



INDIANA UNIVERSITY

ANNUAL REPORT 2018–2019

SCHOOL OF OPTOMETRY

WELCOME!

The Indiana University School of Optometry has trained optometrists in Bloomington for more than 50 years. Today, more than 80% of the practicing optometrists in Indiana were trained at the IU School of Optometry. Optometrists practice in cities, suburbs, and small towns including rural areas where they are frequently the only eye care professional and sometimes the only health care professional.

Over the last few decades, the scope of practice of optometry has expanded considerably. From the purely refractive and binocular vision experts, optometrists now provide comprehensive vision exams including eye health that can detect blinding diseases such as cataract, glaucoma, diabetic retinopathy, and age-related macular degeneration (AMD). Moreover, optometrists diagnose and treat the most prevalent sorts of day-to-day red-eye problems such as bacterial and viral infections, allergies, and inflammation. This includes ocular emergencies like acute angle-closure glaucoma, trauma, and foreign body removal. Having this service in the small rural communities provides not only convenience, but reduces the disease morbidity by having prompt and professional attention.

At our home in Bloomington, the IU School of Optometry's Atwater Eye Care Center provides emergency care 24/7, and we serve as the ocular emergency consultant for Bloomington Hospital. As such optometry's presence in Indiana and the IU School of Optometry have had a tremendous impact on the health of Indiana residents.

Having assumed the role of primary eye care provider, optometrists' relationships with ophthalmology has also evolved. While in the past there have been significant "turf-battles," today there is much better respect for optometric knowledge and training leading to integration of optometrists and ophthalmologists within community eye care practices. While community ophthalmologists recognized the value of integration and the cultivation of reciprocal referral and managed-care behavior with community optometrists, academic ophthalmology has been slower. However, as these practices have trickled-down to the academic centers, integration of optometrists has now occurred.

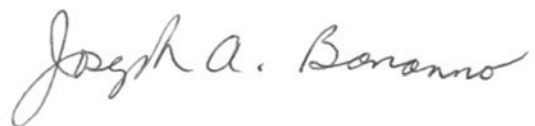
At IU, we have taken it one step further. As part of IU's leading-edge Interprofessional Education (IPE) program that is bringing all of IU's health care schools together, the IU School of Optometry Indianapolis Eye Care Center will move to the IU School of Medicine Ophthalmology's Glick Eye Institute in order to continue providing eye care to the Indianapolis community, create opportunities for IPE with ophthalmology residents and medical students, and facilitate the improvement of referral and managed care relationships

between IUSO and the Department of Ophthalmology.

Being at Indiana University, our mission also includes the creation of new knowledge as well as providing excellent training. IUSO has a research reputation for "punching above our weight." We are now the smallest unit on the Bloomington campus, but we have the highest ratio of extramural research dollars to tenure-track faculty at IUB. Our faculty have garnered significant support from the National Institutes of Health, commercial ophthalmic device and pharmaceutical companies, as well as private foundations on topics related to diabetes, glaucoma, macular degeneration, myopia, early human visual development, low vision mobility, corneal development and disease and more recently dry-eye disorders. Our Vision Science graduate program has trained future faculty and researchers that are working in academia as well as in industry. IUSO is a contributor to the advancement of ophthalmic knowledge and translation of that knowledge to improved clinical care.

In addition to the impact of IUSO on Indiana and the U.S., we are known throughout the world as a premier optometry school. Optometrists from outside North America typically have a BS in Optometry. IUSO created a special MS program specifically for these foreign optometrists so that they could advance their careers and bring advanced knowledge and training back to their home countries. Within the graduate program, many of our PhD students are from foreign countries. Often their goal is to go back to Nigeria, Ghana, South Africa, Korea, and China to improve their home universities and advance optometry in their countries. IUSO was also instrumental in the development of a new school of optometry in Thailand in the 2000s by providing the initial teaching and clinical training for the first groups of local optometrists and students. IUSO is also heavily involved in more immediate care giving through trips to Mexico, Jamaica, and Rwanda that partners with global care organizations and the local health ministries, providing eye exams and glasses to people who otherwise would go without.

Details of these and other programs can be found in this annual report along with facts, stats, and pictures of our activities. **If you have questions or are interested in additional information about the school, please do not hesitate to contact me.**



Joseph A. Bonanno, Dean
Indiana University School of Optometry

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SCHOOL OF OPTOMETRY

INDIANA UNIVERSITY

Bloomington

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ABOUT THE SCHOOL

The Optometric Profession

The first glass lens grinding began around 1300 A.D. to provide lenses as magnifiers for general use as well as for older individuals who lost the ability to focus up close, a condition called presbyopia. Over the next few hundred years, optical manufacturers provided a more diverse array of lenses that could correct myopia (nearsightedness) and astigmatism as well as presbyopia and hyperopia (farsightedness). In the 1800s, the physics of light and refraction advanced along with knowledge of the anatomy and physiology of the eye, in particular that the image formed on the retina was upside down and backwards.

As economies and technology evolved, greater demands on vision were being made, including stereoscopic binocular vision. Whereas opticians were skilled in creating a multitude of lens types and powers, the guidance given to users that best matched their specific needs were limited to those opticians that had a better understanding of the science of light and the biology of the eye and binocular system. Optometry grew out from this group and emerged as a profession in the late 1800s.

Specific educational and technical training in the United States started with the first school of optometry, Illinois College of Optometry, in 1872. The first university program was at Columbia University in 1910. The first state optometric licensure law was passed in 1901 (Minnesota) and by 1924 all 50 states had optometry licensure laws. In comparison, the first state dental licensure law was passed in 1868 and all states had dental licensure laws by 1900.

Optometry has evolved from diagnosis and treatment of refractive and binocular vision disorders to now include diagnosis and treatment of ocular disease. During this time there was considerable friction with the medical specialty of ophthalmology. As such, ophthalmology has evolved to more of a tertiary care specialty with a number of subspecialties that often involve the need for surgical intervention. There were 41,000 optometrists nationwide in 2014 and it is projected that there will be 46,000 by 2020. There were 18,000 ophthalmologists in 2014, and this number is not growing since the Centers for Medicare & Medicaid Services has fixed the number of residency training positions.

Of the five senses, vision is the most important and highly used for daily life. Just as technology created greater demands on vision in the late 1800s, today the

use of visual displays and devices are pervasive and people use them a greater percent of their waking hours. This creates more stress on the system leading to more complaints of eye strain requiring optometric services.

A survey from Johns Hopkins University quoted by Dr. Jane Brody, a *New York Times* columnist, indicated that going blind is one of the most feared personal health catastrophes. Moreover, as the population ages, vision disorders are becoming more common. Low vision ranked behind arthritis and heart disease as the third most common chronic impairment for people over age 70. The demand for eye care services is increasing due to population growth, but mainly because of the relative increase in the aged population. Most of the increase in eye care service needs is medical and not optical. As such, optometrists are positioned to provide this care.

History of IU School of Optometry

The notion of an optometry school at Indiana University was first seriously discussed by Indiana optometrists John P. Davey and Noah A. Bixler in the late 1930s. As members of the Indiana State Board of Optometry, they held high standards for practice in Indiana, and they felt that a school at IU would help maintain these standards.

- **1944** Irvin M. Borish, a graduate of the Northern Illinois College of Optometry, moved to Kokomo, Indiana, because he recognized those high standards required of Indiana optometrists. Davey and Bixler recruited Borish to help in the effort to start a school of optometry at IU. That December, they met with IU president Herman B Wells, who asked the Indiana Association of Optometrists to set up a committee to negotiate founding the school.
- **1945** Indiana Association of Optometrists president Edgar Cain rallies the state's most prominent optometrists behind the idea and forms the school committee. Herman B Wells appoints IU Vice President Herman Briscoe to work with the committee and to seek approval from the IU Trustees.
- **1947** In October, the IU Board of Trustees initially approves a school of optometry. However, the following March, due to continuing opposition from the medical school, the IU Trustees rescind their approval of the school.

ABOUT IU SCHOOL OF OPTOMETRY

- **1949** The Indiana Optometric Association goes to the Indiana state legislature with an all-out effort to educate them on the need for a school of optometry in Indiana and to request the passage of a bill to establish the school.
- **1951** The Indiana House votes unanimously in favor of the bill. The Indiana Senate passes the bill with 39 Yes votes to 3 No votes, and the governor signs the bill into law.

The General Assembly of the State of Indiana establishes the IU Division of Optometry. The program operates as a division of the university, with its degrees granted by the College of Arts and Sciences and the Graduate School. Pre-optometry courses begin at IU, with two years scheduled for pre-optometry curriculum, followed by three years of professional optometry courses.

- **1954** IU's first graduate program in physiological optics (now vision science) begins.
- **1956** IU's first optometry graduates receive their degrees. Sixteen graduates receive their Master of Optometry degrees, and three receive a Master of Science in Physiological Optics: William R. Baldwin, Paul W. Lappin, and Lester Ray Loper.
- **1962** The first PhD degrees are granted to John H. Carter, Jr., and Robert B. Mandell.
- **1968** The first Doctor of Optometry (OD) degrees are granted, after the optometry curriculum expands from three to four years through the 1960s, meeting university requirements for a doctoral degree. The building for the Division of Optometry and the Program in Physiological Optics is completed. This six-story, limestone-faced building located at 800 East Atwater Avenue provides space for classrooms, laboratories, offices, a student resource center, and supports research and development activities.
- **1970** Henry Hofstetter steps down as head of the optometry program, and Gordon Heath takes over the position. Subsequent deans have been Jack Bennett (1988–1998), Gerald Lowther (1998–2008), P. Sarita Soni (2008–2010), and Joseph A. Bonanno (2010–present).
- **1972** The Community EyeCare Center, an off-campus clinic, opens on Bloomington's west side and operates there for nearly 40 years.
- **1975** The IU Division of Optometry becomes the IU School of Optometry, a degree-granting school of Indiana University. The school initiates a six-week rotation program in the fourth year of the Doctor of Optometry curriculum, making IU one of the first optometry schools to utilize external rotation sites for the clinical training of optometry students. Some of the first external rotation sites were military bases and veterans administration facilities. The external rotations program has expanded so that fourth-year students now do clinic work in four 12-week rotations.
- **1976** Another off-campus clinic, the School of Optometry's Illinois Street Eye Clinic, opens in Indianapolis. Today, it is the Indianapolis Eye Care Center.
- **1992** The school opens the Indianapolis Eye Care Center (IECC) in a newly constructed building at 501 Indiana Avenue in Indianapolis, located near the IUPUI campus. The IECC offers an expanded scope of patient care services. Fourth-year optometry students receive additional clinical training through external rotations here, and at locations such as Veterans Administration facilities, military hospitals, and referral centers.
- **1995** A portion of the clinic in the Optometry Building is dedicated as the Borish Center for Ophthalmic Research. The center's mission is to abet and develop clinical and applied research support and to facilitate investigations into visual disorders, ocular pathologies, and systemic diseases that affect the eye.
- **2008** Atwater Eye Care Center moves from the second floor of the school to a new clinic building across the street. Later, this clinic grows and merges with the Community Eye Care Center to provide a comprehensive eye care environment in the city of Bloomington.
- **2011** IU School of Optometry Community Outreach Program launches, dedicated to providing free eye exams and low-cost eye wear to low-income patients who are not eligible for Medicare services.
- **2014** Borish Center for Ophthalmic Research doubles in size, encompassing two floors of the Optometry building.
- **2017** A four-year renovation project concludes, with a complete modernization of the Atwater building and major upgrades to school didactic labs, clinical training labs, and the lecture hall.



ABOUT IU SCHOOL OF OPTOMETRY

Current Facilities



IU School of Optometry
800 E. Atwater Ave., IUB Campus

The IU School of Optometry is located at 800 E. Atwater Ave. on the IU Bloomington campus. Completed in 1967, the building consists of six floors, which contain classrooms, teaching labs, Borish Center for Ophthalmic Research, library, study spaces, and administration and faculty offices. In

2013, the Community Eye Care Center merged with the Atwater Eye Care Center.

The Atwater Eye Care Center, located at 744 E. Third St. on the IU Bloomington campus, was built in 2008. The center contains multiple clinics fully equipped for full-scope eye care and emergency services—Primary Care, Contact Lens, Low Vision, Pediatrics, Ocular Disease, and Dry Eye.



Atwater Eye Care Center
744 E. Third St., IUB Campus

The Indianapolis Eye Care Center is about 1/3 the size of AECC. IECC was developed in 1987 and has been in its current location since 1993.

The center will move in May 2020 into the

Eugene and Marilyn Glick Eye Institute at 160 W. Michigan St., IUPUI campus.



Indianapolis Eye Care Center
501 Indiana Ave., Indianapolis

IUSO Mission Statement

To protect, advance, and promote the vision, eye care, and health of people worldwide by preparing individuals for careers in optometry, the ophthalmic industry, and vision science; and advancing knowledge through teaching, research, and service.

This is accomplished through the Doctor of Optometry, residency, and graduate programs.

IUSO Degrees

Degree Programs

1. **Optometric Doctor (OD)** encompasses three years of didactic and clinical training followed by a fourth year of four 12-week externships in school clinics and from more than 30 external clinic sites.
2. **Masters in Vision Science** is typically taken by advanced optometry students concurrently with the OD degree. It is a thesis project-based degree. There is also a four-semester non-thesis MS in Vision Science, which is typically taken by foreign-trained optometrists who hold a bachelor's degree in optometry. The non-thesis masters consists entirely of advanced course work. This allows these optometrists to advance their careers in their home country.
3. **PhD in Vision Science** is the customary thesis-based degree.
4. **MBA in Business of Eye Care** is an online program in conjunction with the IU Kelley School of Business.

Non-Degree Programs

5. **Certificate in the Business of Eye Care** is the initial 20% of credits toward the MBA.
6. **Residency** is one-year post OD clinical training in one of several specialties: Primary Care, Pediatrics, Ocular Disease, Contact Lens Care, or Low Vision. IUSO offers 12 Residency slots—five at IUSO clinics and the others at IUSO-sponsored clinical sites.
7. **Continuing Education** is offered as in-person seminars or online courses through IUSO for practicing optometrists to help fulfill their educational requirements for license renewal. Licensed optometrists must fulfill Indiana Optometry Board requirements for re-licensure every two years.

STUDENTS

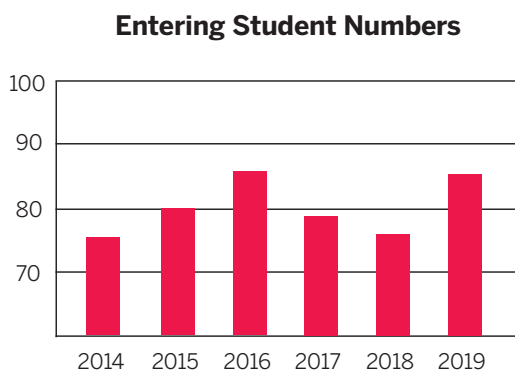
Incoming Professional Student Demographics

Entering Year	Matriculants	Gender % Female/Male	Res/NonRes	% URMS	Entering GPA
2014	75	70 30	48 52	9	3.56
2015	80	63 37	45 55	9	3.43
2016	86	73 27	40 60	7	3.61
2017	78	60 40	31 69	10	3.64
2018	76	78 22	41 59	12.5	3.55
2019	85	74 26	45 55	6	3.58

IUSO's OD students currently come from 42 states and Canada. The top 10 non-resident states are Kentucky, Michigan, Illinois, Ohio, Wisconsin, Minnesota, Kansas, Nebraska, Tennessee, and Ontario in rank order.

The figure (see below) shows the entering numbers of OD professional students over the last five years. The table (see above) shows the demographics of entering students. There is a trend for 3:1 ratio of females to males at IUSO. This is typical at most optometry schools. The non-resident proportion of the entering class has increased from 52% to about 60% over the last five years. The average class size has grown about 10% whereas the number of Indiana residents is very stable. The number of under-represented minority students has increased. This is due to a greater use of tuition discounts and scholarships.

IUSO has remained competitive for the better

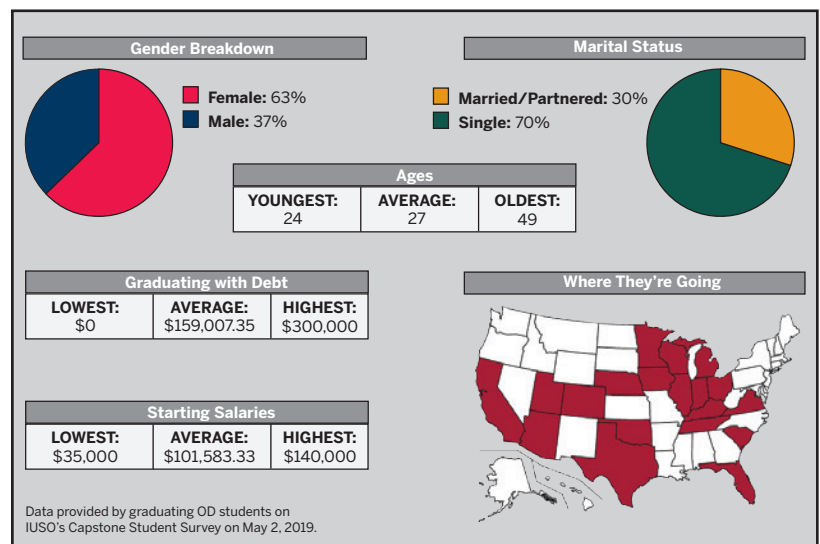


applicants in the face of a static national applicant pool (see *Challenges* section on Page 18) and a number of new optometry schools starting.

Graduation and Jobs

Ninety percent of entering matriculants graduate. All graduates who pass the National Boards get licensed and find a job. A 2019 exit survey (see below) indicated the average starting salary was \$101,000. This has increased from \$90,000 five years ago. This reflects the increasing demand for optometrists.

IUSO Class of 2019 Exit Survey Results



STUDENTS

Vision Science Program

The graduate program in Vision Science, while small, is of very high quality. On average there are 16–20 PhD students, 2–4 MS thesis students, and 3–7 non-thesis MS students.

Our students publish in the top peer reviewed journals in our field and have regularly garnered awards both locally and from national organizations. Thus six students have received eight named fellowships (Rebec, Provosts, Ezell, AAUW, GPSG, Sigma Xi), and current graduate students have garnered 19 travel awards. Additionally four of our projects (three students) have received best paper or poster awards at major (national or international) meetings.

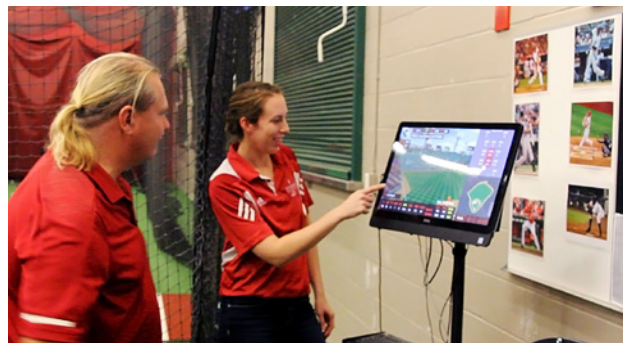
Time to PhD remains good, with an average time to completion for the 18 students who have graduated in the last five years of 5.3 years. Times range from four years (6 students, 4 of whom first did an MS) to seven years (4 students). The longer times typically reflect situations that can be attributed to extraordinary circumstances (health, life changes, etc.). All students had positions upon exiting the program, although we have lost track of two.

In the last year, the graduate program has revamped its process for qualifying exams and to be accepted to candidacy. The goal of these changes was to keep moving the students ahead in their careers by establishing a more focused set of goals. These changes are now reflected in our Graduate Bulletin entry. The majority of students in our PhD program receive teaching assistantships, helping them to establish themselves as potential teachers as well as researchers.

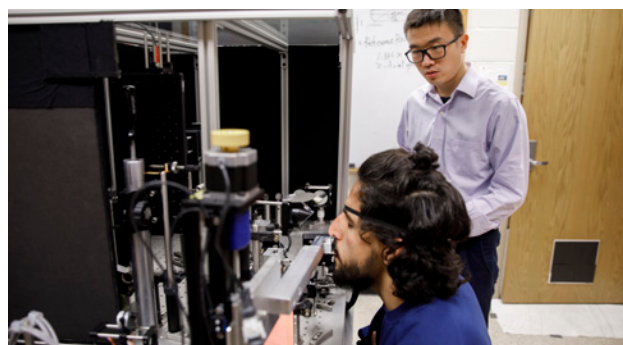
Due to its nature, vision science is a multi-disciplinary area of study. Most thesis committees include faculty from other departments, with examples including faculty from Physics, Biology, Psychological and Brain Sciences, and the School of Informatics, Computing, and Engineering. We also have two PhD students who are doing dual majors between Vision Science and Neuroscience.



Dr. Hin Cheung
2019 William C. Ezell Fellowship recipient



Dr. Nicholas Port and Dr. Lyndsey Ferris
Dr. Ferris, a PhD student at IUSO, works with Associate Professor Dr. Port on his vision training research with the IU Baseball team.



Graduate students Furu Zhang and Ayoub Lassoued
Dr. Don Miller and his graduate students use his lab for advanced ophthalmic imaging.

FACULTY/STAFF

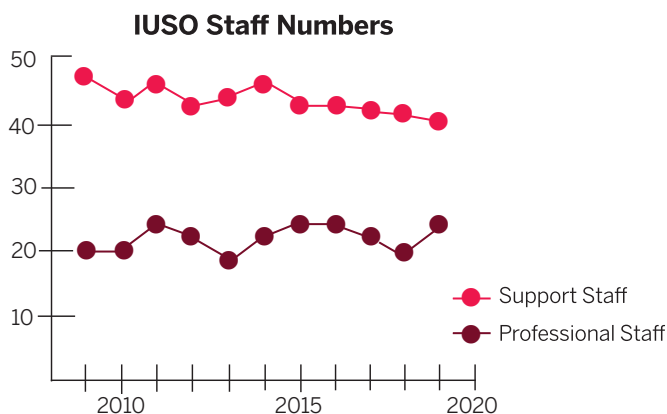
Faculty and Staff Numbers

Faculty and staff numbers at IUSO have been relatively stable over the last few years. Total faculty is holding at just under 40, currently with 16 tenure-track and 23 non-tenure track. The relatively higher proportion of non-tenure track is due to the intensive clinical training and patient care aspect of the IUSO program, requiring a large number of licensed optometrists who provide didactic clinical teaching as well as supervision of patient care performed by students. Moreover, the clinic auxiliary hires a few adjunct part-time faculty in its specialty clinics. I foresee, over the next five years, IUSO will replace faculty retirees and maintain a stable faculty number.

Professional staff numbers have fluctuated very little and stand at an average of 21. However, support staff has seen a decrease since 2009 (see *chart below*).

In 2008–09, the IUSO clinics became an auxiliary. This required a significant change in accounting practices, compliance, and record keeping. Around this same time, we began testing and then (in 2012) fully utilizing Electronic Health Records. These activities required additional staff. Since accomplishing these needs, experience with these systems has allowed us to fine-tune staff needs, combine duties, and eliminate some positions.

Moreover, since 2017, our new CFO has reorganized the school's business office, which resulted in elimination of two positions. Lastly, IUSO joined Clinical Affairs Information Technology Services (CAITS) in 2017. Our two IT personnel are now CAITS employees. Overall, this explains the decline in support staff and has resulted in some cost savings.



Dr. Richard Meetz and Thai students

IUSO's Dr. Meetz teaching students at Ramkhamhaeng University.

In 1999, administrators at Ramkhamhaeng University, in Bangkok, who already had a partnership with IU, and members of the Thai Optical Society reached out to the IU School of Optometry to inquire about establishing an optometry program in Thailand.

Originally following the British model—in which opticians fit glasses and only ophthalmologists diagnose disease and perform surgery—optometry wasn't recognized as a profession in Thailand. In 1999, Thailand had qualified opticians, but no optometrists, who could connect the basic eye exam with not only the vision and refraction, but also binocular vision and detection of early eye disease.

With former IUSO Dean Gerald Lowther's support, faculty at IUSO created a curriculum similar to IU's and sent faculty to Thailand to teach the courses. They also began, and have continued, to train the faculty to teach their own courses. Both Associate Professor Emeritus Dr. Douglas Horner and Clinical Professor Emeritus Dr. Richard Meetz were instrumental to the success of the program.

Optometry classes at Ramkhamhaeng University began in 2002 with six students, all of whom were experienced opticians who saw the need for optometry in their country.

In 2010, optometry was recognized as a legal profession in Thailand, and a standard curriculum was set, based on the Ramkhamhaeng/IU model. Ramkhamhaeng's optometry program attained official status as a school in 2012.

The Thai optometry school currently has 13 full-time faculty members from Ramkhamhaeng and four international adjunct faculty. It also inspired two additional optometry programs in Thailand.

The desire for optometrists continues to grow in Thailand, and a licensing exam has been established.

BUDGETS

School

IU School of Optometry 5-Year Income/Expenses (General Fund)

Fiscal Year	2014–15	2015–16	2016–17	2017–18	2018–19
INCOME	Actual	Actual	Actual	Actual	Actual
Student Fees	10,546,525	10,871,901	11,375,398	12,191,867	12,614,840
State Appropriations	2,288,966	2,365,945	2,453,988	2,453,988	2,423,988
Indirect Cost Recovery Income	1,440,559	1,636,656	1,529,954	1,654,354	1,567,823
Other Revenue	554,836	198,258	130,083	283,287	280,698
Assessments-Revenue	(4,763,207)	(4,863,615)	(4,961,689)	(5,031,361)	(5,216,199)
TOTAL INCOME	\$10,067,679	\$10,209,145	\$10,527,734	\$11,552,135	\$11,671,150
EXPENSES	Actual	Actual	Actual	Actual	Actual
Capital	0	104,720	68,404	115,020	106,200
Compensation	6,881,731	7,241,353	7,511,189	7,724,484	7,926,693
Financial Aid	879,266	1,214,963	1,139,349	1,552,780	1,736,865
General Expense	836,410	663,792	755,670	736,344	660,275
Transfer of Funds*	1,356,349	872,783	939,596	1,326,377	1,136,073
Travel	65,293	81,639	113,526	97,130	105,044
*Budget excludes transfers to reserve					
TOTAL EXPENSES	\$10,019,049	\$10,179,250	\$10,527,734	\$11,552,135	\$11,671,150

The table (see above) shows the actual annual budgets for the school over the last five years. Revenues have increased primarily by raising tuition and fees along with a 10% increase in student enrollment. State appropriations are a fast shrinking portion of the budget. Whereas, Indirect Cost Recovery from grant awards has been stable at 9% of total revenues, which is relatively high for units on the Bloomington campus. The increase in Expenses is predominately compensation and a significant uptick in

financial aid, mainly through discounts.

Of the 23 schools of optometry in the U.S., IUSO is the 9th lowest in resident tuition and 11th in non-resident tuition. Generally, over the last 10 years, we have increased tuition equally for residents and non-residents, which results in a slower percentage increase for non-residents. This reflects our need to remain competitive in non-resident recruitment as this is an increasing share of our entering class.

Auxiliar

The clinics auxiliary has been in place for 10 years. In the first five years, the school needed to subsidize the clinics as they ran a deficit. However, around 2016–17, the auxiliaries began to break even. The auxiliary budget (see table below) did not include depreciation and equipment replacement, however they now have a lifecycle formula to replace equipment and office furniture and save for future renovations. This has been a financial success in that it is no longer a drain on the school's budget.

Research

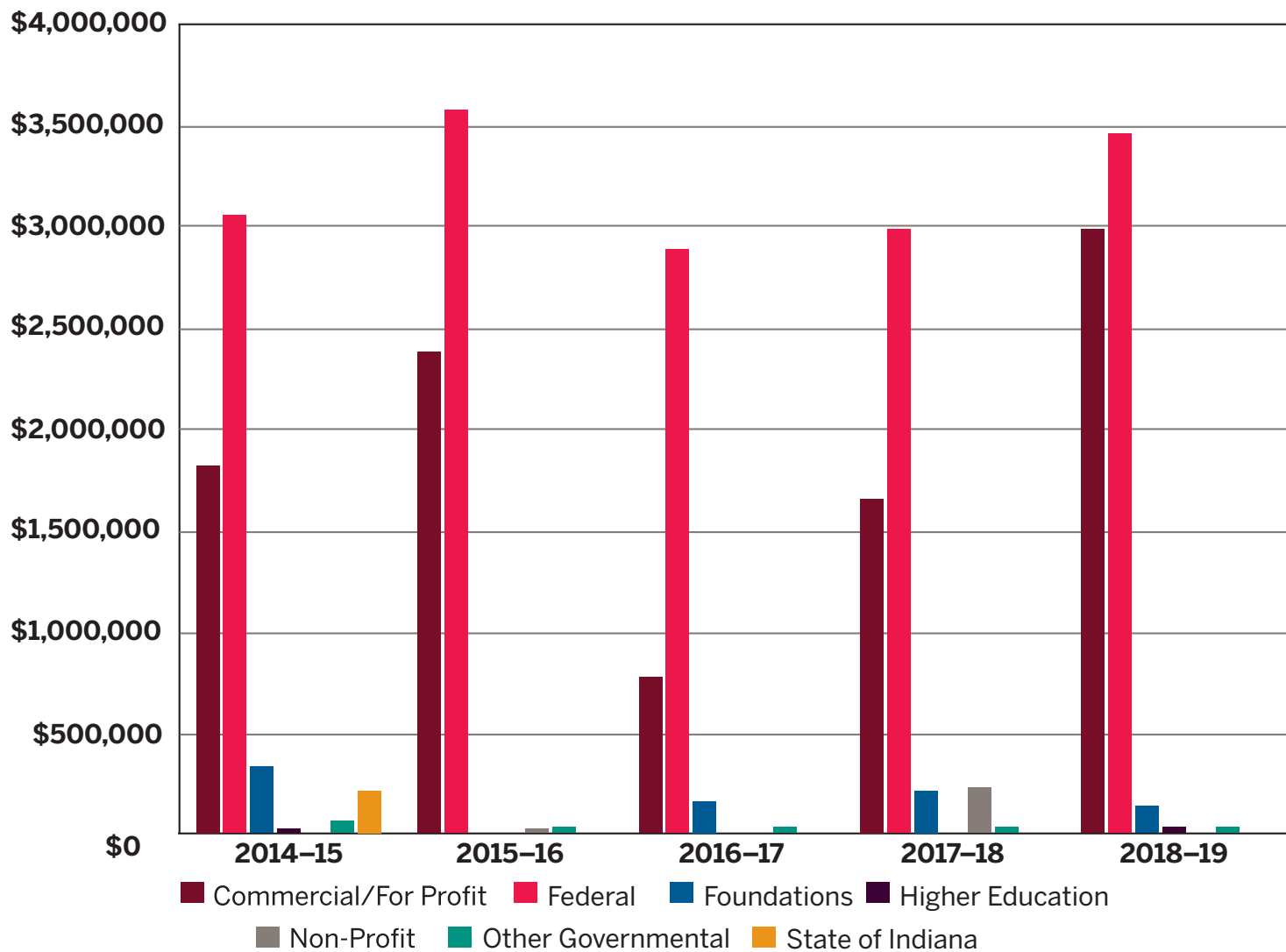
IUSO research funding is strong (see graph and chart on Page 12) given the small numbers of tenure-track faculty. IUB OVPR calculates that IUSO has the highest research \$/TT faculty ratio on the Bloomington campus.

IU School of Optometry 5-Year Income/Expenses (Auxiliary Budget)

Category	2014–15	2015–16	2016–17	2017–18	2018–19
REVENUE	Actual	Actual	Actual	Actual	Actual
Clinical Patient Care Revenue	4,078,144	4,167,927	4,220,725	4,167,527	4,078,895
Optical Lab and Supply	1,245,547	1,169,587	1,197,348	1,077,568	1,151,880
Capital Gifts	0	1,583	17,846	0	49
Professional Service Contracts	73,061	74,139	74,011	33,631	38,381
TOTAL AUXILIARY REVENUE	\$5,396,752	\$5,413,236	\$5,509,930	\$5,278,726	\$5,269,205
EXPENDITURES	Actual	Actual	Actual	Actual	Actual
Purchases for Resale	2,317,323	2,169,851	2,185,678	2,149,939	2,108,422
Purchases for Resale Inventory	17,473	16,278	18,282	16,273	18,749
Salaries and Wages	2,253,933	2,252,668	2,385,971	2,374,705	2,215,818
Supplies and Expenses	654,242	641,115	737,656	735,519	890,761
TOTAL EXPENSES	\$5,242,971	\$5,079,912	\$5,327,587	\$5,276,436	\$5,233,750
NET INCOME	\$153,781	\$333,324	\$182,343	\$2,290	\$35,455

BUDGETS

IU School of Optometry Research Award Amounts



Award Source	2014-15	2015-16	2016-17	2017-18	2018-19
Commercial/For Profit	\$1,875,524	\$2,274,330	\$757,591	\$1,644,039	\$2,914,403
Federal	\$3,132,941	\$3,625,934	\$2,860,429	\$2,927,177	\$3,461,927
Foundations	\$375,708		\$92,150	\$145,000	\$81,278
Higher Education	\$5,000				\$28,931
Non-Profit		\$9,993		\$244,177	
Other Governmental	\$38,424	\$17,097	\$16,000	\$16,000	\$16,000
State of Indiana	\$120,000				
TOTAL	\$5,547,597	\$5,927,354	\$3,726,170	\$4,976,393	\$6,502,539

ACCOLADES

Ranking

There is no recognized outside ranking process for optometry schools. However, we can use two proxies that reflect the OD professional program (National Board Performance) and the research endeavor (Extramural Funding).

There are three parts of the National Board in Optometry:

- Part 1—Applied Basic Science
- Part 2—Case Analysis
- Part 3—Practical Exam

The table (*below*) shows the % of IUSO students who passed on the first try. In parentheses is the rank out of 21 schools that took the exam. In Part 1 IUSO is ranked in the top half, but clearly there is much room for improvement.

In Part 2 the National pass rate is about 90% and IUSO always exceeds the national average. The ranking is not included because there is a lot of bunching in the mid-90% that skew this statistic.

Like Part 1, IUSO does well in Part 3, but there is some room for improvement.

Lastly, the table lists the Ultimate Pass Rate. This statistic measures the percent of students who have passed all three parts by the time they graduate. This is the most important statistic, because it provides a measure of the probability of success if a student attends IUSO. IUSO is significantly above the national average for Ultimate Pass Rate and typically those who are left out of this calculation rectify their situation within a year of graduation.

These statistics are displayed on the IUSO website,

Percentage of IU School of Optometry Students Passed NBP on First Try

GRAD CLASS	2017	2018
Applied Basic Science	84.3% (8th)	78% (9th)
Case Analysis	97.2%	92.0%
Practical	83% (7th)	85% (7th)
Ultimate	94.3; Nat'l 90%	97.2; Nat'l 92%

as required by our accrediting body. The Association of Schools and Colleges of Optometry publish the statistics of all the schools in plain sight for all applicants to see.

IUSO is a leader in ophthalmic research. The table (*below*) shows that relative to our peers IUSO is tied for second in total research dollars. UC Berkeley Optometry leads the pack because they have several more tenure-track faculty and an extensive array of vision scientists on campus outside the optometry school, which enables the school to garner three major grants: an NIH P30 core grant, a T32 training grant, and a K12 Clinician-Scientist grant. These are each about \$1M/year.

We are planning future faculty hires to break out of the second-place tie and move closer to the top.

IU School of Optometry Research Award Amounts

OPTOMETRY PEERS	TOTAL EXTRAMURAL
UCB	\$9.3M
IUSO	\$4.9M
UHouston	\$4.9M
SUNY	\$3.8M
UAB	\$3.0M
OSU	\$2.3M

IUSO participates in many areas of research including:

- advanced retinal and anterior segment imaging
- slowing myopia progression
- early diagnosis of glaucoma
- infant and early childhood visual development
- Traumatic brain injury on the field detection
- corneal endothelial dystrophy mechanisms
- anterior segment ocular development genetics
- retinal pigment epithelium-macular degeneration cell biology
- crystalline lens-cataract mechanisms



ACCOLADES



Dr. Stephen Burns
Diabetic retinopathy

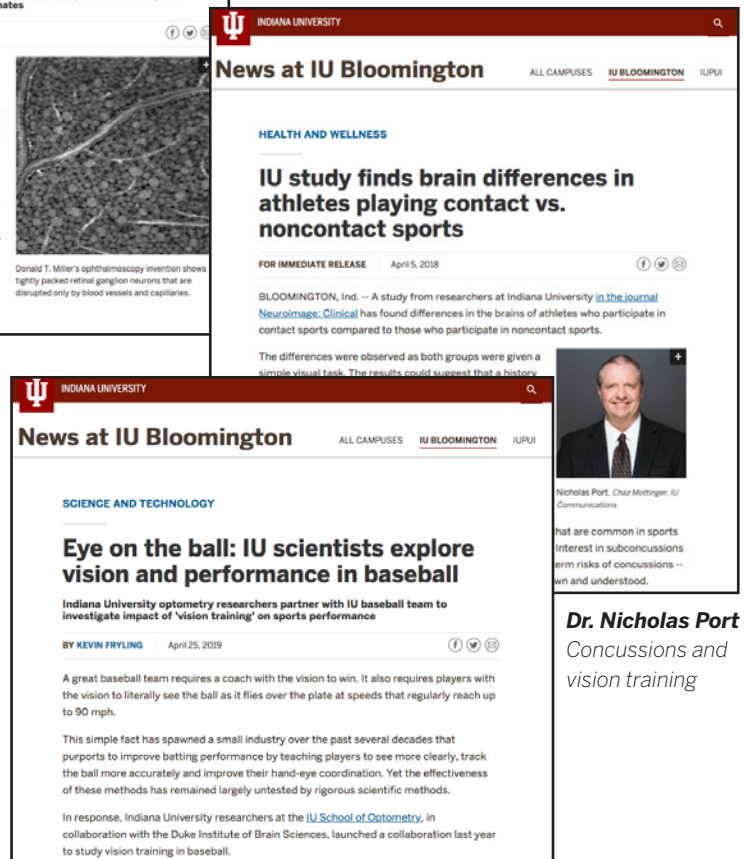
IUSO's researchers work results not only in a high reputation for the school, but in better educated students and quality patient care. Of particular note are Dr. Steve Burns's early detection of diabetic retinopathy, Dr. Don Miller's imaging of retinal ganglion cells, and Dr. Nicholas Port's concussion detection studies and sports vision training.

Borish Scholars

The Borish Center for Ophthalmic Research (BCOR) was established in 1995 to aid in conduct of clinical translational research. Since that time the BCOR has grown to encompass all IUSO vision science research including basic science studies. Several years ago, the BCOR instituted the Borish Scholars seminar series. Borish Scholars are prominent vision scientists, who visit IUSO, give a talk, and meet with faculty and graduate students. They receive an honorarium and all expenses paid. The BCOR also partners with the IUSO Continuing Education program to hold a biennial Borish Symposium. This is a continuing education event, however the speakers are vision scientists who will relate ongoing translational studies or basic science that



Dr. Don Miller
Retinal ganglion cells



Dr. Nicholas Port
Concussions and vision training

potentially will change the way clinicians practice optometry. The goal of the Scholars program and biennial Symposium is to raise the profile of IUSO and its Vision Science program.

Dean's Scholars

Between the first and second year of optometry school, IUSO offers ambitious students the opportunity to learn about research. The Dean's Scholars program links up students interest with a faculty member to do 8–15 weeks of research. Successful students will often go on and complete an MS thesis. The Dean's Scholars receive a stipend over the summer. The program is supported directly from faculty grants and over the last 10 years by a T35 training grant from the National Eye Institute of NIH.

Accreditation

Optometry schools are accredited by the American Council on Optometric Education (ACOE). The ACOE is recognized by the U.S. Department of Education and Council on Higher Education. The last ACOE site visit was in 2013. Out of almost a hundred standards, IUSO was deficient in four. These were easily rectified within less than a year and the school has full accreditation through 2021. The next site visit is December 2021. A self-study committee will be organized by December 2020 to target submission of the self-study report to ACOE around September 2021.

In addition to the OD professional program, ACOE accredits all residency programs. Currently, IUSO sponsors 14 residencies, five of which are within the school's clinics. Currently, all are fully accredited.

Recent International & National Awards



Optical Society of America Tillyer Award

for distinguished work in the field of vision
Dr. Stephen Burns



Optical Society of America Edwin Land Award

for translating science to products
Dr. Ann Elsner



American Academy of Optometry Michael G. Harris Teaching Award

for excellence in educating optometry students
Dr. Richard Meetz



American Academy of Optometry Prentice Award

for distinguished career/accomplishment in research
Dr. Larry Thibos



Optometric Glaucoma Society Research Excellence Award

for contributions to the scientific and optometric communities
Dr. William Swanson

External Engagement

The major external engagement of IUSO is through our clinics in Bloomington and Indianapolis. Here, members of the public from the local communities receive routine and specialty eye care services, spectacles and contact lenses. Each clinic provides: Primary Care services, Ocular Disease services, Contact lens services, Pediatric & Binocular Vision services, and Low Vision Services. In addition, walk-in and 24/7 on-call emergency services are provided. Most recently, we started a Dry Eye service. With seed money provided by the IUB Provost, we have equipped the new service with the latest diagnostic and therapeutic devices. In addition to providing dry eye care to patients already in our clinics, we are engaging practitioners in southern Indiana so that their patients can benefit from the advanced services. Lastly, because the dry eye condition is becoming more prevalent, our goal is to participate in clinical trials supported by grants from NIH or ophthalmic companies.

IUSO students also engage the public across the U.S. through 44 IUSO externship locations. In the 4th year, IUSO professional students do four 12-week externship rotations. The externship sites are arranged by IUSO to meet accreditation standards. IUSO was one of the first optometry schools to institute externships, so we have a long history of sending students out to the communities across the U.S. Doctors volunteering at the extern sites are made adjunct faculty. In return, they receive patient care services from the students and the students experience real-world practice and a great diversity of patient encounters. Currently, we have a waiting list of potential



Free Day of Vision

IU School of Optometry's annual service event held on Martin Luther King Jr. Day

ACCOLADES

extern sites. Our student externs are desirable because of the excellent training they have received.

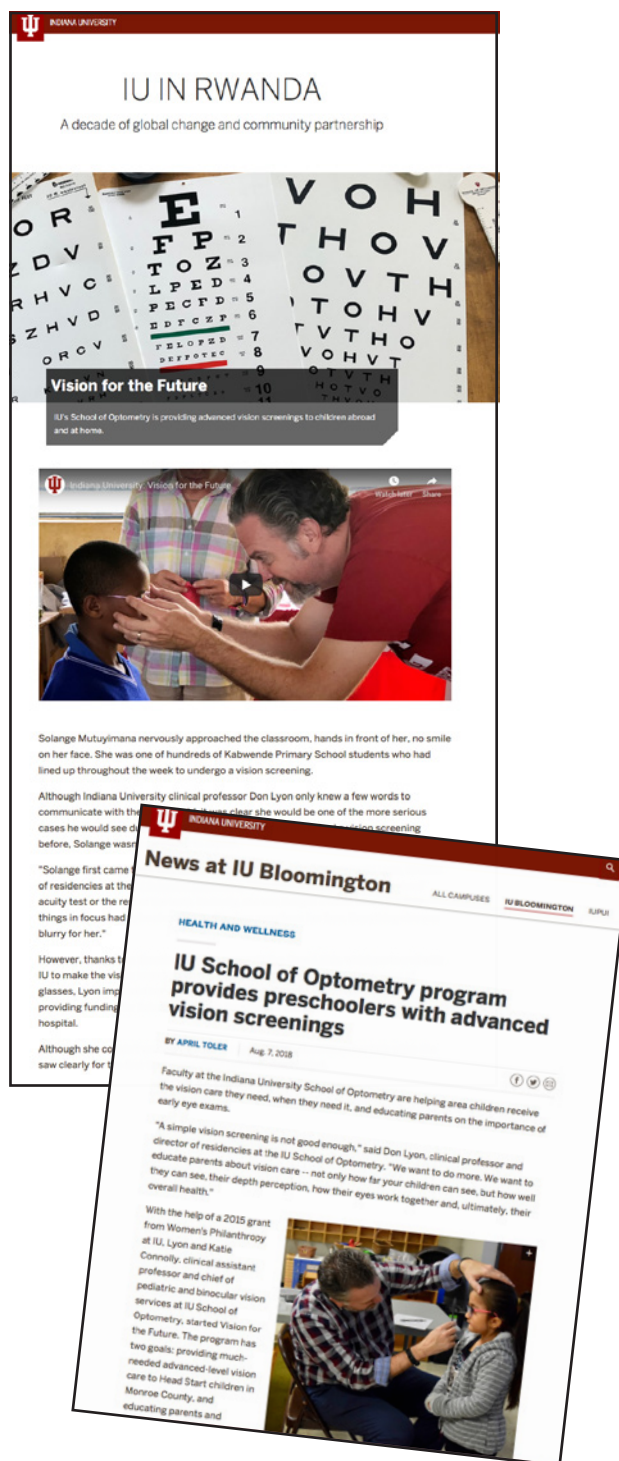
IUSO students engage in community outreach locally and internationally. In Bloomington our clinic provides free eye exams for patients from Volunteers in Medicine (VIM). In Indianapolis, a similar program is supported by the Marion County Health Department to provide eye exams and medically indicated contact lenses to patients who cannot afford them. Every year on MLK Day, in conjunction with the Salvation Army, students and faculty provide free eye exams and donated spectacles to those in need. Every June, students and faculty volunteer their time to do eye screenings at the Special Olympics in Terre Haute. In addition to these eye care related activities, IUSO students are involved in the Hoosier Hills Book Drive, Habitat for Humanity Build, science nights at local elementary schools, and the IUB Science Fest.

In 2015 Dr. Don Lyon, who was chief of the pediatric service, started the Vision for the Future program. This is a partnership with Head Start to screen children for eye disorders and to educate parents and teachers about the importance of recognizing developmental issues affected by vision. In this program, more than 2,000 Head Start children have received eye exams. Currently, the program serves Greene, Hamilton, Marion, Monroe, Morgan, and Owen counties. Moreover, volunteer optometrists in the Evansville area are also engaged. Once the experience from the current locations is analyzed, Dr. Lyon's goal is to identify volunteers throughout Indiana to provide this service to their communities. As of now, the program has been supported by the Women's Philanthropy at IU, Smithville Telephone, and the Nina Mason Pulliam Trust.

Dr. Lyon has now brought the program to Rwanda. He has teamed up with Books and Beyond (run by Nancy Uslan) to be part of IU in Rwanda. The goal is to raise funds to support travel of IUSO students to Rwanda for 10 days every summer. Currently, Dr. Lyon has provided more than 250 screenings to students and teachers and distribute over 300 pairs of glasses via Eye Care 4 Kids. He has also engaged with the national health authorities in an effort to improve training of local health care providers in eye care.

The Volunteer Optometric Services for Humanity (VOSH) student affiliation has been at IUSO for several decades. Currently, students and faculty are partnering with See Better – Learn Better, a Rotary Club program in

their Jamaica program. They have made three trips so far and completed over 400 comprehensive eye exams. More than 50 students have been engaged in this international experience.



ALUMNI & DONOR RELATIONS

Office of Advancement

Development (aka fund raising) at IUSO has had a sporadic history. A staff person who had the IU Foundation title of Development Officer only first appeared at IUSO under Dean Gerald Lowther in the mid 2000's. Then this person was only 50% FTE for IUSO. During the recession, 2008–2010, IUSO had no development officer. Then in 2011 a full-time officer was hired. There was some turnover, but now the office has grown to four: Associate Dean for Advancement, Todd Peabody, OD, MBA; Director of Advancement (major gifts), Doug Eibling; Associate Director (annual giving), Lindsay Wimmer; and Assistant Director (communications and marketing), Amanda Zuicens-Williams. Our goal is consistency and growth.

IUSO did not have a regular program of engagement with its alumni and as such there was not a regular history of giving.

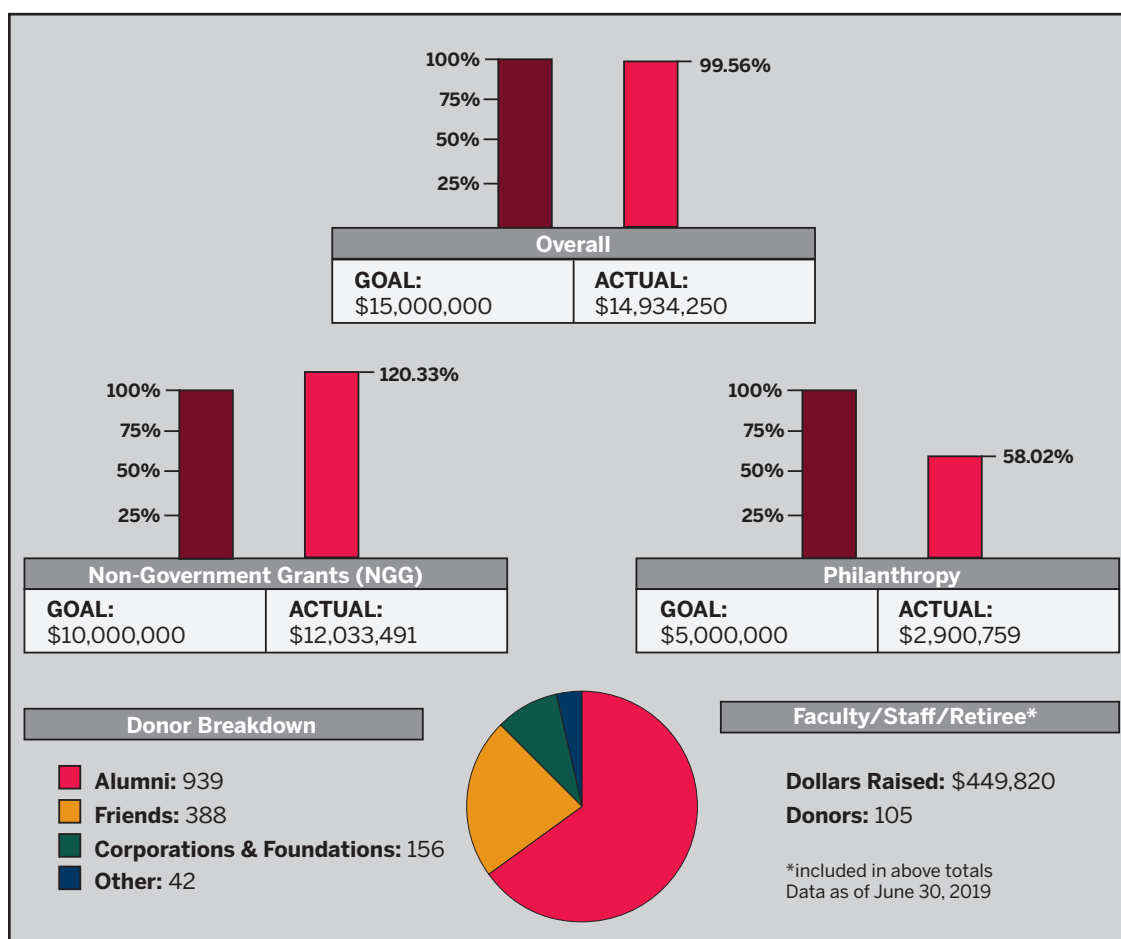
The Office of Advancement has now ramped up a series of programs and events. Alumni Weekend/class reunions are held every fall. IUSO Alumni and Friends receptions are held at three major national optometry conferences. The Foley House Basement Key Award and the IUSO Distinguished Alumni Award are now part of a formal recognition program and dinner. IUSO Advancement now participates in IU Day in the spring. Each fall is the IUSO Alumni Golf Outing, which raises money for scholarships.

Each year now for the past seven years, total philanthropic gifts to IUSO have increased. As more alumni are engaged and we engage them while they are young students as well, we should see a growing base of consistent support.

IU Bicentennial Campaign

During the Bicentennial campaign, our goals have been to support scholarships, outreach, and an endowed chair. We have been most successful with scholarship support, somewhat for outreach, but have yet to land an endowed chair, but we now at least have some prospects.

IU School of Optometry's Bicentennial Campaign Update



CHALLENGES

Student Recruitment

The primary challenge today for the professional program is quality applicant recruitment. The applicant pool to optometry schools has been essentially flat over the past 10 years. During this time, five new schools have opened, which has reduced the applicant-to-seat ratio to 1.4/1.

To maintain high quality matriculants at IUSO, we have implemented several steps. First, we revamped our Admissions Day program from why should IUSO accept you to this is why you should come to IUSO. During this process the faculty and staff interacting with the applicants can informally interview them to make sure they are a good fit for IUSO. However, the experience is much more low key and informative for the applicant. We have gotten very good feedback from students about this experience.

Second, we hired a second staff recruiter to do more travelling to states like Texas and California as well as several Canadian locations, where the bulk of optometry applicants reside. Third, we immediately built in more tuition discounting into our budget so that we do not lose the best applicants. In addition, we made scholarships a primary goal of the Bicentennial campaign.

Lastly, we just instituted a flat tuition scheme. Incoming students will pay the same tuition for all four years. This is aimed at all applicants with the notion that we will capture more solid students, who may not qualify for a scholarship.

Tenure Track Expansion

IUSO has been very successful in research productivity and extramural grants. We currently have space for additional tenure track faculty, however because of the high cost of startup research packages and lab renovations, we can only afford to replace faculty retiring.

We now have two fewer tenure track faculty than 10 years ago. This has happened due to delays in replacing retirees so that the salary lines could be used to accumulate startup funds.

To accelerate filling the startup fund, we have instituted a Research Reinvestment Program. If faculty put part of their academic salary on grants, they receive a portion of this savings to be placed in a residual research account. In order to utilize this program, grant budgets will have to

grow and the associated Indirect Cost Recovery will grow with it. The school then reaps a portion of the salary savings and the increased ICR.

Auxiliary Clinics

The clinics are under pressure similar to all health care delivery. Insurance compensation is more constrained; compliance costs are increasing; equipment renewal is more frequent and more expensive. In Bloomington, patient numbers are flat. The community population is growing very slowly, so significant patient expansion is unlikely. Other university optometry schools have been successful with instituting a vision service health fee. We are working with campus to determine if something similar can be at IU.

Our Indianapolis clinic is moving from leased space to the Eugene and Marilyn Glick Eye Institute on campus. This was prompted by the Board of Trustees' policy to minimize external leases. However, commercial leased space in Indianapolis is about half the cost as space at IUPUI.

To prevent the clinic from operating in the red, we reduced the square footage by about one-half. Our challenge here is two-fold. First, convince our patients to come to the new location. Second, try to expand the clinic by instituting new services such as a dry eye service and a post-concussion service. These have potential to grow and increase revenue, while providing new and exciting educational experiences for our students.



Eugene and Marilyn Glick Eye Institute

Indianapolis Eye Care Center is moving into this IU-owned space in 2020.

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