgical techniques on the EyeSi surgical simulator before moving to the operating room.
In 2020, we established a joint transitional year program that enables all of our ophthalmology interns to have experiences in ophthalmology while they train at WVU. Each intern has three months of ophthalmology training during the course of their first year, helping to further advance their clinical acumen and ocular knowledge base before the start of their residency training the following year.

**Quality training and care**
While the COVID-19 pandemic had a major effect on the educational programs in 2020, the program has rebounded and once again maintains a very large volume of patient encounters, both in our clinics and in the operating rooms, providing excellent clinical care and hands-on training.

The residency program continually maintains the highest standards set by the Accreditation Council of Graduate Medical Education and our Association of University Professors of Ophthalmology-compliant fellowship programs attract trainees from across the nation to further their subspecialty training with us.

The program’s first-time pass rate on the American Board of Ophthalmology’s certification exams consistently exceeds the national average.

**A breadth of experience**
Each member of the clinical faculty in the department is also teaching faculty, which offers residents and fellows both a wide breadth and sound depth of clinical experience and teaching through didactic sessions, flipped classroom opportunities, wet-lab sessions, hands-on teaching in both the clinic and operating room settings and mentoring scholarly work and research projects.

The department also fosters an active ophthalmology interest group for medical students that participate in research and community outreach projects, while also sharing in patient care activities.

Continuing a trend over the years of half of our graduates pursuing subspecialty training, two of our four residency graduates in 2021 went on to fellowships, one at the University of Michigan for medical retina, the other at the University of Southern California for surgical retina. The other two graduates have entered private practice, one in Buffalo, New York and one in Oklahoma City, Oklahoma. In wishing our graduates well, we also welcome our newly matched interns, who this year hail from Ohio, Oklahoma, New York and Florida.

To learn more about graduate medical education opportunities in the department, visit [medicin.hsc.wvu.edu/eye](http://medicin.hsc.wvu.edu/eye).
FELLOWS

JAMES BENJAMIN  M.D.
Fellow, Retina Service

SARA DEACON  M.D.
Fellow, Cornea Service

JASON JENSEN  M.D.
Fellow, Glaucoma Service

PHILIP KUROCHKIN  M.D.
Fellow, Retina Service

ANTHONY LEONARD  M.D.
Fellow, Oculoplastics Service

RESIDENTS

ANDREW BEAN  M.D.

JUSTIN HARVEY  M.D.

MARY KUNESH  M.D.

CHRISTIAN WARNER  M.D.

MICHAEL CHANG  M.D.

JAMIE DIETZE  M.D.

EVAN FIELD  M.D.

IVAN LEE  M.D.

ALEN EID  M.D.

EVAN FRIGOLETTO  M.D.

JORDAN GUFFEY  M.D.

CLINTON JORDAN  M.D.

ANDREW BEITER  M.D.

PARKER CAIN  M.D.

APRIL ENGER  M.D.

AMI PATEL  M.D.
West Virginia has the second highest rate of visual disability in the nation, and the incidence is projected to double by 2050, according to the CDC’s Vision and Eye Health Surveillance System. The team of basic science researchers at the West Virginia University Department of Ophthalmology and Visual Sciences is rapidly growing its academic research program to uncover the cause of eye diseases and discover new eye therapies that could rescue sight.

This passionate group of eight active teams perform cutting-edge research in the fields of retina biochemistry, metabolism and genetics. The retina is the light-sensitive neural tissue in the eye that is susceptible to disease stressors. The neurons in the retina are highly specialized for vision and are necessarily complex. As such, the efforts of basic research scientists are needed to unravel this complexity for a better and more complete understanding of how eye diseases work and how they may be treated and cured in the future.

“The fundamental discoveries by our young scientists are important for designing novel therapies and diagnoses to prevent visual disability. In addition, we train the next generation of scientists and contribute to the growth and economy of our state,” said Visvanathan Ramamurthy, Ph.D., director of the Department of Ophthalmology’s Basic Research program and chair of the Department of Biochemistry.

The Basic Science Research team is comprised of eight investigators and 14 research trainees that are funded by seven, five-year R01 grants, a student F31 grant from the National Eye Institute and several grants from foundations for a total of more than $3 million annually.

The labs use numerous research techniques to discover the basic mechanisms of vision and eye health, such as metabolomics, retinal explant cultures and super-resolution fluorescence microscopy. The team also studies animal models for prevalent human eye diseases, including retinitis pigmentosa, age-related macular degeneration, achromatopsia and glaucoma.

Despite the ongoing COVID-19 pandemic, the Basic Research laboratories have expanded into a new and state-of-the-art research space. The team also added two new faculty investigators, Wen-Tao Deng, Ph.D., from the University of Florida and Michael Robichaux, Ph.D., from Baylor College of Medicine.
Dr. Deng uses adeno-associated vectors to mediate gene replacement therapies that treat color vision deficiencies.

Dr. Robichaux uses “nanoscopies”, which are powerful microscopes capable of capturing cellular events on a molecular scale. His laboratory uses nanoscopy imaging to investigate the effect of disease-related mutations on single cells in the retina.

The Basic Research team is also heavily invested in the future of eye health in West Virginia and beyond. The department endeavors to foster translational research amongst the basic science laboratories that are geared toward future research collaborations with the physician and clinical research teams.

**2021 Active Grants: Faculty**

**Wen-Tao Deng, Ph.D.**
*Title:* Disease mechanisms of cone opsin mutants and treatment strategies. *Source:* US DHHS-NIH-National Eye Institute

**Jianhai Du, Ph.D.**

*Title:* Targeting proline metabolism in AMD. *Source:* Bright Focus Foundation

*Title:* Regulators of Retinal Metabolism in Healthy and Degenerating Retinas
*Source:* US DHHS-NIH-National Eye Institute (Sub-award: University of Florida)

**Saravanan Kolandaivelu, Ph.D.**

**Visvanathan Ramamurthy, Ph.D.**
*Title:* Biosynthesis and Trafficking of Phosphodiesterase in the Retinal Photoreceptors *Source:* US DHHS-NIH-National Eye Institute

*Title:* Importance of Small GTPases in Photoreceptor Function. *Source:* US DHHS-NIH-National Eye Institute

*Title:* Photoreceptor neuron specific alternative splicing messenger RNA (Multi-PI grant with Dr. Peter Stoilov). *Source:* US DHHS-NIH-National Eye Institute

**Michael Robichaux, Ph.D.**
*Title:* Subcellular Analysis of Photoreceptor Cell Health in Mouse Models for Retinitis Pigmentosa and Retinal Gene Therapy. *Source:* Knights Templar Eye Foundation Inc

**Peter Stoilov, Ph.D.**
*Title:* Photoreceptor neuron specific alternative splicing messenger RNA (Multi-PI grant with Dr. Visvanathan Ramamurthy). *Source:* US DHHS-NIH-National Eye Institute

*Title:* Genetics of Early Onset Retinal Diseases (Co-I) grant with Dr. Rui Chen, Baylor College of Medicine. *Source:* US DHHS-NIH-National Eye Institute

**Maxim Sokolov, Ph.D.**
*Title:* Protein-Unfolding Chaperones for the Treatment of Blindness. *Source:* US DHHS-NIH-National Eye Institute
2021 Publications: Vision


Uveal melanoma is a rare cancer with only 5.1 cases per million people per year, yet it remains the most common primary intraocular tumor in adults, according to the American Academy of Ophthalmology.

In 2014, Ghassan Ghorayeb, M.D., vice-chair of Clinical Affairs and a retina specialist at the West Virginia University Eye Institute, formed the first multidisciplinary team in West Virginia focused on providing treatment for uveal melanoma and other eye cancers. Prior to Dr. Ghorayeb establishing the service in 2014, West Virginians had to travel to surrounding states to receive treatment for these diseases.

“The need to bring this essential, lifesaving treatment to West Virginia was the primary drive in assembling this team,” Ghorayeb said. “We had the talent and experience here — we just had to bring the team together to service the need of this wonderful state.”

Led by Ghorayeb, the team is comprised of a radiation oncologist, medical oncologists who specialize in the treatment of melanomas, physicists, radiation safety officers and orbital surgeons.

The team’s work is complimented by a CT-based 3D tumor model that helps deliver a patient-specific treatment with Iodine-125 radioactive plaques. This work has helped treat patients with such tumors more effectively, while preserving the patient’s vision as much as possible.

Multidisciplinary team at West Virginia University combines expertise to provide treatment for uveal melanoma
What drives a physician to re-invent himself as a scientist? One word: Curiosity.

“I was always a curious kid,” said Tony Realini, M.D., M.P.H., a glaucoma specialist at the WVU Eye Institute. “I always wanted to know stuff: how things worked, what was hiding behind closed doors, why the word knife starts with a ‘K’. I drove my parents crazy.”

He grew into a curious adult who saw a career in medicine as a way of using his curiosity to make a difference in the world.

“My high school yearbook says I planned to become a pathologist,” he said. “I really liked the idea of gleaning knowledge from the dead to benefit the living.”

But what seemed a good idea in the abstract failed to translate into reality.

“After the first hour in the pathology lab in medical school, I was less than enthralled and knew I’d need a new plan.”

A few weeks later, lessons on the human eye grabbed his attention, and his future as an ophthalmologist was decided.

A few years in private practice left his curiosity stifled, and in 2003, Dr. Realini decided to join the WVU faculty with the goal of building a research program. If he could function as both a physician and a scientist, he realized he could both ask and answer important questions and improve our understanding of glaucoma and its treatments. “Unfortunately, I had no research skills to speak of — they don’t teach that in medical school,” he said. So, he spent two years at the University of Pittsburgh completing a Master’s degree in research design.

“That made all the difference,” he said. As part of his coursework, he designed a research study to evaluate the use of a new glaucoma laser treatment — called selective laser trabeculoplasty, or SLT — in the Caribbean, where glaucoma is rampant and limited resources make daily medical therapy financially impractical for many patients. Before he’d finished his degree, the study had earned funding from the American Glaucoma Society and later by the National Institutes of Health (NIH), and for nearly a decade he commuted back and forth between West Virginia and Saint Lucia and Dominica, two small islands in the southern Caribbean. He performed SLT on hundreds of patients and after following their course for nearly eight years, he found that most patients never needed to use medications to treat their glaucoma.

“We saved those patients thousands and thousands of dollars in medication costs over the years,” he said. And they repaid him however they could, bringing baked goods and seasonal fruit to their appointments. “Some trips we’d end up with 50 pounds of mangos. We gave Dr. Realini performs SLT on a patient in the Caribbean.
them to the bar man at our hotel and mango daquiris became the drink special on those days.”

Now he is turning his attention to sub-Saharan Africa, where the glaucoma burden is even greater. “Saint Lucia is a small island — about 12 miles wide and 25 miles long — so most people with glaucoma have fairly easy access to the handful of eye doctors on the island,” he explained. In Africa, there are far more people suffering from glaucoma and far too few doctors to care for them. Few patients can afford to see doctors — or travel a day or more to reach them — and even fewer can afford the cost of daily medical therapy.

“SLT could be a significant part of the solution to Africa’s glaucoma problem,” Realini said. “The challenge is logistics: how do we get the lasers and the expertise to run them into the region, and how do we get the patients to the health centers for treatment?”

He is teaming up with a consortium of stakeholders to identify and implement solutions to these significant barriers to care. And in West Virginia, he is exploring novel techniques to further improve the benefits of SLT therapy for long-term glaucoma management.

“SLT’s effect wears off over time, and there are a limited number of times it can be repeated before it stops working and medical therapy is necessary,” he explained. “Which got me thinking: Is there a different way to perform the treatment that can make it last longer? Maybe long enough that most patients can go their whole lives without needing to use eye drop medications every day?”

Teaming up with his mentors at the University of Pittsburgh as well as the inventor of SLT therapy and several other prominent clinician-scientists, Realini developed a research study to explore new SLT techniques. In late 2020, the team was awarded a $15.2 million grant by NIH to conduct the COAST trial (Clarifying the Optimal Application of SLT Therapy). In his role as the Principal Investigator and Study Chair, Realini will oversee the enrollment of more than 600 participants at 15-20 research centers around the world. The four-year study will explore both different laser energy settings and different time intervals at which SLT is repeated to determine the optimal energy and interval for maximum effect.

“The primary goal of glaucoma therapy is to control their glaucoma and prevent vision loss while simultaneously freeing them from the hassles and side effects of putting eye drop medications into their eyes one or more times daily for the rest of their lives. The COAST trial is a step in that direction.”

TONY REALINI, M.D, M.P.H.

“The primary goal of glaucoma therapy is to preserve patients’ quality of life. One of the most effective ways to do this is to control their glaucoma and prevent vision loss ... The COAST trial is a step in that direction.”
In 2021, the West Virginia University Eye Institute celebrated the 20th anniversary of its foundation, which occurred on April 16, 2001. However, decades before the opening of the Eye Institute, the WVU Department of Ophthalmology and Visual Sciences had already begun its proud tradition of excellence in patient care, clinical research and medical education.

Robert Trotter, M.D., initially founded the department at the WVU Health Sciences Center in 1961, and in 1963, the department began training its first residents. The program began training just a single resident each year until 1971, when the program expanded to two residents per year.

From these roots, the department steadily grew and in 1980, welcomed its second chairman, George Weinstein, M.D., who had recently served as President of the American Academy of Ophthalmology. During his tenure, the number of faculty members and breadth of ophthalmology services offered to patients continued to expand to further the department’s mission to care for the people of West Virginia and the surrounding regions.

By 1995, the department’s growth had again outpaced its clinical space and one of the distinguished faculty members, John Linberg, M.D., assumed the Chairman’s position.

Dr. Linberg understood that the best way to continue bringing together talented people to provide world-class patient care, advance cutting-edge research and educate future ophthalmologists and researchers, was to design WVU’s own Eye Institute, modeled after similar programs already established at some of the country’s other leading universities.

Linberg’s vision and tireless advocacy ultimately led to the grand opening of the
WVU Eye Institute in 2001, a 35,000 square-foot, multimillion-dollar state-of-the-art facility providing both the equipment and space necessary for all the clinical specialties in ophthalmology, laboratories to advance research to prevent blindness and educational space devoted to medical students, residents and fellows in ophthalmology.

Now, more than twenty years later, the WVU Eye Institute remains the premier site in West Virginia and the surrounding region for ophthalmic care, education and research. With continued leadership from subsequent department chairs, Judie Charlton, M.D., Ron Gross, M.D., and currently, Tom Mauger, M.D., the Eye Institute and the Department of Ophthalmology and Visual Sciences continues to flourish, now with 23 clinical faculty in nine subspecialties, seven research faculty with more than $2 million in National Institutes of Health-funded grants, 12 residents and five fellows per year, the recent addition of 14,000-square-feet of clinical space and a newly established vision research facility.

As a valued faculty member and mentor, Linberg continues his dedication to caring for veterans and the people of West Virginia while continuing to train residents and fellows for their future careers in ophthalmology.

The WVU Eye Institute maintains its prominent position on the WVU Health Sciences campus and serves as testimony to Linberg’s successful dream to provide and broaden high-quality ophthalmology care to the people of West Virginia and across Appalachia for generations to come.


* Artemis 1 Study Group includes Brian McMillan
** EyeArt Study Group includes Grace Levy-Clarke
# Basic Science Grants

**Wen-Tao Deng, Ph.D., Assistant Professor**  
*Additional Appointment: Assistant Professor, Department of Biochemistry*

- **Disease mechanisms of cone opsin mutants and treatment strategies**  
  US DHHS-NIH-National Eye Institute  
  Duration: 8/1/2021 - 7/31/2024  
  Total Award Amount: $1,512,000

**Jianhai Du, Ph.D., Assistant Professor**  
*Additional Appointment: Assistant Professor, Department of Biochemistry*

- **Proline metabolism in retinal health**  
  US DHHS-NIH-National Eye Institute  
  Duration: 6/1/2021 - 3/31/2026  
  Total Award Amount: $1,900,000

**Mitochondrial Pyruvate Transport in Retinal Health and Disease**  
US DHHS-NIH-National Eye Institute  
Duration: 1/1/2021-11/30/2024  
Total Award Amount: $1,520,000

**Targeting proline metabolism in AMD**  
BrightFocus Foundation  
Duration: 9/1/2020-8/31/2022  
Total Award Amount: $185,000

**Human RPE Metabolism and Metabolite Transport**  
US DHHS-NIH-National Eye Institute  
Sub-award University of Washington  
Duration: 7/1/2016 - 12/31/2021  
Total Award Amount: $686,284

**Nutritional Strategies in Age-Related Macular Degeneration**  
International Retinal Research Foundation  
Duration: 1/1/2021 - 12/31/2021  
Total Award Amount: $103,000

**Regulators of Retinal Metabolism in Healthy and Degenerating Retinas**  
Sub-award University of Florida  
Duration: 9/1/2020 - 6/30/2025  
Total Award Amount: $67,281

**Physiologically Relevant in vitro Modeling of RPE Disease**  
Sub-award University of Washington  
Duration: 1/1/2020 - 12/31/2022  
Total Award Amount: $13,253
Saravanan Kolandaivelu, Ph.D., Assistant Professor
Additional Appointment: Assistant Professor, Department of Biochemistry
Mechanisms Behind Retinal Photoreceptor Cells Outer Segment Biogenesis
US DHHS-NIH-National Eye Institute
Duration: 5/1/2018 - 4/30/2023
Total Award Amount: $1,488,750

Michael Robichaux, Ph.D., Assistant Professor
Additional Appointment: Assistant Professor, Department of Biochemistry
Subcellular Analysis of Photoreceptor Cell Health in Mouse Models for Retinitis Pigmentosa and Retinal Gene Therapy
Knights Templar Eye Foundation Inc.
Duration: 4/1/2021 - 11/30/2021
Total Award Amount: $34,355

Maxim Sokolov, Ph.D., Professor
Additional Appointments: Professor, Department of Biochemistry; Professor, Department of Neuroscience; Professor, Rockefeller Neuroscience Institute
Protein-Unfolding Chaperones for the Treatment of Blindness
US DHHS-NIH-National Eye Institute
Duration: 6/1/2019 - 5/31/2023
Total Award Amount: $1,410,750

Visvanathan Ramamurthy, Ph.D., Professor
Additional Appointments: Chairman & Professor, Department of Biochemistry
Biosynthesis and Trafficking of Phosphodiesterase in the Retinal Photoreceptors
US DHHS-NIH-National Eye Institute
Duration: 4/1/2020 - 3/31/2025
Total Award Amount: $1,921,805

Clinical Research Funding

Ghassan Ghorayeb, M.D., Associate Professor, Vitreoretinal Fellowship Director & Vice-Chair of Clinical Affairs
Randomized, Double-Masked, Active-Controlled, Phase 3 Study of the Efficacy and Safety of High Dose Afibercept in Patients with Neovascular Age-Related Macular Degeneration
Regeneron Pharmaceuticals, Inc.
Duration: 9/2/2020 - 5/27/2023
Total Award Amount: $31,135

A Phase 2, Randomized Multi-center Study to Assess the Dose level of Multiple THR-149 Injections and to Evaluate the Efficacy and Safety of THR-149 Vs. Aflibercept for the treatment of diabetic macular edema
Oxurion NV
Duration: 10/19/2020 - 3/31/2023
Total Award Amount: $10,768

A Multicenter, Open-Label Extension Study To evaluate the Long-Term Safety And Tolerability of Faricimab in Patients With Diabetic Macular Edema
Genentech Incorporated
Duration: 12/3/2020 - 8/18/2023
Total Award Amount: $43,489

A Randomized, Single-Masked, Active-Controlled Phase 2 Study of the Safety, Tolerability, and Efficacy of Repeated Doses of High-Dose Afibercept in Patients with Neovascular Age-related Macular Degeneration
Parexel International Corp
Duration: 2/5/2020 - 5/4/2021
Total Award Amount: $40,771

A Randomized, Controlled, Multi-Center Study To Assess the Efficacy, Safety and Tolerability of Intravitreal Afibercept Compared to Laser Photocoagulation in Patients with Retinopathy of Prematurity
Parexel International Corp
Duration: 10/7/2019 - 10/1/2022
Total Award Amount: $167,861

A Phase 3, Multicenter, Randomized, Double-Masked, Active Comparator-Controlled Study to Evaluate the Efficacy and Safety of RO6867461 In Patients With Diabetic Macular Edema (YOSEMITE)
Genentech Incorporated
Duration: 11/27/2018 - 2/28/2022
Total Award Amount: $211,199

A Multicenter, Double-Masked, Randomized, Dose-Ranging Trial to Evaluate the Efficacy and Safety of Conbercept Intravitreal Injection in Subjects with Neovascular Age-Related Macular Degeneration
Syneos Health
Duration: 12/10/2018 - 1/29/2022
Total Award Amount: $309,517

A Multicenter, Randomized, Double-Masked, Active Comparator Controlled Study to Evaluate the Efficacy and Safety of High Dose Afibercept in Patients with Macular Edema Secondary to Central Retinal or Hemiretinal Vein Occlusion
Hoffmann-La Roche Inc
Duration: 10/27/2020 - 1/18/2024
Total Award Amount: $5,412
A Multi Center, Randomized, Double-Masked, Active- Controlled, Comparative Clinical Study to Evaluate the Efficacy and Safety of MYL-1701P and Eylea in Subjects with Diabetic Macular Edema
Icon Clinical Research, Inc.
Duration: 6/12/2018 - 6/30/2022
Total Award Amount: $77,316

David Hinkle, M.D.*, Associate Professor
A Phase III Multicenter, Sham-Controlled, Randomized, Double- Masked Study Assessing the Efficacy and Safety of Intravitreal Injections of 440(g)/m DE-109 for the Treatment of Active, Non-Infectious Uveitis of the Posterior Segment of the Eye
PRA International Inc.
Duration: 2/19/2019 - 4/17/2021
Total Award Amount: $53,641

Lingo Lai, M.D., Assistant Professor
A Phase 2 Open Label Trial of ST266 Eye Drops in the Treatment of Persistent Corneal Epithelial Defects (PED)
Noveome Biotherapeutics, Inc.
Duration: 2/5/2020 - 4/21/2030
Total Award Amount: $10,905

Brian McMillan, M.D., Associate Professor & Director of Medical Student Education
An Extension Trial to Evaluate the Long-term Safety and Efficacy of Bimatoprost SR in Patients with Open Angle Glaucoma or Ocular Hypertension
Allergan Inc.
Duration: 9/6/2019 - 1/21/2024
Total Award Amount: $6,000

Field Test of Glaucoma Outcomes Survey
The Emmes Corporation
Duration: 2/4/2021 - 1/30/2031
Total Award Amount: $150

John Nguyen, M.D., Professor & Ophthalmic Plastic Surgery Fellowship Director
A Phase 2b, Multicenter, Randomized, Double-blind, Placebo- controlled Study of RVT-1401 for the Treatment of Patients with Active, Moderate to Severe Graves' Ophthalmopathy
Synteract, Inc.
Duration: 2/7/2020 - 2/28/2022
Total Award Amount: $21,167

Tony Realini, M.D., M.P.H, Professor, Glaucoma Fellowship Director & Vice-Chair for Clinical Research
Clarifying the Optimal Application of SLT Therapy (COAST) Trial
US DHHS-NIH-National Eye Institute
Duration: 9/30/2020 - 8/31/2025
Total Award Amount: 2,667,572

* David Hinkle, M.D., left the Department of Ophthalmology and Visual Sciences in December 2020

Service Grant Funding — State Awards

Becky Coakley, Director of Outreach, West Virginia University Eye Institute
West Virginia Department of Education
State of West Virginia
Duration: 7/1/2019 - 11/30/2021
Total Award Amount: $135,230
Orientation and Mobility Grant
State of West Virginia
Duration: 7/1/2019 - 9/30/2021
Total Award Amount: $45,230
West Virginia Department of Vision Rehabilitation
State of West Virginia
Duration: 2021
Total Award Amount: $300,000

Service Grant Funding — Foundation Awards

Greater Kanawha Valley Foundation
Duration: 2021
Total Award Amount: $103,950
Benedum Foundation
Duration: 2021
Total Award Amount: $100,000
Teubert Foundation
Duration: 2021
Total Award Amount: $66,000
Pallottine Foundation
Duration: 2021
Total Award Amount: $49,500
Alcon Foundation
Duration: 2021
Total Award Amount: $3,300
Beckley Area Foundation
Duration: 2021
Total Award Amount: $1,885
Mansbach Foundation
Duration: 2021
Total Award Amount: 5,250

$15+ MILLION in total funds
### Department of Ophthalmology and Visual Sciences At-A-Glance

#### Total Visits

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#### Total Surgeries

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#### Patients Treated

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<td>8,325</td>
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#### Patients Treated by Clinic

<table>
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<tr>
<th>Year</th>
<th>Clinic</th>
<th>Total Patients Treated</th>
<th>New Patients Treated</th>
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<tbody>
<tr>
<td>2018</td>
<td>WVU Eye Institute</td>
<td>43,152</td>
<td>10,881</td>
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<tr>
<td></td>
<td>SJH Clinic</td>
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<td>UHC Clinic</td>
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<td>8,506</td>
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<td>UHC Clinic</td>
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<tr>
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<tr>
<td></td>
<td>UHC Clinic</td>
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</table>
Ophthalmology Clinics

1. **MORGANTOWN**
   West Virginia University Eye Institute
   1 Medical Center Drive
   Morgantown, WV 26506

2. **BRIDGEPORT**
   Ophthalmology Medborok Medical
   at United Hospital Center
   327 Medical Park Drive
   Bridgeport, WV 26330

3. **BUCKHANNON**
   St. Joseph's Hospital
   1 Amalia Drive
   Buckhannon, WV 26201

4. **SUMMERSVILLE**
   Summersville Regional Medical Center
   Ophthalmology
   400 Fairview Heights Road
   Summersville, WV 26651

5. **GILBERT**
   Larry Joe Harless Community Center Ophthalmology
   202 Larry Joe Harless Drive
   Gilbert, WV 25621