

# John N. Zorich, Jr.

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## **CORE COMPETENCIES related to statistics in QA/QC, R&D and Manufacturing**

- Extensive professional experience teaching and consulting in Applied Statistics
- Well-versed in use of MSEXcel for statistical applications
- 20+ years hands-on experience in R&D, Manufacturing, Product Support, and QA/QC

## **KEY ACCOMPLISHMENTS related to statistics in QA/QC, R&D and Manufacturing**

- Re-developed an R&D IVD product for efficient commercial production, in part by using statistical analysis to redesign raw-material, in-process, and final testing protocols.
- Designed a custom alternative IQC Sampling Plan to replace MilStd105E, resulting in net savings of 7% in QC inspector time for one client, but with no increased risk to customers
- Helped implement a custom SPC program that resulted in raising Cpk's from 0.6 to 1.8 within a year, which allowed going from 100% inspection to sample-monitoring only.

## **STATISTICAL CONSULTING CLIENTS (and product)**

- Caliper Technologies (Mountain View, CA) (IVD lab test equipment and reagents)
- Hoya Medical (Chino Hills CA) (eye implants; statistical consulting for PMA supplement)
- Duke Empirical (Santa Cruz CA) (contract design & manufacture of medical devices)
- WAKO Pure Chemicals (Mountain View CA) (pharmaceuticals)
- KEMA/DEKRA (Chalfont, PA) (Notified Body, tech-file reviews, for the MDD, IVDD, and AIMD)
- More than 90 other companies, mostly medical device manufacturers, mostly in the SF Bay Area

## **FORMAL STATISTICAL SEMINARS AND/OR CLASSES (partial list) GIVEN AT**

- Abbott Vascular Solutions (ex-Guidant) (thru UC Santa Cruz Extension)
- ASQ Statistics Group, and ASQ Biomedical Group (Santa Clara Valley chapters)
- ASQ Ft. Worth, Annual Quality Conference (2013)
- ASQ Houston, Annual Quality Conference (2015)
- ASQ World Conference on Quality & Improvement (2014)
- Boston Scientific/EPI (Santa Clara, CA)
- KEMA/DEKRA (the Dutch "notified body")(Concord, CA) (for their MDD auditors)
- Novellus (San Jose CA, and Tualatin OR)
- Ohlone College (San Jose, CA) (industry-focused workshops)
- Siemens Medical Solutions (Concord, CA)
- Silicon Valley Polytechnic Institute (San Jose)
- TUV Product Service (SUD), USA (for all of their quality systems & medical auditors)

## **EDUCATION and TRAINING and PUBLICATIONS**

- BS and MS from the University of California (Botany, with emphasis in chemistry and math)
- ASQ Certified Quality Engineer: 1996,1999, 2002, 2005, 2008, 2011, 2014, 2017
- *Reasonable Confidence Limits for Binomial Proportions* (Aug 2010, in MD&DI magazine)
- *Four Formulas for Teaching the ...Correlation Coefficient* (May 2017, in MathAMATYC Educator)

## **STATISTICAL APPLICATION SPREADSHEETS designed, developed, and sold by John Zorich**

- *VARIABLES DATA SPC, and COUNT DATA SPC* -- for corporate-wide SPC efforts
- *RELIABILITY STATISTICS BASICS* -- simplifies standard component reliability calculations
- *RELIABILITY & DISTRIBUTION PLOTTING* -- calculates reliability for non-normal distributions
- *POWER CURVES FOR T-TESTS* -- simplifies calculation of the statistical power of t-tests.
- *GAGE STATISTICS* -- simplifies calculation of bias, correlation, R&R, linearity, guard-banding.
- *NORMALITY TESTS & NORMALITY TRANSFORMATIONS* -- 10 tests, 14 transformations
- *C=0 SAMPLING PLANS* -- 2 different versions, for lot sizes up to 10,000.