

Resume of James A. Profitt

Scientist, Inventor, Technology Transfer Specialist

2/18/2025

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Work Experience

2/07 – 12/24: **President**, Precision Light Fabrication, Inc., a company for laser cut/etched products.

2/18: **Science and Technology Consultant**; to Siemens Healthcare via Randstad/Sourcright: Short Term: Lab to Manufacturing Transfer, SAS statistical Programming and Analysis

4/15 – 5/16: **Science and Technology Consultant**; to Welmetris/ Zivo Bioscience: Web scale-up and transfer to manufacturing. Part Time.

9/13 – 2/15: **Science and Technology Consultant**; to Siemens Healthcare via Randstad/Sourcright: Diagnostics Innovations, Patent Support, SolidWorks 3D CAD Design. Part time.

01/13 – 9/13: **Sr. Staff Scientist**, Siemens HealthCare Diagnostics, Elkhart, IN, Diagnostics Innovations, Diagnostic Chemistry Assay Improvement, both Blood and Urinary Diagnostics, Instrumentation, Optics, Motion Control, Mechanical Design, Technology Transfer, Laser cutting, SolidWorks 3D CAD Design, Laser cutting, Design to Parts, SAS Programming and Statistical analysis.

01/07 – 1/13: **Staff Scientist**, Siemens HealthCare Diagnostics, Elkhart, IN, Process group, Project Core Team Representative, Chemistry Technology Transfer, Machine Vision, Optics, Motion Control, SolidWorks 3D CAD Design, Laser cutting, Design to Parts, SAS Programming and Statistical analysis.

12/97 – 12/06: **Sr. Research Scientist to Staff Scientist**, Bayer HealthCare, Elkhart, IN, Diagnostics Division, Urine Chemistry Group; SAS (Statistical Analysis), Kidney Markers, Instrumentation, Chemistry Dipstrip Development, Microfluidics, Manufacturing design, Capital Planning, Bayer Science and Technology Award Committee, AutoCAD, Microelectronics for Research, Assay Chemistry and Immunochemistry (Lateral Flow).

12/92 – 12/97: **Sr. Associate Research Scientist to Research Scientist**, Miles Inc./ Bayer Corporation, Elkhart, IN, Diagnostics Division, Group Quality Assurance and Technical Services, Organic Chemistry Group; Synthetic Organic Chemistry and Chemistry support for Immunochemistry projects (Immuno-1 B12 and Folate assays, UCL BC-1 Osteoporosis and Kidney disease markers), HPLC preparative and analytical, GMP fluent.

5/91-12/92: **Research Scientist**, Miles Inc., Elkhart, IN, Diagnostics Division; Reagent Technology/Method Development Department (formerly Chemistry/Immunodiagnosics Department),

AXON New Immuno-Methods Development Group. Large analyzer liquid phase assay development, adaptation and optimization of latex immunoassays for AXON chemistry analyzer (thyroid panel, aminoglycosides); perform RIA and other reference methods; problem solving (e.g., carryover, curve fitting, bichromatics, interferences) also using Taguchi, Simplex, EVOP approaches; Engineering & Scientific problem team member; Inter- and intra-departmental oral presentations; data analysis and method concept testing by QUICKBASIC programming and EXCEL spreadsheet; formal Progress Report and Method-Sheet writing.

7/81 - 5/91: **Sr. Associate Research Scientist to Research Scientist**, Miles Inc., Elkhart, IN, Elkhart, IN, Diagnostics Division; Immunotechnology R&D, and Blood Chemistry Products: Both solid phase and liquid phase assay R&D. About 1/2 of time on development projects. Immunochemistry and clinical chemistry; stability QA; SAS mainframe programming for analysis and validation of OPTIMATE™ immunoassay system; TDA or TDM, T4, digoxin; general R&D for chemiluminescence, fluorescence (SLFIA), and cofactor(ARIS) based liquid assays; paper, gel, membrane and glass layer dry phase assay components; inorganics, latex and magnetic latex covalent derivitizations; Seralyzer™ reflectance dry phase assay R&D including synthesis of "capture phases" (analyte-gel solid phases); perform RIA and other reference methods; calibration and calibrator matrix optimization; report, patent application and project proposal writing; small device interfacing and BASIC programming; internal and external oral presentations, including formal project review; dry phase format concepts and construction; whole blood assay R&D; cholesterol fraction assay R&D (solid and liquid phase); lead scientist for 2 small groups (B.S. to Ph.D. reports), project budget preparation. 10 years.

4/79 - 7/81: **Associate Research Scientist**, Miles Laboratories, Elkhart, IN, Corporate Research, Exploratory Chemistry Group: Synthetic Organic, Bio-organic and Biochemistry; drug-fluorophore conjugates, protein conjugation with haptens and probes, drug-cofactor(FAD) conjugates, hormone conjugates, intermediates, chromatographic separations (general, gel, resin and HPLC; preparative and analytical), etc. 2 years.

10/75 - 4/79: **Research Chemist**, Hoechst-Roussel Pharmaceuticals, Inc., Somerville, NJ, Chemical Research Department: Synthetic Organic Chemistry; pharmaceutical candidates related. 3.5 years.

Issued U.S. Patents

(See USPTO.GOV, Full Patents, Quick Search/ Term1 = "James," Field1 = "Inventor Name," Term2 = "Profitt," Field2 = "Inventor Name").

- 43:10,376,876 Pipette components useful for medical diagnostics
- 42: 9,658,152 Optical Interpretation of Assay Results
- 41: 9,439,630 Non-visible detectable marking for medical diagnostics
- 40: 8,486,715 Dispensing of a diagnostic liquid onto a diagnostic reagent
- 39: 8,361,782 Piezo dispensing of a diagnostic liquid into microfluidic devices
- 38: 8,304,254 Piezo dispensing of a diagnostic liquid onto a reagent surface
- 37: 8,263,414 Dispensing of a diagnostic liquid onto a diagnostic reagent
- 36: 7,563,621 Absorbing organic reagents into diagnostic test devices by formation of amine salt complexes
- 35: 7,435,381 Packaging of microfluidic devices
- 34: 7,125,711 Method and apparatus for splitting of specimens into multiple channels of a microfluidic device
- 33: 7,094,354 Method and apparatus for separation of particles in a microfluidic device
- 32: 6,815,210 Total protein detection methods and devices
- 31: 6,532,884 High speed electric watercraft
- 30: 5,401,466 Device for the direct measurement of low density lipoprotein cholesterol
- 29: 5,290,703 Method for the separation of high density lipoprotein from blood samples
- 28: 5,216,178 Process of reducing olefins
- 27: 5,140,027 Aminoalkylthiodibenzoxepins and pharmaceutical use

26: 5,006,664 Aminoalkylthiodibenzothiepins and related compounds
 25: 4,943,571 Aminoalkylthiodibenzoxepins and pharmaceutical use
 24: 4,837,227 Aminoalkylthiodibenzoxepins and pharmaceutical use
 23: 4,775,683 Aminoalkylthiodibenzothiepins
 22: 4,775,682 Haloalkylthiodibenzothiepins
 21: 4,775,672 Aminoalkylthiodibenzothiepins
 20: 4,771,069 Aminoalkylthiodibenzothiepins
 19: 4,766,143 Haloalkylthiodibenzothiepins
 18: 4,672,138 Phenyl substituted carbamothioic acid esters
 17: 4,668,695 Aminoalkylthiodibenzothiepins
 16: 4,537,976 Benzo[b]thiophenes
 15: 4,528,399 Benzo[b]thiophenes intermediates
 14: 4,524,207 Process for preparing substituted 1,3-dihydrospiro[benzo(c)thiophene]s
 13: 4,477,667 Spiro[indoline-3,4'-piperidine]s and related compounds
 12: 4,436,748 Benzo[b]thiophenes
 11: 4,409,229 Antidepressive and tranquilizing substituted 1,3-dihydrospiro[benzo(c)thiophene]s
 10: 4,408,050 Spiro(indoline-3,4'-piperidine) and related compounds
 9: 4,379,933 Process for preparing spiro[indoline-3,4'-piperidine]s
 8: 4,379,932 Process for preparing spiro[indoline-3,4'-piperidine]s
 7: 4,345,081 Spiro[indoline-3,4'-piperidine]s
 6: 4,307,235 Spiro[indoline-3,4'-piperidine]s
 5: 4,209,625 Spiro[indoline-3,4'-piperidine]s
 4: 4,198,420 Spiro[dibenz(b,f)thiepin-piperidine]s
 3: 4,198,419 Phenylthiophenylpiperidines
 2: 4,198,418 Spiro[dibenz(b,f)oxepin-piperidine]s
 1: 4,198,417 Phenoxyphenylpiperidines

Published U.S. Patent Applications in Process

PUB. APP. NO.	Title
20140267702	OPTICAL METROLOGY BY LIGHT BEAM ANALYSIS
20110262304	METHOD OF FLUID CONTROL IN MEDICAL DIAGNOSTIC MEDIA
20110223673	Polarized Optics for Optical Diagnostic Device
20100239137	Two Dimensional Imaging of Reacted Areas On a Reagent
20060141546	Bacterial test method by glycated label binding

Publications

1. E.J. Corey, D.S. Watt, and J.A. Profitt, "A Reagent for the α,β Reduction of Conjugated Nitriles," *J.Org. Chem.*, **40**, 127 (1975).
2. D.S. Watt, J.A. Profitt, and T. Jones, "A Convenient Synthesis of 3-Methoxyphthalic Anhydride," *Synth. Commun.*, **5**, 457 (1975).
3. H.H. Ong, J.A. Profitt, V.B. Anderson, T.C. Spaulding, J.C. Wilker, H.M. Geyer, III, and H. Kruse, "Tricyclics with Analgesic and Antidepressant Activity. 1.(Alkylamino)ethylthio-dibenz [b,f] oxepins and 10,11- dihydro Derivatives," *J. Med. Chem.*, **23**, 494 (1980).
4. J.A. Profitt and H.H. Ong, "Reduction of Diphenylethylenes and Related Compounds with Magnesium in Methanol," *J. Org. Chem.*, **44**, 3972 (1979).

5. H.H. Ong, J.A. Profitt, T.C. Spaulding, and J.C. Wilker, "Synthesis and Analgesic Activity of Some Spirodibenz [b,f] oxepin- 10,4'-piperidine Derivatives," J. Med. Chem., **22**, 834 (1979).

6. H.H. Ong, J.A. Profitt, V.B. Anderson, H. Kruse, J.C. Wilker, and H.M. Geyer, III, "Novel Tetracyclic Spiropiperidines. 1. 3-Aryl-1,3-dihydrospirobenzo [c] thiophene-1,4'-piperidines as Potential Antidepressants," J. Med. Chem., **24**, 74 (1981).

7. R.C. Tyhach, P.A. Ropchock, J.H. Pendergrass, A.C. Skjold, P.J. Smith, R.D. Johnson, J.P. Albarella, and J.A. Profitt, "Adaptation of Prosthetic-Group Label Homogeneous Immunoassay to Reagent Strip Format," Clin. Chem., **27**, 1499 (1981).

8. H.H. Ong, J.A. Profitt., V.B. Anderson, T.C. Spaulding, J.C. Wilker, and H.M. Geyer, III, "Tricyclics with Antidepressant Activity. 2. (Alkylamino)ethylthiodibenzo [b,f] thiepins and 10,11-dihydro derivatives," J. Med. Chem., **25**, 1150 (1982).

9. H.H. Ong, J.A. Profitt, J. Fortunato, E.J. Glamkowski, D.B. Ellis, H.M. Geyer, III, J.C. Wilker, and H. Burghard, "Novel Tetracyclic Spiropiperidines. 3. 1-Arylspro-[indoline-3,4'-piperidine]s as Potential Antidepressants," J. Med.Chem., **26**, 981 (1983).

10. J.J. Tegeler, H.H. Ong, and J.A. Profitt, "Synthesis of (Dihydrobenzoxathiinyloxy) Acetic Acids," J.Het. Chem., **20**, 867 (1983).

11. H.H. Ong, S.R. Caldwell, J.A. Profitt, J.J. Tegeler, M.N. Agnew, J.C. Wilker, R.J. Ress, and J.M. Kitzen, "[6,7-Dichlorobenzo[b]thien-5-yl)oxy acetic acids and 1,1-dioxides. 1. A Structurally Novel Class of Diuretics with Hypotensive Activity," J. Med. Chem., **30**, 2293 (1987).

12. Pugia M, Newman DJ, Lott JA, D'Mello L, Clark L, Profitt JA, Cast T. "Detection of low-molecular-weight proteins in urine by dipsticks," Clin Chim Acta. 2002 Dec;326(1-2):177-83.

13. Pugia MJ1, Takemura T, Kuwajima S, Suzuki M, Cast TK, Profitt JA, Schulman LS, Ohta Y, Lott JA, "Clinical utility of a rapid test for uristatin," Clin Biochem. 2002 Mar;35(2):105-10.

14. Pugia MJ, Blankenstein G, Peters RP, Profitt JA, Kadel K, Willms T, Sommer R, Kuo HH, Schulman LS, "Microfluidic tool box as technology platform for hand-held diagnostics," Clin Chem. 2005 Oct;51(10):1923-32. Epub 2005 Jul 28.

15. Wang J, Profitt JA, Pugia MJ, Suni II, "Au nanoparticle conjugation for impedance and capacitance signal amplification in biosensors," Anal Chem. 2006 Mar 15;78(6):1769-73.

Conference Presentation

"Medical Diagnostics on the Surface-Where the Molecules Meet the Road." Speaker J. Profitt, Meeting of the Center for Advanced Materials Processing Meeting, Saratoga Springs, NY., (May 15, 2003).

Poster Presentations (Abstracts)

1. K.J. Vaulkner, D. Meyaard, J.A. Profitt, and L.J. Messenger, "Increased Standard Curve Storage Using Ames TDA^(R) Reagents on the OPTIMATETM Analyzer," AACC Convention, Clin. Chem., **31**, (6), 914 (1985).

2. R.A. Fredrickson, T.L. Belchak, M.M. Foltz, B.J. Loesch, J.A. Profitt, J.M. Yoder, and D.L. Morris, "An Immunometric Total Thyroxine Assay for Use with Dry Reagent Strips and a Reflectance Photometer," AACC Convention, Clin. Chem., **35**, (6), 1141 (1989).

3. J.M. Yoder, R.A. Fredrickson, M.M. Foltz, J.A. Profitt, and D.L. Morris, "A Rapid Non-Isotopic, Immunometric Assay for Free Thyroxine: Initial Results," AACC Convention, Clin. Chem., **36**, (6), 1148 (1990).

n. Gordon Conference
n. NKF Meeting, Orlando

n. Pujia M.J., Kuo H.H., Schulman L.S., Profitt J.A., Peters R.P., Kadel K, Blankenstein G., Willms T.. Diagnostics Division, Bayer HealthCare, Tarry town NY, and microParts GmbH, Dortmund, Germany, "Microfluidic Toolbox as Technology Platform for Hand-Held Diagnostics," 37th Annual Oak Ridge Conference, Baltimore, MD, Apr 14, 2005.

Education

M.S., Organic Chemistry, 8/73 - 6/75, degree date 12/75, University of Colorado, Boulder, CO.
Thesis: Pt. 1, "The Magnesium in Methanol Reduction of α,β Unsaturated Nitriles;" Pt. 2 "An Approach to the Total Synthesis of Adriamycin."

B.S., Chemistry, 9/69 - 6/73, Miami University, Oxford, OH.

Continued Education

(First 16 titles summarized to save space: Specific chemistry, Biochemistry and Molecular Biology, Mainframe computing/ SAS Programming, Statistical analysis, Management)

More recent titles:

17. "Electronics for Laboratory Instrumentation," H. Malmstat, A.C.S., 6/88.
18. "Introduction to Electronics," Miles, 1988.
19. "Fundamentals of Experimental Design," S. Deming and S. Morgan, A.C.S., 9/89.
20. "Introduction to Management," Miles, 1990
21. "A Concise Review of Basic Hematology and Morphology," Miles, 1990
22. "Influence," (Management) Miles, 1991
23. "Quality Engineering: Dynamic Characteristics and Measurement Engineering," (Advanced Taguchi Methods) Shin Taguchi, 1992
24. "Marketing Excellence," Bayer, Apr 7-10, 2003
25. "Microsoft VisualBasic.NET, course 2559B," December, 2004
26. "LabView, Core 1 and 2," National Instruments, April 2009

Professional Organizations

1. American Chemical Society

Personal

Married (Karen, Retired School Librarian), two children (Jeremy & Christine, out of college), own home.

Outside Interests

President, Precision Light Fabrication, Inc. (small laser business, www.PrecisionLightFabrication.com), Art (www.SundanceMtnArt.com), Aviation (Instrument rated pilot, former WINGS Inc. club president, www.ElkhartWings.org), Microelectronics, Computing, Camping, Canoeing, Running, Woodworking, SoCo Miata club.

References:

David Wyatt, Project Associate (current contact info on request)
James Albarella, Ph.D., former supervisor (current contact info on request)
Marvin Motsenbocker, Ph. D., former supervisor, mmotsenbocker@hewm.com, (540) 373-8976
Alan Mc Cleary, Ph.D., former supervisor (574) 257-7795
Steven Charlton, Ph. D., former coworker, charltonconsulting@att.net
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