

CURRICULUM VITAE

FEI YAN, Ph.D.

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EDUCATION

Ph.D.	Analytical Chemistry, State University of New York at Binghamton	2001
M.S.	Radiochemistry, Peking University (China)	1995
B.S.	Chemistry, Jiangxi University (China)	1990

EXPERIENCE

2021- Present Professor, Department of Chemistry and Biochemistry, NCCU, NC
2017 - 2021 Associate Professor, Department of Chemistry and Biochemistry, NCCU, NC
2010 - 2017 Assistant Professor, Department of Chemistry and Biochemistry, NCCU, NC
2006 – 2010 Senior Research Scientist, Department of Biomedical Engineering, Duke University
2005 – 2006 Analytical Chemist, Advanced Technology Materials Inc., TX
2003 – 2005 Postdoctoral Fellow, Life Sciences Division, Oak Ridge National Laboratory, TN
2001 – 2003 Postdoctoral Fellow, Department of Chemistry, University of Michigan, MI
1996 – 2001 Research/Teaching Assistant, Department of Chemistry, SUNY at Binghamton, NY
1995 – 1996 Project Manager, Office of Technology Transfer, Peking University, China

AWARDS & HONORS

2019 Excellence in Research Award, College of Arts and Sciences, NCCU
2016 Excellence in Research Award, College of Arts and Sciences, NCCU
2013 Excellence in Research Award, College of Arts and Sciences, NCCU
2011 New Investigator Award, North Carolina Space Grant
2002 Distinguished Dissertation Award, SUNY at Binghamton

SYNERGISTIC ACTIVITIES

2020 – Present Member, Graduate Council, College of Health and Sciences, NCCU
2020-2021 Faculty Mentor, Duke University Graduate School Preparing Future Faculty (PFF) Program.
2020 Chair, Program Review Self-study Plan Ad-Hoc Committee, Department of Chemistry and Biochemistry, NCCU.
2018 – Present Alternate Senator, Faculty Senate, NCCU
2018 *Ad-Hoc* Proposal Reviewer, National Foundation for Science and Technology Development of Vietnam (NAFOSTED).
2017 - Present Graduate Program Director, Department of Chemistry and Biochemistry, NCCU
2017 *Ad-Hoc* Proposal Reviewer, Chemical Measurement and Imaging Program, National Science Foundation (NSF)
2016 –2019 Member, Curriculum Committee, College of Arts and Sciences, NCCU
2014 - 17 Senator, Faculty Senate , NCCU
2015 – 17 Member, Curriculum & Academic Planning Committee, Faculty Senate, NCCU
2016, 2012 Panelist, Environmental Chemistry Science Program, NSF

- 2015 *Ad-Hoc* Proposal Reviewer, Historically Black Colleges and Universities Undergraduate Program (HBCU-UP), NSF
- 2015 *Ad-Hoc* Proposal Reviewer, Centers of Research Excellence in Science and Technology program, NSF
- 2014 - 15 Member, Academic Policies Committee, Faculty Senate, NCCU
- 2012 - 14 Alternate Senator, Faculty Senate, NCCU
- 2013 *Ad hoc* proposal reviewer, ACS Petroleum Research Fund, American Chemical Society
- 2012 - 2015 Guest Instructor, Spring & Fall Saturday Explorations in Science and Mathematics workshops. The Shodor Education Foundation.
- 2012 - 2014 *Ad-Hoc* Proposal Reviewer, The Portuguese Foundation for Science and Technology (FCT): Fundação para a Ciência e a Tecnologia
- 2012 Book Proposal Reviewer, ACS Books, American Chemical Society
- 2007 Panelist, U. S. Environmental Protection Agency (EPA), Detection and Monitoring of Engineered Nanoparticles, Human Exposure/bioavailability of Nanoparticles
- 2006 Invited speaker, Sensors for Food Security and Defense Section, Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON)
- 2004 *Ad-Hoc* Reviewer, Small Business Grant Application, U.S. Army Research Office
- 2002 – present Manuscript Reviewer for peer-reviewed journals:
- | | |
|--|---|
| ACS Applied Materials & Interfaces | ACS Combinatorial Science |
| Acta Biomaterialia | Acta Chimica Slovenica |
| Advanced Functional Materials | Advanced Optical Materials |
| Advanced Science | The Analyst |
| Analytical and Bioanalytical Chemistry | Chemical Engineering Journal |
| Chemosphere | Chemical Engineering Science |
| Ecological Engineering | Desalination and Water Treatment |
| Frontiers in STEM | Fuel |
| International Journal of Nanomedicine | Journal of Chemical Education |
| Journal of Experimental Nanoscience | Journal of Forensic Research |
| Journal of Materials Chemistry B | Journal of Physical Chemistry C |
| Journal of Raman Spectroscopy | Journal of Vacuum Science and Technology |
| Journal of Visualized Experiments | Journal of Zhejiang University |
| Light: Science & Applications | Molecular Biology Reports |
| Molecules | Nano-Macro Letters |
| New Journal of Chemistry | Nanoscale |
| Nanomaterials and Nanotechnology | Nanoscale Research Letters |
| NPG Asia Materials | Process Safety and Environmental Protection |
| ScienceAsia | Spectrochimica Acta A |

PUBLICATIONS AT NCCU (* indicates corresponding author)

1. B. Adhikari, T. B. Limbu, K. Vinodgopal, F. Yan*. Atmospheric-pressure CVD growth of two-dimensional 2H- and 1T'-MoTe₂ films with high-performance SERS activity. *Nanotechnology*. 2021,32, 335701. <https://doi.org/10.1088/1361-6528/abff8f>
2. B. Chitara, T. B. Limbu, J. D. Orlando, K. Vinodgopal, F. Yan*. 2-D Bi₂O₂Se nanosheets for nonenzymatic electrochemical detection of H₂O₂. *IEEE Sensors Letters*. 2020, 4, 1-4, Art no. 2000504. <https://doi.org/10.1109/LSENS.2020.3012300>.
3. B. Chitara, T. B. Limbu, J. D. Orlando, Y. Tang, F. Yan*. Ultrathin Bi₂O₂S nanosheets near-infrared photodetectors. *Nanoscale*. 2020, 12, 16285–16291. <https://doi.org/10.1039/D0NR02991B>.
4. T. B. Limbu, B. Chitara, M. Y. Garcia Cervantes, Y. Zhou, S. Huang, Y. Tang, F. Yan*. Unravelling the thickness dependence and mechanism of surface-enhanced Raman scattering on Ti₃C₂T_x MXene

- nanosheets. *Journal of Physical Chemistry C*. 2020, 124, 17772–17782. <https://doi.org/10.1021/acs.jpcc.0c05143>
5. T. B. Limbu, B. Chitara, M. Y. Garcia Cervantes, J. D. Orlando, S. Kumari, Q. Li, Y. Tang, F. Yan. Green synthesis of reduced $Ti_3C_2T_x$ MXene nanosheets with enhanced conductivity, oxidation stability, and SERS activity. *Journal of Materials Chemistry C*. 2020, 8, 4722–4731. <https://doi.org/10.1039/C9TC06984D>. Back Cover.
 6. J. D. Orlando, T. B. Limbu, B. Chitara, F. Yan*. One-pot electrospinning of polyvinylpyrrolidone/cellulose acetate/ TiO_2 nanofibrous membranes with enhanced photocatalytic properties. *Journal of Porous Materials*. 2020, 27, 911–918. <https://doi.org/10.1007/s10934-020-00866-4>
 7. J. D. Orlando, E. Kahn, C. Y. Wong, Y. Yeh, T. B. Limbu, B. Chitara, A. L. Elias, M. Terrones, F. Yan*. Ultrastrong Raman enhancement on gold nanoparticle-decorated transition metal dichalcogenides nanosheets for molecule detection. *Journal of Analytical Science*. 2019, 35, 811–816. <https://doi.org/10.13526/j.issn.1006-6144.2019.06.018>.
 8. O. Oladele, C. Chen, F. Yan, B. Vlahovic, Y. Tang*. Simulation and synthesis of silver dendritic nanostructures for surface-enhanced Raman scattering. *Mater. Express*. 2019, 9, 1082–1086. <https://doi.org/10.1166/mex.2019.1603>
 9. A. Moujahid, J. J. Bang, F. Yan*. Effect of mixing on reductive dechlorination of persistent organic pollutants by Fe/Pd nanoparticles. *Water Environment Research*. 2019, 91, 198–207. <https://doi.org/10.1002/wer.1018>
 10. H. Jia, C. Chen, O. Oladele, Y. Tang, G. Li, X. Zhang, F. Yan*. Cobalt doping of tin disulfide/reduced graphene oxide nanocomposites for enhanced pseudocapacitive sodium-ion storage. *Communications Chemistry*. 2018, 1, Article Number: 86. <https://doi.org/10.1038/s42004-018-0086-z>
 11. C. Chen, O. Oladele, Y. Tang, F. Yan*. Freestanding silver dendrite/graphene oxide composite membranes as high-performance substrates for surface-enhanced Raman scattering. *Materials Letters*. 2018, 226, 83–86. <https://doi.org/10.1016/j.matlet.2018.05.030>
 12. M. N. Mocanu, F. Yan*. Ultrasound-assisted interaction between chlorin-e6 and human serum albumin: pH dependence, singlet oxygen production, and formulation effect. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*. 2018, 190, 208–214. <https://doi.org/10.1016/j.saa.2017.09.017>
 13. C. Chen, Y. Tang, B. Vlahovic, F. Yan*. Electrospun polymer nanofibers decorated with noble metal nanoparticles for chemical sensing. *Nanoscale Research Letter*. 2017, 12:451. <https://doi.org/10.1186/s11671-017-2216-4>
 14. A. J. King, F. Yan*. Determining the total antioxidant capacity in blackberries using cyclic voltammetry: A quantitative analysis laboratory experiment. *The Chemical Educator*. 2017, 22, 100–103.
 15. M. A. Kerr, F. Yan*. Bromide-assisted anisotropic growth of gold nanoparticles as substrates for surface-enhanced Raman scattering. *Journal of Spectroscopy*. 2016. Article ID 3164247. <https://doi.org/10.1155/2016/3164247>
 16. M. A. Kerr, F. Yan*. Incorporating course-based undergraduate research experience into analytical chemistry laboratory curricula. *Journal of Chemical Education*. 2016, 93, 658–662. <https://doi.org/10.1021/acs.jchemed.5b00547>
 17. Y. K. Shrestha, F. Yan*. Determination of critical micelle concentration of cationic surfactants by surface-enhanced Raman scattering. *RSC Advances*. 2014, 4, 37274 – 37277. <https://doi.org/10.1039/C4RA05516K>
 18. J. M. Romeika, C. L. Spurgeon, F. Yan*. Spectroscopic studies of micelle-enhanced ligand exchange of gallium (III)/4-(2-pyridylazo) resorcinol complex by calf thymus DNA. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*. 2014, 117, 120–126. <https://doi.org/10.1016/j.saa.2013.07.113>
 19. J. M. Romeika, F. Yan*. Recent Advances in Forensic DNA analysis. *Journal of Forensic Research*. 2013, S12, 1–13. <https://doi.org/10.4172/2157-7145.S12-001>

20. F. Yan*, C.V. G. Reddy, Y. K. Shrestha, C. L. Spurgeon, A. B. Kummarapurugu, B. M. Fischer, T. Vo-Dinh. Determination of ferric ions by surface-enhanced Raman scattering based on desferrioxamine-functionalized silver nanoparticles. *Chemical Communications*. 2013, 49, 7962-7964. <https://doi.org/10.1039/C3CC43916J>
21. N. Kilibarda, S. E. Afton, J. M. Harrington, F. Yan, K. E. Levine*. Rapid speciation and determination of vanadium compounds using ion-pair reversed-phase ultra-high-performance liquid chromatography inductively coupled plasma-sector field mass spectrometry. *Journal of Chromatography A*. 2013, 1304, 121-126 . <https://doi.org/10.1016/j.chroma.2013.06.074>
22. J. L. Beard, F. Yan*. Forensic ink analysis using thin-layer chromatography combined with surface-enhanced Raman spectroscopy - An undergraduate instrumental analysis experiment. *The Chemical Educator*. 2013, 18, 131-135 . DOI 10.1007/s00897132483
23. F. Yan*. Plasmonic colorimetry: visual detection of environmentally relevant species. *International Journal of Environmental Technology and Management*. 2013, 16, 49-64. <https://www.doi.org/10.1504/IJETM.2013.050683>
24. J. Kim, Y. Yu, F. Yan, J. Bang, T. You, S. Lee*. A new strain of bacteria degrading TNT and 2,4/2,6-DNT from explosives-contaminated soil. *Atlas Journal of Biology*. 2012, 2, 116-124 . <http://doi.org/10.5147/ajb.v2i2.20>
25. J. Tao, X. Zhang, N. Guo, S. Chen, C. Huang, L. Zheng, Y. Li, G. Xu, Y. Ren, L. Yang, F. Hamze, F. Yan, Y. Tu*. Squamous cell carcinoma complicating discoid lupus erythematosus in Chinese patients: Review of the literature, 1964-2010. *Journal of the American Academy of Dermatology*. 2012, 66, 695-696. <https://doi.org/10.1016/j.jaad.2011.09.033>

PUBLICATIONS BEFORE NCCU

26. M. K. Gregas, F. Yan, J. Scaffidi, H. Wang, T. Vo-Dinh. Characterization of nanoprobe uptake in single cells: spatial and temporal tracking via SERS-labeling and modulation of surface charge. *Nanomedicine: Nanotechnology, Biology and Medicine*. 2011, 7, 115-122 .
27. F. Yan, C. V. G. Reddy, Y. Zhang, T. Vo-Dinh. A novel cyanide ion sensing approach based on Raman scattering for the detection of environmental cyanides. *Ecotoxicology and Environmental Safety*. 2010, 73, 1490-1494.
28. W. B. Musundi, F. Yan, T. Vo-Dinh. Plasmonics nanoprobe: detection of single nucleotide polymorphisms in the breast cancer BRCA1 gene. *Analytical and Bioanalytical Chemistry*. 2010, 398, 729-736.
29. C. V. G. Reddy, F. Yan, Y. Zhang, T. Vo-Dinh. A highly sensitive Raman method for selective cyanide detection based on evaporated cuprous iodide substrate. *Analytical Methods*. 2010, 2, 458-460.
30. F. Yan, Y. Zhang, K. S. Kim, H. Yuan, T. Vo-Dinh. Intracellular photodynamic therapy using methylene blue-containing protein nanocages. *Photochemistry and Photobiology* 2010, 86, 662-666.
31. A. Dhawan, Y. Du, F. Yan, M. D. Gerhold, V. Misra, T. Vo-Dinh. Methodologies for developing surface-enhanced Raman scattering (SERS) substrates for detection of chemical and biological molecules. *IEEE Sensors Journal*. 2010, 10, 608-616.
32. F. Yan, Y. Zhang, H. Yuan, M. K. Gregas, T. Vo-Dinh. Apoferritin protein cages: A novel drug nanocarrier for photodynamic therapy. *Chemical Communications*. 2008, 4579-4581.
33. F. Yan, T. Vo-Dinh. Surface-enhanced Raman scattering detection of chemical and biological agents using a portable Raman integrated tunable sensor. *Sensors and Actuators. B Chemical*. 2007, 121, 61-66.
34. O. A. Sadik, F. Yan, Electrochemical biosensors for monitoring the recognition of glycoprotein-lectins interactions. *Analytical Chimica Acta*. 2007, 588, 292-296.
35. K. Chen, K. C. Vo-Dinh, F. Yan, M. B. Wabuye, T. Vo-Dinh. Direct identification of alizarin and lac dye on painting fragments using surface-enhanced Raman scattering. *Analytica Chimica Acta*. 2006, 569, 234-237.

36. K. Chen, M. Leona, K. C. Vo-Dinh, F. Yan, M. B. Wabuye, T. Vo-Dinh. Application of surface-enhanced Raman scattering (SERS) for the identification of anthraquinone dyes used in works of art. *Journal of Raman Spectroscopy*. 2006, 37, 520-527.
37. F. Yan, M. B. Wabuye, G. Griffin, A. A. Vass, T. Vo-Dinh. Surface-enhanced Raman scattering detection of chemical and biological agent stimulants. *IEEE-Sensors Journal*. 2005, 5, 665-670.
38. F. Yan, S. Williams, G. D Griffin, R. Jagannathan, S. E. Plunkett, K. H. Shafer, T. Vo-Dinh. Near-real-time determination of hydrogen peroxide generated from cigarette smoke. *Journal of Environmental Monitoring*. 2005, 7, 681-687.
39. T. Vo-Dinh, F. Yan, M. Wabuye. Surface-enhanced Raman scattering for medical diagnostics and biological imaging. *Journal of Raman Spectroscopy*. 2005, 36, 640-647.
40. M. Wabuye, F. Yan, G. Griffin, T. Vo-Dinh. Hyperspectral surface-enhanced Raman imaging (HSERI) of labeled silver nanoparticles in single cells. *Review of Scientific Instruments*. 2005, 76, 063710 (1-7).
41. F. Yan, H. Xu, J. Anker, R. Kopelman, B. Ross, A. Rehemtulla, R. Reddy. Synthesis and characterization of silica-embedded iron oxide nanoparticles for magnetic resonance imaging. *Journal of Nanoscience and Nanotechnology*. 2004, 4, 72-76.
42. O. A. Sadik, F. Yan. Novel fluorescent biosensor for pathogenic toxins using cyclic polypeptide conjugates. *Chemical Communications*. 2004, 1136-1137.
43. F. Yan, R. Kopelman. The embedding of meta-tetra (hydroxyphenyl) chlorin into silica nanoparticle platforms for photodynamic therapy and their singlet oxygen production and pH dependent optical properties. *Photochemistry & Photobiology*. 2003, 78, 587-591.
44. H. Xu, F. Yan, E. Monson, R. Kopelman. Room-temperature preparation and characterization of poly (ethylene glycol)-coated Stöber silica nanoparticles for biomedical applications. *Journal of Biomedical Materials Research* 2003, 66A, 870–879.
45. F. Yan, O. A. Sadik. Enzyme modulated cleavage of dsDNA for studying interfacial biomolecular interactions. *Journal of the American Chemical Society* 2001, 123, 11335-11340.
46. F. Yan, O. A. Sadik. Enzyme modulated cleavage of dsDNA for supramolecular design of biosensors. *Analytical Chemistry* 2001, 73, 5272-5280.
47. F. Yan, A. Erdem, B. Meric, K. Kerman, M. Ozsoz, O. A. Sadik. Electrochemical DNA biosensor for the detection of specific gene related to Microcystis species. *Electrochemistry Communications*. 2001, 3, 224-228.
48. F. Yan, R. McNally, E. J. Kontanis, O.A. Sadik. Preliminary quantitative investigation of postmortem adipocere formation, *Journal of Forensic Sciences*. 2001, 46, 185-190.
49. F. Yan, M. Ozsoz, O. A. Sadik. Electrochemical and conformational studies of microcystin-LR, *Analytica Chimica Acta*. 2000, 409, 247-255.
50. O. A. Sadik, M. M. Ngundi, F. Yan. Environmental biosensors for organochlorines, cyanobacterial toxins and endocrine disrupting chemicals. *Biotechnology Bioengineering*. 2000, 5, 407-412 .
51. M. Ji, X. Huang, F. Yan. Study on behavior mechanism of increase production and sugar of cane caused by silicon I Study on method of quantitative determination of different states silicon in sugarcane. *Journal of Nanchang University (Natural Science)*. 1993, 17, 50-54.

BOOK CHAPTERS

1. F. Yan, T. Vo-Dinh. “Methods & applications of metallic nanoshells in biology and medicine.” in *Nanotechnology in Biology and Medicine: Methods, Devices and Applications*. T. Vo-Dinh ed. CRC Press, FL, 2007, Chapter 30.
2. M. B. Wabuye, F. Yan, T. Vo-Dinh. “Cellular imaging and analysis using SERS-active nanoparticles”. in *Nanotechnology in Biology and Medicine: Methods, Devices and Applications*. T. Vo-Dinh ed. CRC Press, FL, 2007, Chapter 28

3. T. Vo-Dinh, F. Yan. "Gene diagnostics using SERS nanoprobe and nanostructures", in *Nanotechnology in Biology and Medicine: Methods, Devices and Applications*. T. Vo-Dinh ed. CRC Press, FL, 2007, Chapter 37
4. T. Vo-Dinh, F. Yan, M. B. Wabuye. "Surface-enhanced Raman scattering for biomedical diagnostics and molecular imaging", in *Surface-enhanced Raman Scattering - Physics and Applications*. In Topics Appl. Phys K. Kneipp, M. Moskovits, H. Kneipp eds. 2006, 103, 409-427.
5. T. Vo-Dinh, F. Yan. "Surface-enhanced Raman spectroscopy" in *Optical Chemical Sensors-International School of Quantum Electronics (NATO ASI Series)*. F. Baldini et al. eds. Springer, 2006, 239-259.
6. T. Vo-Dinh, F. Yan, D. L. Stokes. "Metallic nanostructures for surface-enhanced Raman scattering bioanalysis", in *Protein Nanotechnology*. T Vo-Dinh ed. Humana Press, NJ, 2005; 300:255-83.

CONFERENCE PROCEEDINGS

1. H. Wang, F. Yan, Y. Zhang, T. Vo-Dinh. Multiplex detection of biomarker mRNA for breast cancer using plasmonics nanoprobe Paper 6869-2., *Proc. SPIE*. (Proceedings of SPIE - The International Society for Optical Engineering) 2008, 6869, 686903 1-7.
2. A. Dhawan, F. Yan, Y. Zhang, M. Gerhold, T. Vo-Dinh. Nanoengineered surface-enhanced Raman scattering (SERS) substrates with patterned structures on the distal end of optical fibers. Paper 6869-15. *Proc. SPIE*. 2008, 6869., 68690G 1-10
3. M. K. Gregas, F. Yan, J. Scaffidi, H. Wang, C. Khoury, Y. Zhang, T. Vo-Dinh. Tracking SERS-active nanoprobe intracellular uptake for chemical and biological sensing, *Proc. SPIE*. 2007, 6755, 67550H 1-11.
4. K. Chen, M. Leona, K.C. Vo-Dinh, F. Yan, M. Wabuye, T. Vo-Dinh. Application of surface-enhanced Raman scattering (SERS) for the identification of anthraquinone dyes used in works of art, *Proc. SPIE*. 2005, 5993, 59930M 1-12.
5. M. B. Wabuye, M. E. Martin, F. Yan, D. L. Stokes, J. Mobley, B. M. Cullum, A. Wintenberg, R. Lenarduzzi, T. Vo-Dinh. Portable Raman device for detection of chemical and biological warfare agents, *Proc. SPIE*. 2005, 5692, 330-336.
6. M. B. Wabuye, F. Yan, G. D. Griffin, T. Vo-Dinh. Surface-enhanced Raman scattering molecular nanoprobe, *Proc. SPIE*. 2005, 5692, 209-215,
7. F. Yan, D.L. Stokes, M. Wabuye, G.D. Griffin, A. Vass, T. Vo-Dinh. Surface-enhanced Raman scattering (SERS) detection of chemical and biological agents, *Proc. SPIE* 2004, 5321, 302-308.
8. F. Yan, M. Wabuye, G. D. Griffin, T. Vo-Dinh. Metallic nanostructures for plasmonic sensors using surface-enhanced fluorescence and Raman detection, *Proc. SPIE* 2004, 5327, 53-59.
9. M. B. Wabuye, F. Yan, M. E. Martin G. D. Griffin, D.L. Stokes, D. N. Stratis-Cullum, J. Mobley, A. A. Vass, T. Vo-Dinh. Miniature biochip system for bioenvironmental applications, *Proc. SPIE*. 2004, 5586, 26-32,
10. M. B. Wabuye, M. E. Martin, F. Yan, D. L. Stokes, J. Mobley, B. M. Cullum, A. Wintenberg, R. Lenarduzzi, T. Vo-Dinh. Portable Raman integrated tunable sensor (RAMiTs) for environmental field monitoring, *Proc. SPIE*. 2004, 5586, 60-67.
11. R. Kopelman, H. Xu, F. Yan, E. E. Monson, W. Tang, R. Schneider, M. A. Philbert. Preparation and characterization of poly (ethylene glycol)-coated Stober silica nanoparticles for biomedical applications, *Proc. SPIE*, 2002, 3, 383-393.
12. O. A. Sadik, S. Brenda, M. Masila, F. Yan, J. Krautova. Novel biosensors for characterizing environmental endocrine chemicals, *Proceedings of the 15th Annual Waste Testing & Quality Assurance Symposium*, Arlington, VA, July 18-22, 1999, 176-177.
13. H. Xu, M. Masila, F. Yan, O. A. Sadik. Multiarray sensors for pesticides and toxic metals, *Proc. SPIE*. 1998, 3534, 437-445.

14. F. Yan, M. Masila, A. Sargent, O. A. Sadik. Sensors for direct monitoring of environmental pollutants, Proceedings of the 13th Annual Waste Testing & Quality Assurance Symposium, Arlington, VA, July 6-9, 1997, p46.
15. Ji, M.; X. Huang, F. Yan. Study on behavior mechanism of increase production and sugar of cane caused by silicon II: The distribution of different states of silicon, Proceedings of the 4th National Comprehensive Utilization of Agricultural By-Products Symposium, Chengdu, November, 1991, 816-817.

PRESENTATIONS

1. F. Yan. Two-dimensional layered materials: Structure, properties, and applications. MRSEC Virtual REU summer seminar series. Pennsylvania State University. University Park, Pennsylvania. June 5, 2020.
2. T. B. Limbu, M. Y. Garcia Cervantes, J. D. Orlando, B. Chitara, S. Kumari, Q. Li, Y. Tang, F. Yan. Room temperature green synthesis of reduced $Ti_3C_2T_x$ MXene nanosheets with enhanced conductivity and SERS activity. Spring 2020 American Chemical Society National Meeting, Philadelphia, PA. March 22 - 26, 2020.
3. M. Y. Garcia Cervantes, T. B. Limbu, J. D. Orlando, B. Chitara, S. Huang, Y. Tang, F. Yan. Synthesis, transfer, and surface-enhanced Raman Scattering Activity of $Ti_3C_2T_x$ MXene nanosheets. Spring 2020 American Chemical Society National Meeting, Philadelphia, PA. March 22 - 26, 2020.
4. J. D. Orlando, B. Chitara, T. B. Limbu, M. Terrones, A. L. Elias, F. Yan. Surface-enhanced Raman Scattering characteristics of gold nanoparticle-decorated WS_2 nanosheets. International School on Two-Dimensional Crystals and Photonics (2DCP) Tbilisi State University in Tbilisi, Georgia. September 9-14, 2019.
5. S. Joyner. F. Yan. Green synthesis of starch-stabilized silver nanoparticles for colorimetric detection of hydrogen peroxide. State of North Carolina Undergraduate Research & Creativity Symposium. Duke University, Durham, NC. November 23, 2019.
6. M. Y. Garcia Cervantes, T. B. Limbu, F. Yan. Controlled synthesis and transfer of $Ti_3C_2T_x$ MXene nanosheets with SERS performance. State of North Carolina Undergraduate Research & Creativity Symposium. Duke University, Durham, NC. November 23, 2019.
7. A. Mohammed, T. B. Limbu, B. Chitara, M. Y. Garcia Cervantes, J. A. Boggs, L. E. Odom, Y. Tang, F. Yan. 2D titanium carbide (MXene)/silver nanoparticle hybrid material for highly sensitive and selective surface-enhanced Raman scattering. 2019 MRS Spring Meeting & Exhibit.. Phoenix, Arizona. April 22-26, 2019.
8. J. D. Orlando, X. Dong, T. B. Limbu, L. Yang, F. Yan. Porous electrospun polymer/titanium oxide nanofibers hybrid composites for antibacterial photocatalytic activity. Spring 2019 American Chemical Society National Meeting, Orlando, FL. March 31 - April 4, 2019.
9. M. Y. Garcia Cervantes, T. B. Limbu, F. Yan. Gold nanoparticles–decorated two-dimensional titanium carbide (MXene) for highly efficient surface-enhanced Raman scattering. Spring 2019 American Chemical Society National Meeting, Orlando, FL. March 31 - April 4, 2019.
10. F. Yan. Plasmonic properties of noble metal nanoparticle-decorated 2D layered materials. MRSEC Spring 2019 Seminar Series, Pennsylvania State University. University Park, Pennsylvania. January 21, 2019.
11. C. Chen, O. Oladele, F. Yan, Y. Tang. Microwave-assisted synthesis of SnS_2 /RGO nanocomposites as anode materials for sodium-ion batteries. 2018 Materials Research Society (MRS) Spring Meeting. Phoenix, Arizona. April 2-6, 2018.
12. O. Oladele, C. Chen, Y. Tang, F. Yan. Melamine detection in milk using surface-enhanced . Raman scattering based on electro-spun polymer nanofiber decorated with silver dendrites. Southeast Regional Meeting of the American Chemical Society (SERMACS), Charlotte, NC, November 7-11. 2017.

13. C. Chen, O. Oladele, Y. Tang, F. Yan. Freestanding silver nanostructure/reduced graphene oxide nanocomposite membrane for surface-enhanced Raman scattering. SERMACS, Charlotte, NC, November 7-11, 2017.
14. O. Oladele, C. Chen, Y. Tang, F. Yan. Facile synthesis of SnS₂/RGO composite as a high performance anode for sodium ion batteries. State of North Carolina Undergraduate and Creativity Symposium. Campbell University. Buies Creek, North Carolina 27506. November 4, 2017.
15. F. Yan, Noble metal nanoparticle-based plasmonic sensing. Departmental seminar series, Department of Chemistry, University of North Carolina at Chapel Hill, Chapel Hill, NC. April 10, 2017.
16. F. Yan, Nanoplasmonics-based chemical and biological sensing. Dr. Booker Juma Seminar Series, Department of Chemistry and Physics, Fayetteville State University, Fayetteville, NC. March 21, 2017.
17. M. A. Kerr, F. Yan. Bromide-assisted anisotropic growth of surfactant-free gold nanoparticles. PITTCON, Atlanta, GA. March 6-10, 2016.
18. F. Yan, M. A. Kerr. Integrating authentic research experiences into undergraduate analytical chemistry. PITTCON. Atlanta, GA. March 6-10, 2016.
19. M. A. Kerr, K. C. Cotton, M. A. Watkins, F. Yan. Seedless, surfactantless, shape-controlled synthesis and characterization of gold nanoparticles. PITTCON, New Orleans, LA. March 8 - 12, 2015.
20. F. Yan, M. S. Smith, Y. K. Shrestha. Synthesis and characterization of multifunctional polymeric nanoparticles for targeted sonodynamic therapy. PITTCON, Chicago, IL. March 2 – 6, 2014.
21. Y. K. Shrestha, F. Yan. Determination of critical micelle concentration of cationic surfactants by surface-enhanced Raman scattering. PITTCON, Chicago, IL. March 2 – 6, 2014.
22. F. Yan, C. L. Spurgeon, Y. K. Shrestha. Micelle-enhanced nanoplasmonic colorimetry for DNA detection. PITTCON, Philadelphia, PA. March 17 – 21, 2013.
23. N. Kilibarda, F. Yan, K. Levine, S. E. Afton. Assessment of vanadium toxicity in a mouse model via IPRP-UPLC- ICP-SFMS. PITTCON, Philadelphia, PA. March 17 – 21, 2013.
24. F. Yan, J. M. Romeika. Micellar nanodroplet-assisted ligand exchange of metal complex by dsDNA. The Institute of Biological Engineering (IBE) Annual Meeting, Raleigh, NC. March 7-9, 2013.
25. J. L. Beard, F. Yan. Field detection of cyanide with gold nanoparticle-based plasmonic assays. State of North Carolina Undergraduate Research and Creativity Symposium (SNCURCS), Durham, NC. November 17, 2012.
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27. N. Kilibarda, K. Levine, F. Yan, S. Afton. Speciation and determination of vanadium compounds using UPLC- ICP-SFMS and UPLC-ICP-QMS. SERMACS, Raleigh, NC. November 14-17, 2012.
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29. F. Yan, J. O. Onabanjo, R. A. Usman, J. M. Romeika, Ultrasensitive SERS nanoprobe for selective detection of trivalent metal ions. PITTCON. Orlando, FL. March 11-15, 2012
30. J. O. Onabanjo, C. L. Spurgeon, F. Yan, Free iron detection by surface-enhanced Raman spectroscopy (SERS). The 125th Conference of the North Carolina Section of the American Chemical Society (NC-ACS), September 30, 2011.
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61. F. Yan, H. Xu, R. Kopelman, Synthesis and characterization of silica-coated monodispersed iron oxide nanoparticles for magnetic resonance imaging. PittCon, New Orleans, LA. March 17-22, 2002.
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CURRENT SUPPORT

1. National Science Foundation (Award # 1831133). Role: PI. \$500,001. 9/1/18-8/31/22. "Excellence in Research: Engineering Two-dimensional Transition Metal Dichalcogenide Nanomaterials for Sweat Sensing"
2. National Science Foundation (Award # DMR-2122044). Role: Co-PI (PI: Marvin Wu). \$3,825,000. 9/1/21-8/31/27. "NCCU-PSU Partnership for Research and Education in Nanoscale Materials"

PAST SUPPORT

1. National Science Foundation (Award # DMR-1523617). Role: Co-PI (PI: Kizhanipuram Vinodgopal, Former PI: Branislav Vlahovic). \$3,677,000. 9/1/15-8/31/21. “Partnership for Research and Education in Nanomaterials between Pennsylvania State University and North Carolina Central University”
2. Department of Education (P120A150022). Role: Co-PD (PD: Caesar R. Jackson). \$750,000 10/1/15-9/30/19. “From Learning Engagement to Self-Directed Learning in STEM”
3. National Science Foundation (Award # HRD-1238547) Implementation Grant: DREAM STEM-Driving Research, Entrepreneurship, and Academics through Mastering STEM [PI: Caesar R. Jackson, \$1,750,000; 10/1/12-9/30/16]. Role: Subaward PI; \$11,080 3/1/15-5/31/17. “Enhancing Student Learning in Analytical Chemistry Through Course-Based Research Experience”
4. National Science Foundation (Award # HRD-1238441). Role: PI. \$200,000; 8/15/12-7/31/16. “Research Initiation Award Grant: Ultrasensitive Plasmonic Nanoprobes for Monitoring of Intracellular Labile Iron Pools”
5. National Science Foundation (Award # HRD-1137462). Role: PI; \$300,000. 9/1/11-8/31/15. “Targeted Infusion Project: Enrichment of the B.S. Chemistry Program through the Implementation of Forensic Science Concentration at North Carolina Central University”
6. Department of Defense (DoD). Role: Co-PI (PI: K. Vinodgopal); \$496,000 1/1/14-12/31/14. “Acquisition of a Modular, Multi-laser, Raman-AFM Instrument for Multidisciplinary Research”
7. RTI International, Research Triangle Park, NC 27709. Role: PI (Partnering PI : K. E. Levine) \$40,000; 1/1/12-11/1/13. “Determination of Vanadium Speciation by UPLC/ICP-MS”
8. North Carolina Space Grant, New Investigators Program. Role: PI \$25,000; 7/1/11-9/30/13. “Surface Plasmon-based Colorimetric Detection of Reactive Oxygen Species: Assessing Radiation Damage to Astronauts on Extended Space Missions”
9. Quality Education for Minorities (QEM) Network, HBCU-UP Faculty Professional Development and Mentoring (PDM) Program. Role: Participant; \$71,763; 6/1/11 – 8/31/13. “Chemical and Biological Sensors Based on Surface-enhanced Raman Spectroscopy”
10. Provost, Faculty-Student Scholarly/Creative Productivity Initiative, NCCU. Role: PI; \$4,200. 5/16/11-6/29/11. “Plasmonic Nanoprobes for Colorimetric Detection of Fluoride Ion in Drinking Water”

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- Raoul Kopelman (post-gr. University of Michigan)
- Tuan Vo-Dinh (post-gr. Duke University, previously Oak Ridge National Laboratory)

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TOTAL NUMBER OF POSTDOCTORAL SCHOLARS SPONSORED: (3)

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