

**Optometric Education Beyond Borders | 1**

The state of Sinaloa in Northwestern Mexico, not very far from the Arizona border, is home to one of the oldest and largest universities in Mexico, the Autonomous University of Sinaloa (UAS). UAS has existed for 146 years in an area of great beauty created by rivers, beaches, mountains and forests that is also challenged by the impact of drug cartels. More than 150,000 students, from 15 to 22 years old, are enrolled at UAS. In 2011, with the goal of training competent and successful visual health professionals, the university opened the Optometry School of Sinaloa. Our strengths at the optometry school have allowed us to grow in many ways. We have, for example, a close relationship with local ophthalmologists, a teaching staff interested in carrying out scientific research, and support from the university hospital for research projects. Nevertheless, for continued progress we require support and guidance from more experienced institutions and have found the most notable support from international organizations.

**About the Optometry School of Sinaloa**

The Optometry School of Sinaloa is located in the capital city of Culiacán and is linked to the ophthalmology department of the UAS University Hospital. The academic staff is composed of optometrists, ophthalmologists, chemists, a psychologist and a physicist, all of whom are around 35 years old. The optometrist/teachers are certified and hold bachelor's degrees. They successfully combine teaching with private practice. The ophthalmologist/teachers specialize in various fields including retina, glaucoma and ocular plastic surgery. The remaining teachers hold either PhD or MSc degrees. With the help of our university hospital we are constantly developing multidisciplinary research projects. To establish a niche where optometrists can make a fruitful contribution, we focus our research efforts on the treatment of low vision.

Currently, the optometry school has 55 students, and with each class we typically enroll a similar number of students. As do most optometry schools in Latin America, we offer a four-year-program with the last year dedicated to clinical practice. The first two graduating classes have completed the program, resulting in 24 new professionals. Most are employed in major lens companies; only few are devoted to teaching.

**Assistance from International Allies**

The advancement of optometric education should transcend frontiers and borders, and we have experienced this personally. In particular, the Association of Schools and Colleges of Optometry (ASCO), Volunteer Optometric Services to Humanity (VOSH), and the Latin American Association of Optometry and Optics (ALDOO) have contributed significantly to the advancement of the Optometry School of Sinaloa. Our relationships with these organizations began when we undertook two initiatives in 2016. One was opening a student chapter of VOSH, which to our knowledge was the first in Mexico. The other was presenting our work at the annual meeting of the American Academy of Optometry (AAO) in 2016.<sup>1</sup> This was the first submission from an institution in Northwestern Mexico. These apparently simple and unrelated actions created a huge impact on the development of our academic optometric community.

Although it was a financial challenge for our researchers and school representatives to travel to the 2016 AAO meeting in Anaheim, Calif., it was the best investment that we could have made for the benefit of our school. We had our first meetings there with representatives from VOSH (Marcela Frazier, OD, MSPH) and ALDOO (Hector Santiago, OD, PhD). We were shocked by their willingness to help us, especially after our struggles for support to attend the conference. ALDOO offered support in three key areas: 1) implementation of our low vision department; 2) the visit of a low vision specialist to advise us on establishing this service; and 3) the opportunity for one of our professors to visit the department of low vision at the University of Houston. ALDOO, including its Education Committee and former Delegated Secretary Katerin Ortiz, OD, FAAO, has assisted us in other ways as well. They helped us to obtain resources for research projects to evaluate the visual health of our population, and they covered our lodging expenses to enable us to attend a meeting of the Latin American Optometry Schools in Panama City.

Also in 2016, by invitations from Dr. Frazier and Dr. Santiago, we were able to attend the annual meetings of VOSH and ASCO. While we witnessed ASCO's great organization and willingness for worldwide collaboration, at that first meeting we weren't quite sure what to ask or how to contribute. However, in 2017 we returned to the ASCO annual meeting with a much better idea of how their association could best assist us. We hope to continue working with the association's support and kind guidance. The 2016 VOSH meeting was amazing, as we learned more about the organization and met J. Daniel Twelker, OD, PhD, from the University of Arizona. With his tremendous help in forging a collaboration, our students joined VOSH-Arizona on a mission trip to Hermosillo and Chihuahua in Mexico. The students had a fruitful learning opportunity and shared their experience with their classmates. This experience helped to improve our program, and Dr. Twelker is a role model for our students.

**Our Progress Continues**

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We have continued to build on our original international collaborations to work toward our goals. More recently, we again presented research at an AAO meeting.<sup>2</sup> We also organized an optometric research workshop with Dr. Twelker and three other world-class optometrists participating: Pablo de Gracia, PhD, FAAO, Jose Vega, OD, FAAO, and Pedro Gomez, OD. This event and inspirational colleagues certainly motivated our students and allowed them to see the importance and potential of optometric research not only in our region but also across the country.

In addition, we have been involved in two other notable research projects. 1) with the assistance of Dr. Santiago, a Refractive Error Study in Children-type project to evaluate the visual status of Sinaloa's young people; and 2) through a Collaborative Research Fellowship from the ARVO Foundation, evaluation of information acquisition as a biomarker to evaluate vision impairment in glaucoma, with Russell L. Woods, PhD, from the Schepens Eye Research Institute of Massachusetts Eye and Ear.

It is incredible that the Optometry School of Sinaloa has received so much support from international organizations. Because of it, we are inspired to move forward and promote the development of optometry in our region and serve our communities by educating competent eyecare providers and fostering research careers. We hope sharing our story helps other schools to understand how they, too, can achieve their goals despite the limitations that can be found in developing countries.

### References

1. Teran E, Ortega-Pereyra M, Espinoza-Castro BA, Martinez-Gaytan J, Martinez-Gaytan C, Ramirez-Jaimes R. Goodness of fit to non parametric tests of the contrast sensitivity and the visual acuity. Presented at the 2016 annual meeting of the American Academy of Optometry; Anaheim, Calif.
2. Teran E, Molina-Reyes J, DeGracia P, Martínez-Gaytan J, Martínez-Gaytan C, Ramirez-Jaimes R. Evaluation of the increased levels of UV radiation reaching the eye due to the outdoor use of smartphones. Presented at the 2017 annual meeting of the American Academy of Optometry; Chicago, Ill.



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