



# EIGENVECTOR RESEARCH, INC.

## Company Profile



# *Introduction*

*(from our web site)*

Eigenvector Research, Inc. (EVRI) is a Chemometrics Research and Applications Company located in Wenatchee, Washington, USA. Our mission is to provide advanced chemometrics support for the semiconductor and chemical process industries, consumer product manufacturers and analytical instrument developers. Our goal is to be your complete source for state-of-the-art chemometric tools and know-how.

# *Definition of Chemometrics*

Chemometrics is the chemical discipline that uses mathematical and statistical methods to

- 1) relate *measurements* made on a *chemical* system to the *state* of the system
- 2) design or select optimal *measurement* procedures and experiments.

# *Primary Business Areas*

**Software**

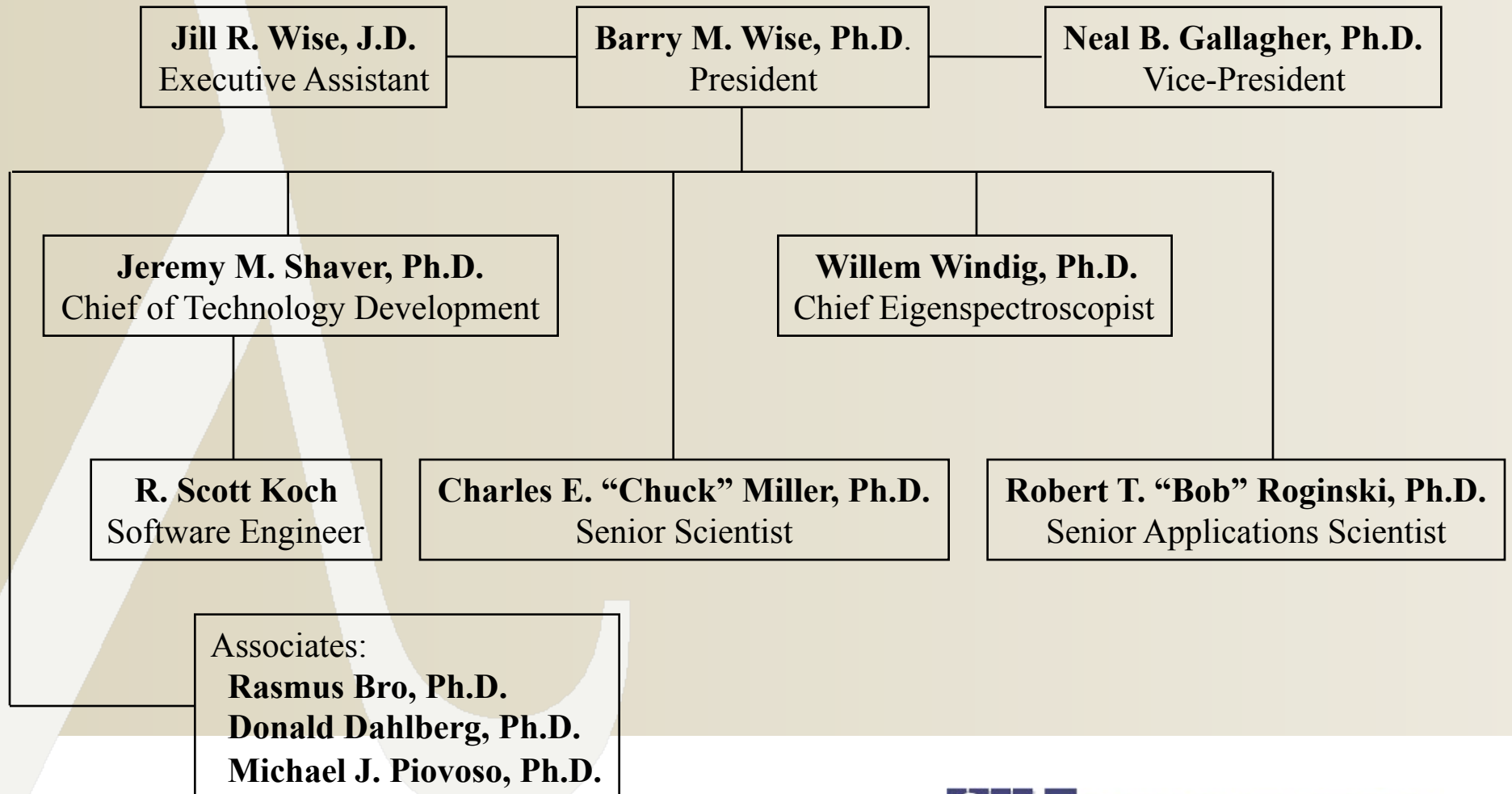
**Consulting**

**Training**

# *Company History*

- 1989 Development of PLS\_Toolbox software started by BMW
- 1991 Dissertation “Adapting Multivariate Analysis for Monitoring and Modeling Dynamic Systems”
- 1991-1994 PLS\_Toolbox versions 1.2, 1.3 and 1.4 released under Eigenvector Technologies
- Eigenvector Research, Inc. founded January 1, 1995 by BMW and NBG
- 1998-2008 Seven releases of PLS\_Toolbox
- 2003-2008 Added 6 more OTS software packages
- 2001-2006 Staff increased to 7 technical members

# Organization Chart



# *Eigenvector Financial*

- Privately held
- No debt
- Adequate cash reserves
- Software sales approximately tripled in last 3 years
- Consulting volume nearly doubled in last 3 years

# *Eigenvector Staff Job Functions*

- Consulting (6)
  - Barry, Neal, Jeremy, Willem, Chuck, Bob
- Software Development (4+)
  - Scott, Jeremy, Bob, Rasmus Bro + staff as required
- Software User Support (2+)
  - Scott, Jeremy + staff as required
- Training (9)
  - Consulting staff plus Scott, Rasmus Bro & Don Dahlberg
- Marketing (3)
  - Barry, Jeremy, Scott
- Sales (2)
  - Barry, Jill



# Consulting Experience

We have 100+ years of combined experience in a wide range of industries and applications:

- Petrochemical** – Quality assurance, Failure analysis, On-line analyzers
- Pharmaceutical** – PAT, Exploratory analysis, Kinetics analysis
- Semiconductor** – Fault detection, Process optimization
- Medical** – Device application development, System optimization, Fundamental research
- Specialty Chemical** – Production control, Quality assurance, On-line analyzers
- Remote Sensing** – Target filters, Anomaly detection, Automated classification and regression
- Image Analysis** – Curve resolution, Texture analysis, Area classification
- Sensor Development** – System modeling, Device optimization, Application development
- Analytical Instrumentation** – Application development, Automation, Noise source analysis, Online prediction engines, Custom modeling interfaces
- Genetic Discovery** – Correlation analyses, Potential target identification
- Environmental** – Analysis method optimization, Pollution source identification

# *Training*

We offer **standard** and **custom courses** on a range of chemometric and application topics:

Chemometrics Without Equations

Intermediate/Advanced Chemometrics

Process Chemometrics

Variable Selection

Calibration Transfer

Multivariate Image Analysis

Applied Multiway Analysis

Multivariate Statistical Process Control

Inferentials for Process Control

**And we're adding new topics all the time...**

**Courses are offered on-site at your facility and also at many conferences and at various open sites. On-site courses are often cost effective for class sizes as small as 5 students**

# ***Eigenvector University***

- Our week long series of courses each spring
- 6 full days and 3 evenings
- 14 hands-on courses
- 8 instructors (Eigenvector staff + Rasmus Bro)
- User poster session
- User group meeting

*Eigenvector staff have taught over 100 short courses to well over 1000 students. Widely regarded for our unbiased instruction and ability to make chemometrics accessible.*

# Software Products

## MATLAB-based Products

- **PLS\_Toolbox** – World-famous multivariate analysis tools
- **MIA\_Toolbox** – Multivariate Image Analysis add-on to PLS\_Toolbox
- **EMSC\_Toolbox** – Patented multivariate filter add-on to PLS\_Toolbox

## Stand-alone Products

- **Solo** – GUI-driven multivariate analysis package
- **Solo+MIA** – Solo with image analysis functionality

## Model Application Products

- **Solo\_Predictor** – Stand-alone model application engine and web server
- **Model\_Exporter** – Create stand-alone models for implementation in other software

# PLS\_Toolbox Features

- **Linear and Non-Linear Regression**

PLS, Principal Components Regression, N-way PLS, Locally Weighted Regression...

- **Data Exploration and Pattern Recognition**

Principal Components Analysis, Parallel Factor Analysis, Tucker Models, Self-Modeling Mixture Analysis...

- **Sample Classification**

SIMCA, k-nearest neighbor, PLS Discriminant Analysis, Cluster Analysis with Dendrograms...

- **Instrument Standardization**

Piece-wise Direct, Generalized Least Squares Preprocessing...

- **Pure Variable Methods**

Coda, CompareLCMS, Purity...

- **Instrument Standardization**

Piece-wise Direct, Generalized Least Squares Preprocessing...

- **Advanced Customizable Order**

- **-Specific Preprocessing**

Centering, Scaling, Smoothing, Derivatizing...

- **Variable Selection**

Genetic Analysis, Interval PLS, purity-based methods...

- **Enhanced Data Visualization and Organization Tools**

Class Identification, Linked Plots, Data Set Object Integration...

- **Curve Fitting, Distribution Fitting and Statistical Analyses**

- **Multi-way Analysis**

- **Missing-Data Support**

# Solo

- Graphical environment for data management and model authoring.
- Point-and-click building of exploratory and predictive models including PCA, MPCA, PLS, PLS-DA, SIMCA, MCR, PARAFAC, Cluster analysis, among others.
- Completely compatible with PLS\_Toolbox and MATLAB.



# *Unique Selling Points*

- Short on hyperbole, long on expertise
- Eigenvector known for no-nonsense, unbiased, and efficient consulting staff with 100+ man-years experience with Multivariate Analysis
- Extremely flexible and comprehensive software resources can be easily custom configured for use in a wide variety of applications and operating systems
- Expert trainers wide array of developed course materials

# ***Contact Information***

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