

Optical Engineering

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Globalization

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In commemoration of the 60th anniversary of SPIE, several of the projectors in the conference rooms during the Optics and Photonics Symposium last month were displaying images from the first technical meeting of the Society of Photographic Instrumentation Engineers that took place in Los Angeles, California, on July 1, 1955. As I viewed these pictures, I was struck by the contrasts between this meeting and the one in which I was participating 60 years later. My understanding is that this debut focused primarily on a fairly specific topic related to photogrammetry of military reconnaissance systems. The participants evident in the images were formally dressed males who appeared to be predominately American. In contrast, the 2015 Optics and Photonics Symposium exhibited a broad technical scope with participants from all over the world exhibiting a diversity of ethnicity, gender, and cultural background.

The predecessor to this journal, entitled the *Society of Photographic Instrumentation Engineers Journal*, was not launched until 1962, seven years after this first technical meeting. The technical scope of this inaugural issue was limited in a similar manner as the first technical meeting, with four published papers: one on infrared emulsions, one on a dual-lens camera design, one on a photographic tracking system, and the final on lens evaluation. Three of the authors were American, and the fourth was German. Ten years later, the journal officially became *Optical Engineering*. The five papers published in the first issue of the newly renamed journal addressed a much broader range of technical topics, including dye and semiconductor lasers, aerial imaging, interferometry, and laser Doppler velocimetry. The authors for three papers were American, while the other two papers originated from the United Kingdom and India.

As you peruse this current issue of *Optical Engineering*, it will be apparent that the technical scope of the papers and geographic diversity of the authors has continued to expand. During my tenure as the editor-in-chief, some SPIE members have approached me wondering whether this globalization of the journal is a proper reflection of the constituency of the society. Their concern is that perhaps the journal has drifted too far from its foundation. It is an interesting question deserving further inquiry, so I asked the staff to compile some data (Fig. 1) to address the issue. These data indicate the geographic distribution of SPIE membership, published *Optical Engineering* (OE) papers (lead author), and usage of OE papers (downloads) on a percentage basis. All data encompass the 2014 calendar year.

If we define the constituency of the journal as SPIE membership, then certain conclusions might be drawn from the

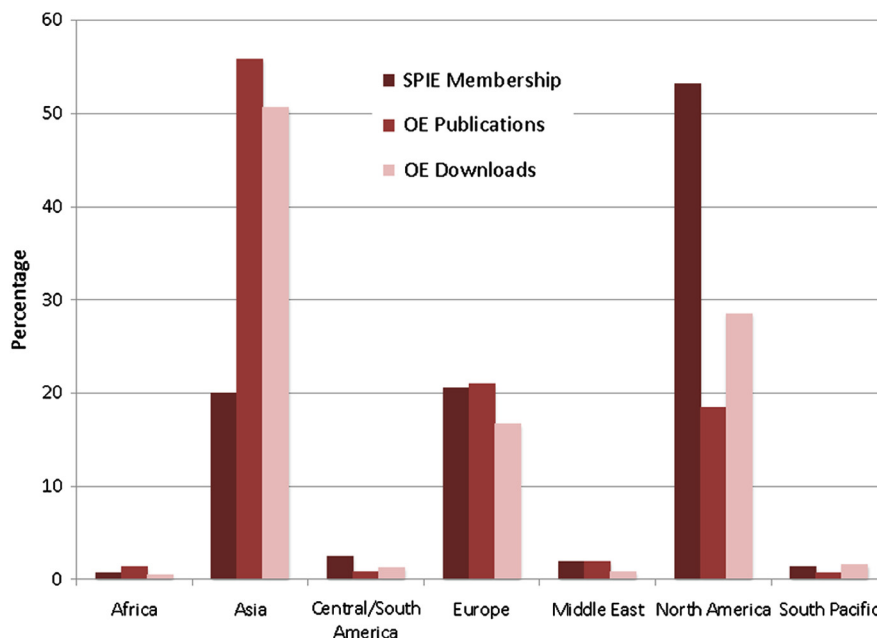


Fig. 1 Fig. 1 Geographic distribution of SPIE membership, published *Optical Engineering* (OE) papers (lead author), and usage of OE papers (downloads) on a percentage basis.

data. The lead authors for over 50% of OE papers reside in Asia, while only 20% of SPIE members are Asian. In direct contrast, over 50% of SPIE members reside in North America, but the continent accounts for fewer than 20% of OE publications. The European publications match up well with the membership, while the numbers in the remaining regions of the world are probably too small to draw any meaningful insights. Although we can compare the geographic diversity of SPIE membership and OE authorship, this does not imply anything about whether the OE authors are, or are not, SPIE members. In fact, only about 15% of OE authors in 2014 were actually SPIE members. Nevertheless, while the center of mass of SPIE membership remains in North America, that is no longer true for OE authorship. This may be influenced partly by the emergence of several new SPIE journals in fields such as biomedicine that have attracted new SPIE members predominately in North America and Europe who may not publish in OE, but this is probably not a dominant factor in the trend.

If we define the constituency of the journal in terms of OE readership as opposed to SPIE membership, the data may be considered to tell a somewhat different story. In this case, the Asian, North American, and European usage more closely correlate with authorship, and it is apparent that the

constituency of *Optical Engineering*, authors and readers alike, has heavily shifted toward Asia over the past couple decades. This trend is not unusual for scientific journals as research and development, and thus publishing in international journals, has greatly expanded in the Asia-Pacific region.

The stated mission of SPIE is to “partner with researchers, educators, and industry to advance light-based research and technologies for the betterment of the human condition.” In support of this mission, the society defines its constituency very broadly, internationally and well beyond its membership. As the flagship journal for the society, *Optical Engineering* shares this mission statement, meaning that its constituency extends to wherever there is a desire to use it for the advancement of the optical engineering field of study. It is my opinion, therefore, that as long as high standards for manuscript quality are maintained to advance the field of study, the journal will not drift from its foundation regardless of the geographic distribution of authors, even if it becomes—and has become—dramatically different than that first meeting in Los Angeles over 60 years ago.

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