

## David W. Schiering, Ph.D. – Curriculum Vitae

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### **CONTACT INFORMATION**

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### **PROFESSIONAL EXPERIENCE**

**908 Devices, Inc.** (5/24 – present)  
908 Devices Fellow

**CAM2 Technologies, LLC (dba RedWave Technology & Czitek)** (3/15 – 4/24)  
Co-Founder, Chief Technology Officer and Managing Partner

**Sacred Heart University, Department of Chemistry** (12/17 – 5/18)  
Adjunct Professor of Chemistry, Graduate Lecturer in Analytical Spectroscopy

**Miami University, Department of Chemistry** (10/14-12/24)  
Adjunct Assistant Professor of Chemistry

**Smiths Detection, Inc.** (06/04 – 02/15)  
Vice President, Science and Technology (08/11 – 02/15)  
Vice President, Research and Development – Danbury (08/05-08/11)  
Director of Product Management – Danbury (06/04-08/05)

**SensIR Technologies, LLC** (10/00-06/04)  
Director of Product Management

**Thermo Electron Corp. (*Spectra-Tech, Inc., Subsidiary*)** (9/94 – 10/00)  
Director of Technology (3/98 – 10/00)  
Director of Marketing (9/94 – 3/98)

**Perkin-Elmer Corp.** (1/86 – 9/94)  
Senior Staff Scientist, IR Product Department

### **EDUCATION**

**Miami University, Oxford, OH 45056. Ph.D. Chemistry, 1985.**  
Thesis title: "Applications of Vibrational Spectroscopy – Structural and Analytical Studies."  
Aided in the establishment of the Molecular Microspectroscopy Laboratory (MML) in the Department of Chemistry.

**Georgetown College, Georgetown, KY 40324. B.S. Chemistry, 1980.**

### **AWARDS AND HONORS**

Coblentz Society Williams Wright Award for Industrial Vibrational Spectroscopy (2025)  
Society for Applied Spectroscopy, Fellow (2018)  
Coblentz Society (Vibrational Spectroscopy Professional Society) Honorary Membership Award (2011)  
Coblentz Society Student Award (1983)

### **OTHER**

DSS Security Clearance – SECRET (2005-2015)

## **PUBLICATIONS**

32. "Field-portable detection of fentanyl and its analogs: A review," Richard A. Crocombe, Greg Giuntini, David W. Schiering, Luisa T. M. Profeta, Michael D. Hargreaves, Pauline E. Leary, Christopher D. Brown, Jessamyn Ward Chmura, *J Forensic Sci.*, **68**, 1570 (2023).
31. "Design Considerations for Portable Mid-Infrared FTIR Spectrometers used for In-Field Identifications of Threat Materials," David W. Schiering and John T. Stein, *Portable Spectrometers and Spectrometry, 1: Technologies and Instrumentation*, Richard Crocombe, Pauline Leary, and Brooke Kammrath, eds., John Wiley & Sons, Inc., Hoboken, NJ, (2021).
30. "Technological Advances Make Low-Cost Infrared Microspectroscopy Routine," Bethany Renstrom, Kelly Minuskin, Bryce Egan, Andre J. Sommer, David W. Schiering, and Gregg Ressler, *Microscopy Today*, **28**, 26-32 (2020).
29. "Dual Spectrometer," David W Schiering, Maxim Frayer, and Peng Zou, US Patent 9869585 (2018).
28. "Product Contamination Visualization and Identification Using FTIR Microspectroscopy," David W. Schiering, Anthony W. Didomenico, and John A. Seelenbinder, *Am. Lab.*, (Oct., 2017) 21-23.
27. "Performance trade-off modeling for a handheld FTIR spectrometric vapor identifier," David W. Schiering, Josep Arnó, Robert G. Messerschmidt, and Peng Zou, *Proceedings of SPIE 7680*, 76800R1-10 (2010).
26. "Towards the Characterization of Biological Toxins using Field-Based FT-IR Spectroscopic Instrumentation," David W. Schiering, Robert B. Walton, Chris W. Brown, M. L. Norman, Joseph Brewer, and James Scott, *Proceedings of SPIE*, 5585, 21-32 (2004).
25. "An FT-IR Sensor for Identifying Chemical WMD and Hazardous Materials," Mark L. Norman, Aaron M. Gagnon, John A. Reffner, David W. Schiering, and Jeffrey D. Allen, *Proceedings of SPIE*, 5269, 143-149 (2004).
24. "The TravellIR Haz-Mat Chemical Identifier," David W. Schiering, *Fire Engineering*, 98-99 (May 2003).
23. "A Dual Confocal Aperturing Microscope for IR Microspectrometry," D. W. Schiering, T. J. Tague, Jr., J. A. Reffner, and S. H. Vogel, *Analisis*, **28**, 46 (2000).
22. "Infrared Microspectroscopy of Single Fibers - A Cause for Caution in Spectral Interpretation?", David W. Schiering and Peter G. Troost, *Fourier Transform Spectroscopy - Twelfth International Conference*, K. Itoh, M. Tasumi, Eds., Waseda University Press, Tokyo, 283, (1999).
21. "An FT-NIR Diffuse Reflectance Accessory Based on a Concentric Parabolic Concentrator Design," S. R. Lowry, W. McCarthy, D. W. Schiering, C. F. Bauls, S. Vogel, A. Nara, and M. Komatsu, *Fourier Transform Spectroscopy - Twelfth International Conference*, K. Itoh, M. Tasumi, Eds., Waseda University Press, Tokyo, 307, (1999).
20. "Analysis of Printed Paper via Micro-ATR Mapping," P. Troost, J. W. Hellgeth, D. W. Schiering, and T. J. Tague, Jr., *Microscopy Today*, **98**, 16 (Jan. 1998).
19. "A New Infrared Microspectrometer Accessory for External and Internal Reflection Spectroscopy," J. A. Reffner, G. Ressler, D. W. Schiering, and W. T. Wihlborg, *Mikrochim. Acta*, **14**, 333 (1997).
18. "Direct Monitoring of Combinatorial Chemistry Reactions by Infrared Microspectroscopy," Pamela A. Martoglio, David W. Schiering, Matthew J. Smith, and Daniel T. Smith, *Microscopy Today*, April 1996
17. "Infrared Mapping Microspectroscopy of a Latex Neuroanatomical Probe in Brain Tissue," D. W. Schiering, D. Rapoza, R. D. Madison, R. G. Messerschmidt, and D. T. Kuehl, *9th International Conference on Fourier Transform Spectroscopy - Proc. SPIE 2089*, J.E. Bertie and H. Weiser, Eds., pp 120-1 (1993).
16. L. Avila and D W Schiering, *Basic Techniques and Experiments for the 1600 FT-IR*, Perkin-Elmer Corporation, Norwalk, Connecticut (1993).
15. "An FT-IR Microscope," D. W. Schiering, E. F. Young, and T. J. Byron, *Am. Lab.*, **22**, 26 (1990).
14. "A Turn-Key Method for the Verification of Polymer Products," D. W. Schiering, B. J. McGrattan, and R. A. Hoult, *Am. Lab.*, **21**, 34 (1989).

13. "Infrared Spectral Discrimination : The Use of a Filtering Correlation Function for Materials Characterization," B. J. McGrattan, D. W. Schiering, and R. A. Hoult, *Spectroscopy*, 4, 39 (1989).
12. "Applications of Fourier Transform NIR/Raman," R. W. Hannah, A. Ganz, D. Schiering, and R. Larsen, *Proceedings of SPIE*, 1145, 286 (1989).
11. "A Beam Condenser / Miniature Diamond Anvil Cell Accessory for the Infrared Microspectrometry of Paint Chips," David W. Schiering, *Appl. Spectrosc.*, 42, 903 (1988).
10. "Prinzipien und Anwendungen der Infrarot-Mikroskopie," D. W. Schiering, J. Oelichmann, and A. Rau, *Infrared Spectrosc.*, Bodensee Perkin-Elmer & Co., 23 (1988).
9. "Infrared Microspectrometric Solutions to Manufacturing and Quality Control Problems," D. W. Schiering, *Infrared Microspectroscopy : Theory and Applications*, R. G. Messerschmidt and M. A. Harthcock, Eds., Marcel Dekker, New York, 229, (1988).
8. "An Infrared Spectroscopic Investigation of the Curing Reactions of the EPON-828 / Meta-Phenylenediamine System," D. W. Schiering, J. E. Katon, L. T. Drzal, and V. B. Gupta, *J. Appl., Polym., Sci.*, 34, 2367 (1987).
7. "Instrumental and Sampling Factors in Infrared Microspectroscopy," J. E. Katon, P. L. Lang, D. W. Schiering, and J. F. O'Keefe, *The Design, Sample Handling, and Applications of Infrared Microscopes - ASTM STP 949*, P. B. Roush, Ed., American Society for Testing and Materials, Philadelphia, 49, (1987).
6. "The Identification of Fibers by Infrared and Raman Microspectroscopy," P. L. Lang, J. E. Katon, J. F. O'Keefe, and D. W. Schiering, *Microchem. J.*, 34, 319 (1986).
5. "Characteristic Infrared Absorption Frequencies of the Enol Group of 1,3-Dicarbonyl Compounds," D. W. Schiering and J. E. Katon, *Appl. Spectrosc.*, 40, 1049 (1986).
4. "Application of Infrared and Raman Microspectroscopy to Polymer Characterization," P. L. Lang, J. E. Katon, D. W. Schiering, and J. F. O'Keefe, *Polym. Mater. Sci. Eng.*, 54, 381 (1986).
3. "The Vibrational Spectra and Structures of Dimethyl Oxaloacetate and Dimethyl Oxaloacetate-d<sub>2</sub>," D. W. Schiering and J. E. Katon, *Spectrochim. Acta*, 42A, 487 (1986).
2. "The Vibrational Spectra and Structure of Oxaloacetic Acid," D. W. Schiering and J. E. Katon, *J. Mol. Struct.*, 144, 71 (1986).
1. "The Vibrational Spectra and Structure of 4-Methyl Oxaloacetate (Carbomethoxypyruvic Acid)," D. W. Schiering and J. E. Katon, *J. Mol. Struct.*, 144, 25 (1986).