**Pietro Strobbia - Curriculum Vitae**

[pietro.strobbia@uc.edu](mailto:pietro.strobbia@uc.edu)

**Current Position:**

**Assistant Professor**, Department of Chemistry, University of Cincinnati

**Professional/Research Experience:**

**Postdoctoral Associate,** Biomedical Engineering Department, Duke University, September 2016 - August 2020

*Postdoctoral advisor: Prof. Tuan Vo-Dinh*

**Education:**

**Ph.D. in Chemistry**

University of Maryland Baltimore County 8/2016

*Thesis advisor: Prof. Brian M. Cullum*

Thesis title: Material Optimization of Multilayer-Enhanced Nanostructures

**B.S. in Chemistry**

Sapienza University of Rome 12/2011

*Thesis advisor: Prof. Camillo La Mesa*

Thesis title: Polymeric Mixtures and Relative Mechanisms of Phase Separation

**Research Support:**

NIH National Institute of Biomedical Imaging and Bioengineering (NIBIB); Title: *Designing a deployable and adaptable plasmonic sensing platform for infectious disease surveillance*; Role: **PI**; $1,333,935; 2024-2028.

Procter and Gamble collaboration agreement; Title: *SERS Characterization of Bacteria*; Role: **PI**; $25,000; 2023-2024.

Procter and Gamble collaboration agreement; Title: *Developing new SERS detection methods*; Role: **PI**; $10,000; 2022-2023.

University of Cincinnati URC-Faculty Scholars Research Award; Title: *Ultrasensitive and Multiplexed Biosensors for Viral Infection Diagnostics*; Role: **PI**; $25,000; 2021-2023.

**Awards:**

**A&S Faculty Development Fund Award**, College of Arts and Sciences, University of Cincinnati, 2024

**Excellence in Undergraduate Research Mentorship**, University of Cincinnati, 2023

**Research Launch Award**, Office of Research, University of Cincinnati, 2021

**A&S Faculty Development Fund Award**, College of Arts and Sciences, University of Cincinnati, 2021

**Gordon F. Kirkbright Bursary Award,** Association of British Spectroscopists (ABS trust), 2020

**Professional Service:**

**Co-Chair**, Smart Biomedical and Physiological Sensor Technology XI, SPIE Commercial + Scientific Sensing and Imaging, April 2024 - present

**Lead Organizer**, International Day of Light, Cincinnati Museum Center, Cincinnati OH, May 2023

**Program Committee**, Biosensors track, Bio-innovation Symposium, NH EPSCoR, June 2023

**Session Chair**, Smart Biomedical and Physiological Sensor Technology XI, SPIE Commercial + Scientific Sensing and Imaging, April 2022 – present

**Program Committee**, Smart Biomedical and Physiological Sensor Technology XI, SPIE Commercial + Scientific Sensing and Imaging, April 2022 - April 2024

**Session Chair**, SCIentific eXchange 2022, Covington KY, October 2022

**Volunteer**, National Chemistry Week, Cincinnati Museum Center, Cincinnati OH, 2022-2023

**Member**, Recruiting Committee, University of Cincinnati, September 2021 - February 2022

**Member**, Faculty Search Committee, University of Cincinnati, September 2021 - February 2022

**Member**, Graduate Admission Committee, University of Cincinnati, September 2020 - present

**Topic Editor**, Sensors MDPI, October 2020 - present

**Corporate Outreach Chair**, International Day of Light Colloquium, Duke University, May 2018

**Chair**, Professional Development Committee of GSA, University of Maryland Baltimore County, March 2015

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Reviewer role for the following organizations: *NSF, NIH, NIJ, University of Cincinnati Office of Research.*

Reviewer role for the following journals: *Optics Letters, Analytical Chemistry, ACS Sensors, Journal of Biomedical Optics, Optics Express, Biomedical Optics Express, Analytica Chimica Acta, Sensors & Actuators: B. Chemical, Journal of Selected Topics in Quantum Electronics, Biosensors, Optical Materials Express, Analytical and Bioanalytical Chemistry, The European Physical Journal, Applied Physics Letters, Applied Spectroscopy, Journal of Raman Spectroscopy, Nanomedicine, Plasmonics, IEEE Sensors, npj Biosesnsing, Angewandte Chemie International Edition.*

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**Invited Publications:**

2. L. N. Kissell#, M. Sheokand#, **P. Strobbia\***, “Rational design enabling aptamer-based sensors for surface-enhanced Raman detection of small molecules”, Journal of Raman Spectroscopy, **2023**, 54 (9), 966(special issue: Emerging Raman Investigators).

# = equal first author

\* = corresponding author

1. S. Quarin, **P. Strobbia**\*, “Recent Advances Towards Point-Of-Care Applications of Surface-Enhanced Raman Scattering Sensing”, Frontiers in Chemistry, **2021**, 9, 714113 (special issue: Novel SERS-active Materials and Substrates: Sensing and (Bio)applications).

**Publications:**

33. J. Li, V. Cupil-Garcia, H. N. Wang, **P. Strobbia**, B. Lai, J. Hu, M. Maiwald, B. Sumpf, T. P. Sun, K. M. Kemner, T. Vo-Dinh, “Plasmonics Nanorod Biosensor for In Situ Intracellular Detection of Gene Expression Biomarkers in Intact Plant Systems”, Biosensors and Bioelectronics, **2024**, *accepted*.

32. L. N. Kissell, D. Han, D. Vang, A. W. Cikanek, A. Steckl\*, **P. Strobbia**\*, “Improved Point-of-Care Detection of P. gingivalis Using Optimized Surface-Enhanced Raman Scattering in Lateral Flow Assays”, Sensors & Diagnostics, **2024**, *accepted*.

underlined = undergraduate author

31. A. Lux\*, M. Realini, A. Botteon, M. Maiwald, A. Müller, B. Sumpf, C. Miliani, P. Matousek, **P. Strobbia\***, C. Conti\*, “Advanced portable micro-SORS prototype coupled with SERDS for heritage science”, Analyst, **2024**, *accepted*.

30. L. N. Kissell, H. Liu, M. Sheokand, D. Vang, P. Kachroo, **P. Strobbia**\*, “Direct Detection of Tobacco Mosaic Virus in Infected Plants with SERS-Sensing Hydrogels”, ACS Sensors, **2024**, 9(1), 514.

29. S. Confederat, S. Lee, D. Vang, D. Soulias, F. Marcuccio, T. I. Peace, M. Andrew Edwards\*, **P. Strobbia\***, D. Samanta\*, C. Wälti\*, P. Actis\*, “Next-Generation Nanopore Sensors Based on Conductive Pulse Sensing for Enhanced Detection of Nanoparticles”, Small, **2024**, 20, 2305186.

28. T. J. McKenzie, T. Brunet, L. N. Kissell, **P. Strobbia**, N. Ayres, “Polydimethylsiloxane polymerized emulsions for acoustic materials prepared using reactive triblock copolymer surfactants”, ACS Applied Materials & Interfaces, **2023**,15(50), 58917.

27. S. M. Quarin, A. C. Macke, L. N. Kissell, M. S. Kelly, A. Dayananda, J. Ungvary, G. Stan, R. I. Dima, **P. Strobbia\***, “Design, Rationalization, and Automation of a Catalytic Sensing Mechanism for Homogeneous SERS Biosensors”, ACS Sensors, **2023**, 8(5), 2000.

26. D. Vang, **P. Strobbia\***, “Analysis of Nanostar Reshaping Kinetics for Optimal Substrate Fabrication”, Applied Spectroscopy, **2023**, 77(3), 270.

25. V. Cupil-Garcia, J. Q. Li, S. J. Norton, R. A. Odion, **P. Strobbia**, L. Menozzi, C. Ma, J. Hu, R. Zentella, M. I. Boyanov, Y. Z. Finfrock, D. Gursoy, D. Sholto Douglas, J. Yao, T. P. Sun, K. M. Kemner, T. Vo-Dinh, “Plasmonic nanorod probes’ journey inside plant cells for in vivo SERS sensing and multimodal imaging”, Nanoscale, **2023**, 15, 6396.

24. C. Conti\*, M. Catrambone, C. Colombo, E. Possenti, K. M. Rectenwald, M. Realini, **P. Strobbia\***, “Scientific investigation to look into the conservation history of a Tang Dynasty terracotta Dancing Horse”, Heritage Science, **2022**, 10, 128.

23. A. L. Keller, S. M. Quarin, **P. Strobbia**, A. E. Ross, “Platinum Nanoparticle Size and Density Impacts Purine Electrochemistry with Fast-Scan Cyclic Voltammetry”, Journal of The Electrochemical Society, **2022**, 169(4), 046514.

22. **P. Strobbia**, V. Cupil-Garcia, B. M. Crawford, A. M. Fales, T. J. Pfefer, Y. Liu, M. Maiwald, B. Sumpf, T. Vo-Dinh, “Accurate in vivo tumor detection using plasmonic-enhanced shifted-excitation Raman difference spectroscopy (SERDS)”, Theranostics, **2021**, 11(9), 4090.

21. V. Cupil-Garcia, **P. Strobbia**, B. M. Crawford, H. N. Wang, H. Ngo, Y. Liu, T. Vo-Dinh, “Plasmonic Nanoplatforms: From SERS Sensing to Biomedical Applications”, Journal of Raman Spectroscopy, **2021**, 52(2), 541.

20. P. V. Dukes#, **P. Strobbia**#, H. T. Ngo, R. A. Odion, D. Rocke, W. T. Lee, T. Vo-Dinh, “Plasmonic Assay for Amplification-free Cancer Biomarkers Detection in Clinical Tissue Samples”, Analytica Chimica Acta, **2020**, 1139, 111.

19. A. M. Fales, **P. Strobbia**, T. Vo-Dinh, I. K. Ilev, T. J. Pfefer, “3D-Printed phantoms for characterizing SERS nanoparticle detectability in turbid media”, Analyst, **2020**, 145(18), 6045.

18. B. M. Crawford, H. N. Wang, **P. Strobbia**, R. Zentella, Z. M. Pei, T. P. Sun, T. Vo-Dinh, “Plasmonic Nanobiosensing: from in situ plant monitoring to cancer diagnostics at the point of care”, Journal of Physics: Photonics, **2020**, 2, 034012.

17. B. M. Crawford, H. N. Wang, C. Stolarchuk, R. J. von Furstenberg, **P. Strobbia**, D. Zhang, X. Qin, K. Owzar, K. S. Garman, T. Vo-Dinh, “Plasmonic nanobiosensors for detection of microRNA cancer biomarkers in clinical samples”, Analyst, **2020**, 145(13), 4587.

16. **P. Strobbia**, R. Odion, M. Maiwald, B. Sumpf, T. Vo-Dinh, “Direct SERDS Sensing of Molecular Biomarkers in Plants under Field Conditions”, Analytical and Bioanalytical Chemistry, **2020**, 412, 3457.

15. **P. Strobbia**#, Y. Ran#,B. M. Crawford, V. Cupil-Garcia, R. Zentella, H. N. Wang, T. P. Sun, T. Vo-Dinh, “Inverse Molecular Sentinel-Integrated Fiberoptics Sensor for Direct and In Situ Detection of miRNA Targets”, Analytical Chemistry, **2019**, 91(9), 6345.

14. Y. Ran#, **P. Strobbia**#**,** V. Cupil-Garcia, T. Vo-Dinh, “Fiber-optrode SERS chemosensor using plasmonic silver-coated gold nanostars”, Sensors and Actuators B: Chemical, **2019**, 287, 95.

13. B. M. Crawford#, **P. Strobbia**#, H. N. Wang, R. Zentella, M. I. Boyanov, Z. M. Pei, T. P. Sun, K. M. Kemner, T. Vo-Dinh, “Plasmonic nanoprobes for in vivo multimodal sensing and bioimaging of microRNA within plants”, ACS Applied Materials and Interfaces, **2019**, 11(8), 7743.

12. **P. Strobbia**, T. Sadler, R. Odion, T. Vo-Dinh, “SERS in Plain Sight: A Polarization Modulation Method for Signal Extraction”, Analytical Chemistry, **2019**, 91(5), 3319.

11. J. Register#, M. Maiwald#, A. Fales, **P. Strobbia**, B. Sumpf, T. Vo-Dinh, “Shifted-Excitation Raman Difference Spectroscopy for the Detection of SERS-Encoded Gold Nanostar Probes”, Journal of Raman Spectroscopy, **2018**, 49(12), 1961.

10. R. A. Odion, **P. Strobbia**, T. Vo-Dinh, “Inverse Surface-Enhanced Spatially Offset Raman Spectroscopy (SESORS) Through a Monkey Skull”, Journal of Raman Spectroscopy, **2018**, 49(9), 1452 (cover).

9. P. Vohra, **P. Strobbia**, H. Ngo, T. Vo-Dinh, “Rapid Nanophotonics Assay for Head and Neck Cancer Diagnosis”, Scientific Reports, **2018**,8(1), 11410.

8. H. T. Ngo, E. Freedman, R. A. Odion, **P. Strobbia,** A. S. De Silva Indrasekara, P. Vohra, S. M. Taylor, T. Vo-Dinh, “Direct Detection of Unamplified Pathogen RNA in Blood Lysate using an Integrated Lab-in-a-Stick Device and Ultrabright SERS Nanorattles”, Scientific Reports, **2018**, 8(1), 4075.

7. **P. Strobbia**, R. A. Odion, T. Vo-Dinh, “Spectroscopic Chemical Sensing and Imaging: From Plants to Animals and Humans”, Chemosensors, **2018**, 6(1), 11.

6. N. B. Singh, C. Cooper, **P. Strobbia**, N. Prasad, C. H. Su, B. Arnold, F. S. Choa, “Nanomorphology and performance of pure and doped lead selenide for infrared detector”, Optical Engineering, **2017**, 56 (7), 077106.

5. **P. Strobbia**, A. Mayer, B. M. Cullum, “Improving Sensitivity and Reproducibility of SERS Sensing in Micro-environments Using Individual, Optically Trapped SERS Probes”, Applied Spectroscopy, **2017**, 71 (2), 279.

4. M. E. Farrell, **P. Strobbia**, B. M. Cullum, P. M. Pellegrino, “Surface Regeneration and Signal increase of Commercially Produced Surface enhanced Raman scattering (SERS) Substrates”, Applied Optics, **2017**, 56(3), B198-B213.

3. **P. Strobbia**, A. J. Henegar, T. Gougousi, B. M. Cullum, “Layered Gold and Titanium Dioxide Substrates for Improved Surface Enhanced Raman Spectroscopic Sensing”, Applied Spectroscopy, **2016**, 70(8), 1375.

2. **P. Strobbia**, E. Languirand, B. M. Cullum, “Recent advances in plasmonic nanostructures for sensing”,Optical Engineering, **2015**, 54(10), 100902-1.

1. F. Tardani, **P. Strobbia**, A. Scipioni, C. La Mesa, “Encapsulating carbon nanotubes in aqueous ds-DNA anisotropic phases: shear orientation and rheological properties”, RSC Advances, **2013**, 3, 25917.

**Book Chapters:**

1. **P. Strobbia**, A. Fales, “SERS probes and tags for biomedical applications”, 89-114, in “SERS for Point-Of-care and Clinical Applications”, Elsevier, Amsterdam NL, **2022**.

**Proceedings:**

20. D. Vang, J. Pahren, T. Cambron, **P. Strobbia**, “Label-free surface-enhanced Raman scattering (SERS) and machine learning for biological analysis”, Smart Biomedical and Physiological Sensor Technology XXI, **2024**, 13059, C-1.

19. J. Pahren, D. Vang, J. Caserta, **P. Strobbia**, T. Cambron, “Online characterization of bacteria culture using Raman and SERS”, Smart Biomedical and Physiological Sensor Technology XX, **2023**, 12548, 79.

18. V. Cupil-Garcia, J. Q. Li, R. Odion, **P. Strobbia**, B. M. Crawford, H. N. Wang, J. Hu, R. Zentella, K. M. Kemner, T. P. Sun, T. Vo-Dinh, “In vivo SERS monitoring in plants using plasmonic nanoprobes”, Plasmonics in Biology and Medicine XIX, **2022**, 11978, 0B.

17. **P. Strobbia**, V. Cupil-Garcia, R. Odion, B. M. Crawford, A. Fales, H. N. Wang, M. Maiwald, B. Sumpf, T. Vo-Dinh, "Translation of SERS sensing to real-world settings through the combination with shifted-excitation Raman difference spectroscopy (SERDS),” Plasmonics in Biology and Medicine XVIII, **2021**, 11661, 03-1.

16. V. Cupil-Garcia, **P. Strobbia**, Y. Ran, B. M. Crawford, H. N. Wang, R Zentella, T. P. Sun, T. Vo-Dinh, “Fiberoptics SERS sensors using plasmonic nanostar probes for detection of molecular biotargets”, Plasmonics in Biology and Medicine XVII, **2020**, 11257, 0O.

15. B. M. Crawford, **P. Strobbia**, H. N. Wang, R. Zentella, M. I. Boyanov, Z. M. Pei, T. P. Sun, K. M. Kemner, T. Vo-Dinh, “In vivo detection of microRNA within plants using plasmonic nanosensors”, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVII, **2019**, 11082, 15.

14. **P Strobbia**, Y Ran, BM Crawford, V Cupil-Garcia, R. Zentella, H. N. Wang, T. P. Sun, T. Vo-Dinh, “Inverse molecular sentinel-integrated fiber sensor for direct detection of miRNA targets”, Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XVII, **2019**, 11082, 2L.

13. R. A. Odion, **P. Strobbia**, T. Vo-Dinh, "Surface-enhanced spatially offset Raman spectroscopy (SESORS) for subsurface detection of nanostar probes,” Advanced Environmental, Chemical, and Biological Sensing Technologies XV, **2019**, 11007, 0I.

12. B. M. Crawford, **P. Strobbia**, H. N. Wang, R. Zentella, M. I. Boyanov, R. A. Odion, Z. M. Pei, T. P. Sun, K. M. Kemner, T. Vo-Dinh,, "In vivo nucleic acid detection and imaging within whole plants using plasmonic nanosensors,” Advanced Environmental, Chemical, and Biological Sensing Technologies XV, **2019**, 11007, 08.

11. **P. Strobbia**, B. M. Crawford, H. N. Wang, R. Zentella, M. I. Boyanov, Z. M. Pei, T. P. Sun, K. M. Kemner, T. Vo-Dinh, "Application of plasmonic nanoprobes for SERS sensing and imaging of biotargets in plant systems,” Plasmonics in Biology and Medicine XVI, **2019**, 10894.

10. H. N. Wang, J. K. Register, A. M. Fales, N. Gandra, **P. Strobbia**, E. H. Cho, A. Boico, G. M. Palmer, B. Klitzman, T. Vo-Din, “Implantable" smart tattoo" SERS nanosensors for in vivo detection of nucleic acid biotargets in a large animal model”, Plasmonics in Biology and Medicine XVI, **2019**, 10894.

9. R. A. Odion, **P. Strobbia**, B. M. Crawford, T. Vo-Dinh, "Direct detection of nanostar probes through a monkey skull using inverse surface-enhanced spatially offset Raman spectroscopy (SESORS),” Advanced Biomedical and Clinical Diagnostic and Surgical Guidance Systems XVII, **2019**, 10868

8. H. T. Ngo, **P. Strobbia**, P. Vohra, E. Freedman, A. S. De Silva Indrasekara, W. T. Lee, S. M. Taylor, T. Vo-Dinh, "A nanophotonic-based assay for point-of-care medical diagnostics of malaria in low and middle income countries,” Optics and Biophotonics in Low-Resource Settings V, **2019**, 10869.

7. R. A. Odion, **P. Strobbia**, T. Vo-Dinh, “Surface-enhanced spatially offset Raman spectroscopy (SESORS) for biomedical applications”, Advanced Biomedical and Clinical Diagnostic and Surgical Guidance Systems XVI, **2018**, 10484.

6. **P. Strobbia**, B. M. Crawford, H. N. Wang, T. Vo-Dinh, “Nanosensor for nucleic acid targets detection using SERS”, Advanced Environmental, Chemical, and Biological Sensing Technologies XIV, **2017**, 10215, 08.

5. H. T. Ngo, **P. Strobbia**, H. N. Wang, B. M. Crawford, A. M. Fales, T. Vo-Dinh, “Plasmonic nanochip for SERS chemical and biomedical sensing”, Advanced Environmental, Chemical, and Biological Sensing Technologies XIV, **2017**, 102150, 0G.

4. M. E. Farrell, **P. Strobbia**, D. A. Sarkes, D. N. Stratis-Cullum, B. M. Cullum, P. M. Pellegrino, “The development of Army relevant peptide-based surface enhanced Raman scattering (SERS) sensors for biological threat detection”, Smart Biomedical and Physiological Sensor Technology XIII, **2016**, 9863, 0B.

3. C. Cooper, **P. Strobbia**, E. Schultheis, N. Prasad, B. Arnold, F. S. Choa and N. B. Singh, “Growth and morphology of lead tin selenide for MWIR detectors”, Sensors for Extreme Harsh Environments II, **2015**, 9491, 04.

2. **P. Strobbia**, A. Henegar, T. Gougousi, B. M. Cullum, “Characterization of the role of oxide spacers in multilayer-enhanced SERS probes”, Smart Biomedical and Physiological Sensor Technology XII, **2015**, 9487, 0P.

1. **P. Strobbia**, B. M. Cullum, “Characterization of Ultrathin Oxide-Based Multilayer SERS Nanoprobes for Intracellular Sensing”, Smart Biomedical and Physiological Sensor Technology XI, **2014**, 9107, 08.

**Invited Presentations:**

13. **P. Strobbia**, “Advancing SERS Biosensors: From Translational Applications to New Design Mechanisms”, Gordon Research Conference (GRC) Bioanalytical Sensors, Newport RI, June 26, 2024.

12. **P. Strobbia**, “Advancing SERS biosensing through adaptable sensor design and field-ready applications”, Air Force Research Lab, Dayton OH, May 10, 2024.

11. **P. Strobbia**, “Raman in Heritage Science Applications”, ACS Cincinnati Chapter, Cincinnati OH, November 29, 2023.

10. **P. Strobbia**, “Surface-Enhanced Raman Scattering for Advanced Optical Sensing Applications”, Department of Chemistry and Biochemistry, Xavier University of Louisiana, New Orleans LA, November 9, 2023.

9. **P. Strobbia**, “Surface-Enhanced Raman Scattering for Advanced Optical Sensing Applications”, Department of Chemistry and Biochemistry, Denison University, Granville OH, October 24, 2023.

8. **P. Strobbia**, “SERS Biosensors for Early Diagnosis and Treatment Guidance in Plants”, SCIentific eXchange 2023, Reno NV, October 11, 2023.

7. **P. Strobbia**, “Developing SERS-based biosensors for in-situ detection of plant diseases”, SPIE Defense + Commercial Sensing, Orlando FL, May 1, 2023.

6. **P. Strobbia**, "Surface-Enhanced Raman Scattering for Advanced Optical Sensing Applications,” Department of Chemistry and Biochemistry, Rose-Hulman Institute of Technology, Terre Haute IN, March 20, 2023.

5. **P. Strobbia**, C. Conti, R. Odion, T. Vo-Dinh, P. Matousek, M. Realini, “Design of SORS Systems for Biomedical and Art Conservation Applications”, SCIentific eXchange 2022, Covington KY, October 4, 2022.

4. **P. Strobbia**, “Advancing SERS Biosensors for Diagnostic Applications”, SCIentific eXchange 2022, Covington KY, October 4, 2022.

3. **P. Strobbia**, " Surface-Enhanced Raman Scattering for Advanced Optical Sensing Applications,” Proctor and Gamble, March 24, 2022.

2. **P. Strobbia**, "Surface-Enhanced Raman Scattering for Advanced Optical Sensing Applications,” Department of Chemistry, Illinois State University, Normal IL, March 18, 2022.

1. **P. Strobbia**, "Translation of Biomedical and Bioanalytical Surface-Enhanced Raman Scattering (SERS) to Real-World Settings through the Combination with SERDS,” Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik, Berlin, Germany, February 19, 2021 (VIRTUAL).

**Presentations:**

18. J. Pahren, D. Vang, J. Caserta, (**P. Strobbia**), T. Cambron, “Online characterization of bacteria culture using Raman and SERS”, SPIE Commercial + Scientific Sensing and Imaging, Orlando FL, May 2, 2023. (POSTER)

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17. (**P. Strobbia**), V. Cupil-Garcia, R. Odion, B. M. Crawford, A. Fales, H. N. Wang, M. Maiwald, B. Sumpf, T. Vo-Dinh, "Translation of SERS sensing to real-world settings through the combination with shifted-excitation Raman difference spectroscopy (SERDS),” Photonics West: BIOS 2021, *Virtual*, March 6, 2021.

16. (**P. Strobbia**), B. M. Crawford, H. N. Wang, R. Zentella, M. I. Boyanov, Z. M. Pei, T. P. Sun, K. M. Kemner, T. Vo-Dinh, "Application of plasmonic nanoprobes for SERS sensing and imaging of biotargets in plant systems,” Photonics West: BIOS 2019, San Francisco CA, February 4, 2019.

15. H. N. Wang, J. K. Register, A. M. Fales, N. Gandra, (**P. Strobbia)**, E. H. Cho, A. Boico, G. M. Palmer, B. Klitzman, T. Vo-Din, “Implantable" smart tattoo" SERS nanosensors for in vivo detection of nucleic acid biotargets in a large animal model”, Photonics West: BIOS 2019, San Francisco CA, February 3, 2019. (POSTER)

14. R. A. Odion, (**P. Strobbia)**, B. M. Crawford, T. Vo-Dinh, "Direct detection of nanostar probes through a monkey skull using inverse surface-enhanced spatially offset Raman spectroscopy (SESORS),” Photonics West: BIOS 2019, San Francisco CA, February 3, 2019.

13. (**P. Strobbia)**, H. T. Ngo, P. Vohra, E. Freedman, A. S. De Silva Indrasekara, W. T. Lee, S. M. Taylor, T. Vo-Dinh, "A nanophotonic-based assay for point-of-care medical diagnostics of malaria in low and middle income countries,” Photonics West: BIOS 2019, San Francisco CA, February 3, 2019.

12. (**P. Strobbia)**, B. M. Crawford, H. N. Wang, T. Vo-Dinh, “Biosensors for Target Nucleic Acids Imaging Using SERS”, Pittcon 2018, Orlando FL, February 27, 2018.

11. (**P. Strobbia)**, B. M. Crawford, H. N. Wang, T. Vo-Dinh, “Biosensors for Cellular Nucleic Acids Detection Using SERS”, SCIentific eXchange 2017, Reno NV, October 9, 2017.

10. H. T. Ngo, (**P. Strobbia)**, H. N. Wang, B. M. Crawford, A. M. Fales, T. Vo-Dinh, “Plasmonic nanochip for SERS chemical and biomedical sensing”, SPIE Commercial + Scientific Sensing and Imaging, Anaheim CA, April 9, 2017.

9. (**P. Strobbia**), B. M. Crawford, H. N. Wang, T. Vo-Dinh, “Nanosensor for nucleic acid targets detection using SERS”, SPIE Commercial + Scientific Sensing and Imaging, Anaheim CA, April 9, 2017.

8. (**P. Strobbia**), A. J. Henegar, M. E. Farrell, T. Gougousi, B. M. Cullum, “Multi-layered SERS Substrates for Enhanced Sensing”, SPIE Commercial + Scientific Sensing and Imaging, Baltimore MD, April 18, 2016.

7. (**P. Strobbia**), A. Henegar, T. Gougousi, B. M. Cullum, “Gold-based Multi-layered Probes for Enhanced SERS”, SCIentific eXchange 2015, Providence RI, October 1, 2015. (POSTER)

6. (**P. Strobbia**), A. Henegar, T. Gougousi, B. M. Cullum, “Characterization of the role of oxide spacers in multilayer-enhanced SERS probes”, SPIE Sensing Technology + Application 2015, Baltimore MD, April 24, 2015.

5. (**P. Strobbia**), A. Henegar, T. Gougousi, B. M. Cullum, “Investigation of Ultrathin Oxide Films as Spacers for Multilayer-Enhanced SERS Substrates”, Pittcon 2015, New Orleans LA, March 3, 2015.

4. (**P. Strobbia**), B. M. Cullum, “Characterization of Multilayer SERS Enhancement Dependence on Spacer Properties in Ultrathin Oxide-Based Substrates”, SCIentific eXchange 2014, Reno NV, September 30, 2014.

3. (**P. Strobbia**), C. Klutse, H. Li, B. M. Cullum, “Multi-layered SERS Substrates for Improved Third Dimensional Electric Field Enhancement”, Flexible SERS Workshop, Washington University, St. Louis MO, June 26, 2014.

2. (**P. Strobbia**), B. M. Cullum, “Characterization of Ultrathin Oxide-Based Multilayer SERS Nanoprobes for Intracellular Sensing”, SPIE Sensing Technology + Application 2014, Baltimore MD, May 7, 2014.

1. (**P. Strobbia**), A. Mayer, C. Klutse, B. M. Cullum, “Evaluation of Multilayer SERS Nanoprobes for Enhanced Intracellular Sensing”, SCIentific eXchange 2013, Milwaukee WI, September 30, 2013.

**Professional Affiliations:**

2022 - present, member, Society for Applied Spectroscopy – Tristate Cincinnati Chapter

2015 - present, member, American Chemical Society

2015 - 2017, vice-chair, UMBC Chapter of Material Advantage

2015 - 2018, member, Material Advantage

2014 - 2017, senator, Graduate Student Association

2014 - 2015, chair, Professional Development Committee of GSA, UMBC

2013 - present, member, Society for Applied Spectroscopy

2013 - present, member, Society of Photo-Optical Instrumentation Engineers (SPIE)

**Teaching Experience:**

**Guest Lecturer**, *Decoding Artifacts with Chemistry*, Department of Chemistry, Northern Kentucky University, Spring 2024

**Lecturer**, *Physical Chemistry II*, Department of Chemistry, University of Cincinnati, Spring 2024

**Lecturer**, *Survey of Biochemistry*, Department of Chemistry, University of Cincinnati, 2021 - 2022

**Guest Lecturer**, *Applied Spectroscopy*, Department of Chemistry, University of Cincinnati, Fall 2021

**Guest Lecturer**, *Sensors*, Department of Chemistry, University of Cincinnati, Spring 2021

**Lecturer**,*Physical Chemistry Laboratory*, Department of Chemistry, University of Cincinnati, 2020 - present

**Guest Lecturer**, *The Applications in Chemical Sensors*, Chemical Engineering Department, University of New Hampshire, April 2020

**Guest Lecturer**,*Advances in Photonics*, Biomedical Engineering Department, Duke University, March 2019

**Participant**,2019 Postdoc to Faculty Workshop (P2F), American Chemical Society, July 2019

**Guest Lecturer**, *Frontiers in Biomedical Science*, Medical Physics Department, Duke University, March 2018 and March 2019

**Team Leader**, Summer Research Program in Baltimore at the Interface between Science and Art, June - July 2016

**Teaching Assistant**,*Physical Chemistry Lab I and II and Advanced Instrumental Analysis Lab*,Chemistry and Biochemistry Department**,** University of Maryland Baltimore County, September 2012 - May 2016

**Students’ Committees:**

Steven Quarin (PhD - Chair)

Der Vang (PhD - Chair)

Lutfun Naher (PhD - Chair)

Manisha Sheokand (PhD - Chair)

Adewale Adehinmoye (PhD - Chair)

Niloufar Yavari (PhD - Chair)

Dr. Mohammad Sadegh Avestan (PhD, 2021)

Dr. Deanté Judkins (PhD, 2022)

Dr. Dimitri Govorov (PhD, 2023)

Maria Kelly (PhD)

Audrey Pumford (PhD)

Juhyeon Park (PhD)

Moriah Wesse (PhD)

Alex Keller (PhD)

Ben Crabtree (PhD)

Dinindu Mendis (PhD)

Adam McHenry (PhD BME)

Hayden Dennison (PhD)

Esther Agbaje (PhD)

Fatma Hassan (PhD)

Uchenna Mbadozie (PhD)