

Update of WNAR then and Now

Biology, Statistics and Mathematics

What could these sciences possibly have in common?

The combination – biology, statistics, and mathematics – appeared to be so interesting, and so unique to some people that they called it biometrics. Exactly what were people doing that would require these three sciences? We're not certain there was any one incident that precipitated the formation of this unique science. But we do know that biologists, at least as far back as the 19<sup>th</sup> century, had questions about what they had observed in their studies, and they saw that one of the best ways to answer those questions required the use of some statistical and mathematical tools. The biologists worked in agriculture, medicine, pure and applied biology, and in their laboratories and in the field. They had questions about genetics, biological assays, plant and animal ecology, clinical trials, methods of field and laboratory experimentation, biological surveys, measurement techniques, and on and on. There were so many questions and so few answers.

By 1945 in the United States, so many 'biometricians' were working on these problems that they started a scientific journal called the **Biometric Bulletin** just so they could share the results of their investigations into the applications of statistics and mathematics to biology. The field was growing so rapidly that in September of 1947 they decided, along with their colleagues from around the world, to start a Biometric Society that was international and would take over the responsibility for the publication of their journal, under the new name of **Biometrics**. The official membership of this new organization was 888 in the first public release of membership numbers in 1948. That was a large number early on. There must have been something to this science if so many people were interested. The Society has continued to grow and now (2009) has around 8000 members (**check this!**). The Society publishes two scholarly journals:

**Biometrics** (founded 1948) and the **Journal of Agricultural, Biological, and Environmental Statistics** (**JABES**, founded in 1996). The latter is published jointly with the American Statistical Association. **Biometrics** has evolved to publish a great deal of work in the clinical and biopharmaceutical sciences, while **JABES** shares results from other areas of Biometric research. One area of considerable importance that has recently developed is in Genomics and Micro-array research. As recently as 1996, very little appeared in the Biometric literature, and there are many important problems that are still being addressed.

The International Biometrics Society (IBS) is now composed of Regions and smaller units called Groups. There are 19 Regions and 16 Groups. The Western North American Region (WNAR) was founded in Berkeley, California, in June 1948 with 73 members. As of January 2009 it has about 200 members. We still meet every year in our region, which includes the western-most 13 U.S. states and 3 Canadian provinces. Our meeting is typically attended by about 150 people and is held in the early summer on a college campus to take advantage of inexpensive dormitory housing. The relatively small size of the meeting provides a great opportunity to meet and network with other researchers in the West. It is especially accessible to students and the region offers reduced registration fees to students. One of WNAR's most popular activities for students is the student paper competition. This competition gives students valuable experience in presenting their research in a friendly environment, and allows them to meet other new researchers. The meeting is often jointly sponsored by the Institute of Mathematical Statistics (IMS), and the two societies share the profits/losses according to member attendance. WNAR and IMS organizers of this meeting are volunteers, despite the time and effort required. This keeps the registration fee low rather than hire professional organizers. Our recent regional meetings have been held in Flagstaff (Northern Arizona University, 2006), Irvine (University of California, Irvine 2007), Davis (University of California, Davis 2008), and Portland (Portland State University, 2009).

We also meet jointly with the American Statistical Association (ASA) and IMS in early August each year at the Joint Statistical Meetings (JSM), and with other Regions and Groups of the IBS in even numbered years. Recent International meetings were held in Berkeley (University of California, Berkeley, 2000), Freiburg (University of Freiburg, 2002), Cairns (Cairns Convention Center, 2004), Montreal (McGill University, 2006), and Dublin (University College, 2008). In 2010 the conference is planned for Florianopolis, Brazil.

At Biometric Society meetings (whether regional or international) we discuss our most recent research on such things as estimating survival rates in clinical trials, gene frequencies estimated from micro-arrays, sample streams for environmental monitoring, or ways to design experiments for studies in agriculture, biomedicine, or to estimate population sizes of wildlife, or examining the effects of predator-prey abundance among many others.

Whatever your interests in statistics or mathematics as related to biology, you're bound to find something of interest to you.

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