

DIETMAR J. TIETZ, PH.D., PMP

Email: djt@his.com

TECHNOLOGY AND BIOSCIENCE MANAGEMENT

Could your organization benefit from a leader who excels in managing cross-functional programs?

- Increased profitability by 150% on up to 40 concurrent technology projects, each valued from \$100K to \$1.5 million, when I directed IT Product Development.
- Developed first computer-assisted procedure to predict vaccine effectiveness within days, instead of months.
- Received Director's Award for successfully managing and delivering a highly visible 2+ years technology program and for making outstanding contributions.
- Led technology projects for \$765 million NASA program at Raytheon Systems.

Thorough knowledge of project management tools. Demonstrated ability to initiate endeavors, solve problems, motivate teams, think strategically, collaboratively influence others, and build excellent working relationships. Strong focus on integrity, continuous improvement, customer orientated solutions, leading by example, and being proactive. International experience. Flexibility to work with people from all walks of life. Prefer full time employment. *Core competencies include:*

10+ years Executive and Program & Project Management (PMI-PMP certified) in Technology & Life Sciences (Ph.D.) • Computational Biology • Product Development / New Solution Deployment / Inter-disciplinary R&D • Performance, Quality & Continuous Process Improvement • Customer Management & Service Focus • Teamwork, Team Building, Mentoring & Coaching • Education • Cross-Functional / Multi-Cultural / Matrixed Teams • Presentations

PRINCIPAL

2002 - Present

DJT Consultants, Laurel, Maryland

Provided professional W2 consulting services in science & technology management. Selected projects:

- **Project 1 (2006 - present): Computational and scientific analysis/ publishing/ editing**
 - Provided **project support for the National Cancer Institute, National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), and U.S. Environmental Protection Agency.**
 - Published invited review articles about computer-assisted vaccine analysis (2007, 2009, 2010).
 - Invited speaker for a presentation about computer-assisted vaccine analysis at the pharmaceutical and biomedical Paul Ehrlich II World Conference, Nuremberg, Germany 2008.
- **Project 2 (2005 - 2007):** NIDDK, National Institutes of Health, Bethesda, Maryland. NIDDK conducts biomedical research and awards \$1.4 billion annually for 4000 R&D grants. Hired by Division Director to direct the implementation of a highly visible program.
 - Successfully **directed - in cooperation with senior executive management - the initiation, development, implementation, and delivery of the Institute's redesigned public Web interface.** Goals: superior technology, usability, graphic design, and much improved content.
 - Set processes in motion that had been stalled for years. Established standards and procedures. Maintained documentation of projects; conducted status and project stakeholder meetings.
 - Garnered quick approval for program plan, roadmaps, deliverables, quality standards, compliance requirements, identification of risks, contingency plans, timelines, budgeting, resource allocations, governance policy, and required organizational communication and collaborations.
 - **Received the NIDDK Director's Award** for outstanding contributions.
- **Project 3 (2002 - 2004):** Joyce Romanus, Silver Spring, Maryland. Reported directly to the CEO.
 - Streamlined operating processes so that tax and accounting services could be provided with much improved efficiency and projects were completed on schedule.
 - Managed IT operations, oversight and participated in update of software and client database

DIRECTOR, IT PRODUCT DEVELOPMENT

1999 - 2001

Cadmus Communications (now Cenveo), Dynamic Diagrams, Linthicum, Maryland

Cadmus was the #1 producer of scientific, technical and medical communications, with 3900 employees nationwide. Ingenta PLC (UK) acquired Dynamic Diagrams and closed the branch location.

Directed entire IT product development at the Linthicum branch: Up to 40 concurrent technology projects across various sites, each project ranging in value from \$100K to \$1.5 million; 10 -12 direct reports, 20 -30 indirect reports from various sites. **Provided end-to-end solution lifecycle management from business case development to transition to ongoing service phases.** Evaluated emerging technologies, developed a technical vision, and implemented creative approaches. Liaison for executive clients. Reported directly to the CTO at Dynamic Diagrams' HQ.

- **Increased profitability by 150%**; directed and coordinated activities of project personnel so that key backlogged projects were completed on schedule and on budget within one year; improved customer satisfaction (80% less troubleshooting requests).
- Effectively communicated complex concepts and IS solutions to senior business leaders. Built strategic working relationships with customers, peers and vendors.
- Created unique development solutions, e.g., for McGraw-Hill, American Medical Association, etc.
- Built a high performance, cross-functional technology group; hired and retained talented professionals.

TEAM LEAD

1996 - 1999

Aerotek, Inc. (now part of Allegis), Columbia, Maryland

\$765 million NASA program at Hughes ITS and Raytheon Systems. Challenge was to engineer computer platforms and software for the purpose of ingesting, storing and processing 4,000 GB of scientific data obtained daily from ground stations and earth observing satellites. Selected contributions:

- **Led full lifecycle Web & software development projects for Science & Communications**, Graphical User Interfaces, Usability Engineering, and Software Reuse.
- **Established policies, wrote directives and guidelines, enforced security issues and adherence to ISO standards**, conducted testing.
- Developed online training materials for staff and conducted seminars.
- Developed, designed, coded and **administered several NASA Web sites** (Editor-in-Chief).
- Provided presentations for NASA and DOE resulting in implementation of recommendations.

SCIENTIFIC PROJECT MANAGER

1993 - 1995

Justus-Liebig University, Agricultural Sciences, Biometry & Population Genetics, Giessen, Germany

Department provided education and research in biostatistics, bioinformatics & molecular biology. Selected contributions:

- Secured two-year grant to establish a new research program and to continue research previously conducted at NIH. Oversaw planning, budgeting, and **development of user-friendly scientific software applications.**
- Provided plenary lectures for students. Published several papers and edited a scientific book.
- Invited by Nobel laureate Prof. Manfred Eigen to present results at his tea seminar at the Max-Planck Institute in Goettingen, Germany.

SENIOR RESEARCH SCIENTIST

1983 - 1993

National Institutes of Health Clinical Center, Section on Macromolecular Analysis, NICHD,
Bethesda, Maryland

Managed several research projects and participated in the development of computational procedures for signal processing and data analysis in direct support of research in Biomedicine, Biomedical Engineering and the Health Sciences. *Selected contributions:*

- **Led an inter-disciplinary team and participated in the development of biomedical devices and the first computer-assisted procedure** to predict vaccine effectiveness within days, instead of months.
- Provided seminars in Mathematical Biology for the Foundation for Advanced Education in the Sciences at NIH (FAES Graduate School).
- Organized multidisciplinary collaborations with R&D groups in the USA and Germany.
- Published over 30 peer-reviewed papers and invited review articles in international journals.
- Invited to present research results at several national and international conferences.

PRIOR

- University Lecturer and Research Scientist at the University of Hamburg, Germany. Investigated hormone physiology and the chemical structure of hormone metabolites. Taught biology for students in medicine and biology. Published several research papers and wrote scientific articles for the general public that appeared in science magazines and a nationwide newspaper.

AFFILIATIONS

- American Chemical Society (ACS)
- Association of German Scientists and Physicians (GDNÄ)
- Project Management Institute (PMI) and its Washington DC chapter (PMI-WDC)
- Technical Executives Networking Group (TENG)

EDUCATION

- **Ph.D. (Bioscience - overall grade: “very good”)**, University of Hamburg, Germany 1982
- **Diploma (Biology, Biochemistry, Microbiology - BS equivalent; overall grade: “very good”)**, University of Hamburg, Germany 1977

CERTIFICATION

- **Project Management Professional (PMP) Certification**, PMI USA 2008

PUBLICATIONS

A **bibliography with more than 60 scientific publications** follows (biomedicine, computational biology, computer modeling, image processing, analytical biochemistry, biology).

BIBLIOGRAPHY

- Tietz, D.: Vaccine fingerprinting: An innovative technique for the analysis of virus-sized nanoparticles. SciTopics (2010), http://www.scitopics.com/Vaccine_Fingerprinting.html
- Tietz, D.: An Innovative method for quality control of conjugated *Haemophilus influenzae* vaccines: A short review of 2-D nanoparticle electrophoresis. J. Chromatogr. A 1216(52), 9028–9033 (2009).
- Tietz, D.: Innovative method for quality control of high molecular weight semi-synthetic vaccines. Abstracts of the Paul Ehrlich II Biomedical and Pharmaceutical World Conference, Nuremberg, Germany 2008 (invited presentation).
- Tietz, D.: Computer-assisted two-dimensional agarose electrophoresis of Hib meningitis vaccines and analysis of polydisperse particle populations in the size range of viruses: A review. Electrophoresis 28, 512–524 (2007).
- Tietz, D.: Computer-Assisted Analysis of 2-D Gel Patterns Derived from Agarose Electrophoresis of Conjugated Hib Meningitis Vaccines. Abstracts of the Annual Meeting of the American Electrophoresis Society (AES)/American Institute of Chemical Engineers (AIChE), Salt Lake City, Utah 2007.
- Tietz, D.: A decade of electrophoretic experiments and computer simulation studies in the laboratory of Andreas Chrambach. Electrophoresis 28, 501–504 (2007).
- Tietz, D. (Editor): Nucleic Acid Electrophoresis Laboratory Manual. Springer Verlag (Berlin – Heidelberg – New York), pp. 1–328, October 1998. ISBN 3-540-63959-4
- Tietz, D.: Advanced computer-assisted gel electrophoretic applications. Zeitschr. Angew. Mathematik Mechanik (ZAMM) Special Issue 2: Applied Analysis (O. Mahrenholtz, R. Mennicken eds.), pp. 687–688, Akademie Verlag 1996. ISBN 3-05-501745-5.
- Tietz, D.: Benefits of advanced gel electrophoresis data analysis methods. Appl. Theor. Electrophoresis 5, 107–111 (1995).
- Tietz, D.: Evidence against recent challenges of the extended Ogston model. Electrophoresis 16, 460-461 (1995).
- Buzsás, Zs., Wheeler, D., Garner, M. M., Tietz, D., Chrambach, A.: Transverse pore gradient electrophoresis, using the PhastSystem. Electrophoresis 15, 1028–1031 (1994).
- Orbán, L., Garner, M. M., Wheeler, D., Tietz, D., Chrambach, A.: Characterization of the electrophoretic properties of nucleosome core particles by transverse polyacrylamide pore gradient gel electrophoresis. Electrophoresis 14, 720–724 (1993).
- Guszczynski, T., Pulyaeva, H., Tietz, D., Garner, M. M., Chrambach, A.: Capillary zone electrophoresis of large DNA. Electrophoresis 14, 523–530 (1993).
- Tietz, D., Chrambach, A.: DNA shape and separation efficiency in polymer media: A computerized method based on electrophoretic mobility data. Electrophoresis 14, 185–190 (1993).
- Tietz, D.: Book review: The Dynamics of Electrophoresis (Authors: R. A. Mosher, D. A. Saville and W. Thormann: publisher: VCH. Weinheim 1992). Electrophoresis 13, 339 (1992).

Tietz, D., Aldroubi, A., Pulyaeva, H., Guszczynski, T., Garner, M. M., Chrambach, A.: Advances in DNA electrophoresis in polymer solutions. *Electrophoresis* 13, 614–616 (1992).

Wheeler, D., Tietz, D., Chrambach, A.: Information on DNA conformation derived from transverse pore gradient gel electrophoresis in conjunction with an advanced data analysis applied to capillary electrophoresis in polymer media. *Electrophoresis* 13, 604–608 (1992).

Tietz, D., Chrambach, A.: Concave Ferguson plots of DNA fragments and convex Ferguson plots of bacteriophages: evaluation of molecular and fiber properties, using desktop computers. *Electrophoresis* 13, 286–294 (1992).

Tietz, D.: Computer-assisted two-dimensional agarose electrophoresis: a promising technique for the analysis of conjugated vaccines and other particle mixtures with no discernible peaks. *Elektrophorese Forum '91* (B. J. Radola, ed.), TU München, pp. 452–456, Bode (1991).

Pospichal, J., Tietz, D., Ittyerah, T.R., Halpern, D., Chrambach, A.: Gel electrophoresis of polystyrene particles in glutaraldehyde crosslinked polyvinyl alcohol. *Electrophoresis* 12, 338–341 (1991).

Tietz, D., Aldroubi, A., Schneerson, R., Unser, M., Chrambach, A.: Distribution of particles characterized by their size and free mobility within polydisperse populations of protein-polysaccharide conjugates, determined from two-dimensional agarose electropherograms. *Electrophoresis* 12, 46–54 (1991).

Aldroubi, A., Unser, M., Tietz, D., Trus, B.: Computerized methods for analyzing two-dimensional agarose gel electropherograms. *Electrophoresis* 12, 39–46 (1991).

Tietz, D.: Analysis of one-dimensional gels and two-dimensional Serwer-type gels on basis of the extended Ogston model using personal computers. *Electrophoresis* 12, 28–39 (1991).

Tietz, D., Gombocz, E., Chrambach, A.: Procedures and computer program for deriving the Ferguson plot from electrophoresis in a single pore gradient gel: Application to agarose gel and a polystyrene particle. *Electrophoresis* 12, 710–721 (1991).

Tietz, D., Chrambach, A.: Computer-assisted evaluation of polydisperse 2-dimensional gel patterns of polysaccharide-protein conjugate preparations with regard to size and net charge. *Electrophoresis* 10, 667–680 (1989).

Tietz, D., Aldroubi, A., Unser, M., Chrambach, A.: Gel electrophoretic analysis of semi-synthetic vaccines. *Electrophoresis Forum '89* (B. J. Radola, ed.), TU München, pp. 210–212, Bode (1989).

Tietz, D., Aldroubi, A., Unser, M., Chrambach, A.: Physical characterization of particles in polydisperse mixtures on the basis of densitometrically analyzed Serwer-type 2-D electrophoresis patterns. *Electrophoresis Forum '89* (B. J. Radola, ed.), TU München, pp. 199–209, Bode (1989).

Hurt, S.S., Tietz, D., Fawcett, J.S., Chrambach, A.: Agarose gel electrophoretic titration curves of plant viruses. *Phytopathology* 79, 661–667 (1989).

Orbán, L., Fawcett, J.S., Tietz, D., Chrambach, A.: Sieving of ionic constituents across moving boundaries in gel electrophoresis. *Electrophoresis* 10, 254–259 (1989).

Tietz, D.: Evaluation of mobility data obtained from gel electrophoresis: Strategies in the computation of particle and gel properties on the basis of the extended Ogston model. *Advances in Electrophoresis*, Vol. 2, 109–169 (1988).

Butterman, M., Tietz, D., Orbán, L., Chrambach, A.: Ferguson plot linearity in PAGE: Correlation with polymerization conditions, gel fiber properties and free mobility determination. *Electrophoresis* 9, 293–298 (1988).

Hahn, E., Wurts, L., Tietz, D., Chrambach, A.: Linear Ferguson plots of polystyrene sulfate size standards for the quantitative agarose gel electrophoresis of subcellular particles. *Electrophoresis* 9, 243–255 (1988).

Tietz, D.: Characterization of semi-synthetic meningitis vaccines by size and free mobility profiles derived from 2-D agarose gel electrophoresis. *Electrophoresis '88* (C. Schafer-Nielsen, ed.), pp. 223–227. VCH Verlagsgesellschaft, Weinheim 1988.

Tietz, D.: Review. Gel electrophoresis of intact subcellular particles. *J. Chromatogr.* 418, 305–344 (1987).

Tietz, D.: Physikalische Charakterisierung von submikroskopischen Partikeln mit Hilfe der Computersimulation von gelelektrophoretischen Daten. [Physical characterization of subcellular particles based on computer simulation of gel electrophoretic data]. *Elektrophorese Forum '87* (B. J. Radola, ed.), TU München, pp. 526 – 530, Bode (1987).

Orbán, L., Tietz, D., Chrambach, A.: A convex "Ferguson plot" of polystyrene particles in electrophoresis on 0.25 to 2.0 % polyacrylamide (30% Bis-crosslinked). *Electrophoresis* 8, 471–476 (1987).

Orbán, L., Tietz, D., Chrambach, A.: Quantitative gel electrophoresis of polystyrene particles with 20 – 60 nm radii on 30% crosslinked polyacrylamide gel. *Electrophoresis* 8, 465–471 (1987).

Gombocz, E., Tietz, D., Chrambach, A.: Moving boundary electrophoresis on agarose gel of plant viruses and polystyrene microspheres. *Electrophoresis* 8, 286–293 (1987).

Tietz, D., Gombocz, E., Chrambach, A.: Characterization of subcellular particles by size, charge and apparent compressibility on the basis of mobility in agarose gel electrophoresis: Procedures of computer simulation. *Electrophoresis* 8, 271–285 (1987).

Gombocz, E., Tietz, D., Hurtt, S., Chrambach, A.: Polystyrene latex particles as size standards in quantitative agarose gel electrophoresis: Application to three plant viruses. *Electrophoresis* 8, 261–271 (1987).

Tietz, D., Chrambach, A.: Computer simulation of the variable agarose fiber dimensions on the basis of mobility data derived from gel electrophoresis and using the Ogston theory. *Anal. Biochem.* 161, 395–411 (1987).

Tietz, D., Gombocz, E., Chrambach, A.: Particle dynamics revealed by agarose gel electrophoresis. In: *Electrophoresis '86, Proceedings of the Fifth International Electrophoresis Society in London* (Dunn, M. J., ed.), pp. 253–258, VCH Verlagsgesellschaft, Weinheim (1986). ISBN 3-527-26566-x.

Tietz, D., Gombocz, E.: Gel electrophoresis: a tool for the characterization of viruses, subcellular particles and agarose gel structures. *Proceedings of the 5th Congress of FESPP in Hamburg* (1986).

- Tietz, D.: Determination of agarose fiber properties by gel electrophoresis. Abstracts, 17th FEBS Meeting in Berlin, 1986. *Biological Chemistry Hoppe-Seyler* 367 (Supp.), 330, 1986. ISBN 0177-3593.
- Tietz, D., Chrambach, A.: Analysis of convex Ferguson plots in agarose gel electrophoresis by empirical computer modeling. *Electrophoresis* 7, 241–250 (1986).
- Tietz, D., Gottlieb, M. H., Fawcett, J. S., Chrambach, A.: Electrophoresis on uncrosslinked polyacrylamide: Molecular sieving and its potential applications. *Electrophoresis* 7, 217–220 (1986).
- Tietz, D., Gombocz, E., Chrambach, A.: Physical Characterization of particles and gel fibers on the basis of nonlinear Ferguson plots in agarose gel electrophoresis. Proceedings of the 1986 Meeting of the American Branch of the Electrophoresis Society (D. J. Reeder ed.), p. 164, National Bureau of Standards, Washington DC (1986) NBSIR/86-3345.
- Gombocz, E., Tietz, D., Hurtt, S., Chrambach, A.: Physical characterization of turnip crinkle and pelargonium flowerbreak viruses by agarose gel electrophoresis: applicability of polystyrene size standards and of moving boundary electrophoresis buffer systems. Proceedings of the 1986 Meeting of the American Branch of the Electrophoresis Society (D. J. Reeder ed.), p. 146, National Bureau of Standards, Washington DC (1986) NBSIR/86-3345.
- Tietz, D., Chrambach, A.: Quantitative Agarose-Elektrophorese von Viren und Zellpartikeln. [Quantitative agarose electrophoresis of viruses and subcellular particles]. *Elektrophorese Forum '85* (B. J. Radola, ed.), TU München, pp. 323–329, Bode (1985).
- Tietz, D., Chrambach, A.: Konsequenzen der Variabilität der Zwei-Faser-Struktur der Agarose für die Interpretation und Praxis der Agarose-Elektrophorese. [Variability of the two-fiber agarose structure and its consequences for the interpretation and the practice of agarose electrophoresis]. *Elektrophorese Forum '85* (B. J. Radola, ed.), TU München, pp. 165–171, Bode (1985).
- Tietz, D.: Characterization of a novel (\pm) - abscisic acid metabolite. *Physiol. Plant.* 65, 171–176 (1985).
- Tietz, D., Tietz, A.: Less hazardous derivatization procedure for gas chromatography of plant hormone abscisic acid. *J. Chromatogr.* 325, 425–429 (1985).
- Dörffling, K., Tietz, D.: Abscisic acid in leaf epidermis of *Commelina communis* L.: Distribution and correlation with stomatal closure. *J. Plant Physiol.* 117, 297–305 (1985).
- Tietz, D., Chrambach, A.: Agarose gels and their pore structure as a function of concentration range. Abstracts. *Electrophoresis '84*, meeting of the American Electrophoresis Society at the University of Arizona, Tucson (1984).
- Dörffling, K., Tietz, D.: Methods for the detection and estimation of abscisic acid and related compounds. In: *Abscisic Acid* (F. T. Addicott, ed.), pp. 23–77, Praeger Special Studies New York (1983).
- Dörffling, K., Tietz, D.: Growth. *Progress in Botany* 44, 182–204 (1982).
- Tietz, D.: Untersuchungen zum Metabolismus von Abscisinsäure in Erbsenkeimlingen. [Investigation of the abscisic acid metabolism in pea seedlings]. Ph.D. thesis, Institute for General Botany, University of Hamburg, Germany (1982).

- Tietz, D., Tietz, A.: Stress im Pflanzenreich. [Stress in plants]. *Biologie in unserer Zeit* (P. Sitte, ed.) 12(4), 113–119 (1982).
- Dörffling, K., Tietz, D.: Aufnahme und Verteilung von 2-¹⁴C- Abscisinsäure in Blattepidermen von *Commelina communis* und Korrelation mit dem Verschluss der Stomata. [Uptake and distribution of 2-¹⁴C abscisic acid in epidermic strips of *Commelina communis* and its correlation with the closure of stomata]. Abstracts der Botaniker-Tagung in Freiburg (1982).
- Tietz, D.: Buschigere Topfblumen und stabilere Weizenhalme. Weitverbreitete Pflanzenmanipulation durch Hormone. [Bushier pot plants and more stable wheat stalks. Widespread manipulation of plants by hormones]. *Frankfurter Rundschau* Nr. 231, p. 13 (1980).
- Dörffling, K., Tietz, D., Ludewig, M.: Abscisinsäure und die Schliessreaktion der Stomata bei Wasserstress. [Abscisic acid and the closure of stomata during water stress]. Proceedings of lectures and posters, p. 93. Botany Meeting in Bochum, Germany (1980).
- Tietz, D.: Blühen auf Befehl — ernten nach Plan. Wachstumsregulatoren bei Pflanzen. [Flowering on demand — harvesting on schedule. Plant growth regulators]. *Bild der Wissenschaft* (H. Haber, ed.) 5, 126–137 (1980).
- Dörffling, K., Tietz, D., Streich, J., Ludewig, M.: Studies on the role of abscisic acid in stomatal movements. In: *Plant Growth Substances 1979* (F. Skoog, ed.), pp. 274–285. Springer Verlag Berlin – Heidelberg – New York.
- Tietz, D., Dörffling, K., Wöhrle, D., Erxleben, I., Liemann, F.: Identification by combined gas chromatography - mass spectrometry of phasic acid and dihydrophaseic acid and characterization of further abscisic acid metabolites in pea seedlings. *Planta* 147, 168–173 (1979).
- Tietz, D., Dörffling, K.: Charakterisierung der Abbauprodukte von Abscisinsäure in Erbsenkeimlingen. [Characterization of abscisic acid degradation products in pea seedlings]. *Mitt. Inst. Allg. Bot. Hamburg* 16, 101–114 (1978).
- Tietz, D.: Charakterisierung der Abbauprodukte von Abscisinsäure in Erbsenkeimlingen. [Characterization of abscisic acid degradation products in pea seedlings]. Diploma Thesis, Institute for General Botany, University of Hamburg, Germany (1977).
- Dörffling, K., Sonka, B., Tietz, D.: Variation and metabolism of abscisic acid in pea seedlings during and after stress. *Planta* 121, 57–66 (1974).