CURRICULUM VITAE

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EDUCATION

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

EXPERIENCE

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

AWARDS & HONORS

2019, 2016, 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

2025 Proposal reviewer, Czech Science Foundation - Grantová agentura České republiky, Czech Republic
2025 Panelist, Division of Chemical, Bioengineering, Environmental and Transport Systems (CBET), US NSF
2024 Proposal Reviewer, Electronic Sensing Program, U.S. Army Research Office
2023 – Present Member, Graduate Council, NCCU
2023 – Present Advisory Committee Member, INBS PhD Program, NCCU
2023 – Present Invited Organizer, Electronic Materials Conference (EMC)
2022 - 2023 Chair, Graduate Council, College of Health and Sciences, NCCU
2022 Panelist. Science, Mathematics, and Research for Transformation (SMART) Scholarship-for-Service Program. U.S. Department of Defense
2022 Reviewer, Marion Milligan Mason Award. American Association for the Advancement of Science
2021 - 2024 Member, University Faculty Portfolio Review Committee, NCCU
2021 - 2024 Alternate Senator, Faculty Senate, NCCU
2020 - 22 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 Proposal Reviewer, National Foundation for Science and Technology Development of Vietnam (NAFOSTED).
2017 - Present Graduate Program Director, Department of Chemistry and Biochemistry, NCCU

2017 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 Proposal Reviewer, Historically Black Colleges and Universities Undergraduate Program (HBCU-UP), NSF
2015 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 *P*roposal 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 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 Proposal Reviewer, Small Business Grant Application, U.S. Army Research Office

PUBLICATIONS

AT NCCU (* indicates corresponding author - 42)

1. Ouma, H. A.; Kumar, R.; Shringi, A. K.; Wang, K.; Keelson, O. G.; Walimbe, P. D.; Yan, F.* Cobalt-Doped Bismuth Oxysulfide Nanosheets for 4-Nitrophenol Reduction and Hydrogen Peroxide Sensing. *Bull. Mater. Sci.*, **submitted**.
2. Kumar, K.; Kumar, A.; Kumar, S.; Auti, C.; Shringi, A. K.; Yan, F.; Kumar, P.; Sahu, S.; Kumar, M. High-Performance UV Photodetector Based on $CuGaO_2$ Decorated WS_2 with Enhanced Responsivity and Ultrafast Response Time. *Physica Status Solidi (RRL) - Rapid Research Letters*, **in press**.
3. Shringi, A. K.; Kumar, R.; Chaurasiya, R.; Lin, J.; Doumon, N. Y.; Yan, F.* Bi_2O_2Se Nanosheets for Dual-Mode Electrochemical/Fluorescent Turn-Off Sensing of Ferric Ions. *Nanoscale*, **2025**, 17, 20400 – 20409. https://doi.org/10.1039/D5NR01593F**.**
4. Singh, L.*; Balakrishnan, S.; William, J. J.; Parveen, S.; Periasam, P. A.; Kumar, R.; Srivastava, A.*; Kumar, S.; Shringi, A. K.; Kumari, D.; Singh, A.; Yan, F.* Mechanistic Insights in Surface Engineering of Micro-/Nanocomposite Phase Change Materials for Thermal Energy Storage: A Review. *Adv. Energy Sustain. Res.* **2025**, e00067. https://doi.org/10.1002/aesr.202500067.
5. Keelson, O. G.; Kumar, R.; Shringi, A. K.; Ouma, H. A.; Walimbe, P. D.; Yan, F.* Structure and Electrochemical Properties of ReS_2–$LaFeO_3$ Nanocomposite for Dopamine Sensing. *Adv. Sens. Res.* **2025**, e00024. https://doi.org/10.1002/adsr.202500024.
6. Seling, T.; Songsart-Power, M.; Shringi, A. K.; Paudyal, J.; Yan, F*.; Limbu, T. B.* $Ti_3C_2T_x$ MXene-Based Hybrid Photocatalysts in Organic Dye Degradation: A Review. *Molecules* **2025**, *30*, 1463. https://doi.org/10.3390/molecules30071463.
7. Keelson, O. G.; Kumar, R.; Shringi, A. K.; Ouma, H. A.; Walimbe, P. D.; Yan, F*. Engineering Synergistic 2D/1D ReS_2–$LaFeO_3$ Nanohybrids for Enhanced Visible-Light-Driven Photocatalytic Performance. *Catalysts* **2025**, *15* (3), 224. https://doi.org/10.3390/catal15030224.
8. Kumar, S.; Kumar, R.; Goyal, N.; Parida, S. K.; Anshu, A.; Yadav, A.; Yan, F.; Sahoo, B*. Carbon Nanostructure with Bimetallic CoRu Alloy as Oxygen-Reducing Air Electrode for Zinc–Air Batteries. *J. Mater. Chem. A* **2025**, https://doi.org/10.1039/D4TA09282A.

9. Kumar, R.; Shringi, A. K.; Wood, H. J.; Asuo, I. M.; Oturak, S.; Sanchez, D. E.; Sharma, T. S. K.; Chaurasiya, R.; Mishra, A.; Asuo, I. M.; Choi, W. M.; Doumon, N. Y.; Dabo, I.; Terrones, M*.; Yan, F*. Substitutional Doping of 2D TMDs for Device Applications: Current Status, Challenges and Prospects. *Mater. Sci. Eng. R Rep.* **2025**, *163*, 100946. https://doi.org/10.1016/j.mser.2025.100946.
10. Sanchez Lemus, S.; Lin, J.; Kumar, R.; Keelson, O.; Shringi, A. K.; Yan, F.; Taylor, D. K.; Riaz, U*. Nitrophenylene-Decorated V_2O_5 Nanohybrids: Effect of Processing Conditions on Enhancing the Electrochemical Performance for Oxygen Reduction Reaction and Dopamine Sensing. *Microchem. J.* **2025**, *208*, 112453. https://doi.org/10.1016/j.microc.2024.112453.
11. Walimbe, P. D.; Kumar, R.; Shringi, A. K.; Keelson, O.; Ouma, H. A.; Yan, F*. Electrochemical Sensing of Hydrogen Peroxide Using Composite Bismuth Oxide/Bismuth Oxyselenide Nanostructures: Antagonistic Influence of Tungsten Doping. *Electrochem* **2024**, *5*, 455–469. https://doi.org/10.3390/electrochem5040030.
12. Yadav, A.; Kumar, R.; Joseph, D.; Thomas, N.; Yan, F.; Sahoo, B*. Impact of Dispersive Solvent and Temperature on Supercapacitor Performance of N-Doped Reduced Graphene Oxide. *C* **2024**, *10*, 89. https://doi.org/10.3390/c10040089.
13. Walimbe, P. D.; Kumar, R.; Shringi, A. K.; Keelson, O.; Ouma, H. A.; Yan, F*. Electrochemical Detection of H_2O_2 Using Bi_2O_3/Bi_2O_2Se Nanocomposites. *Nanomaterials* **2024**, *14*, 1592. https://doi.org/10.3390/nano14191592.
14. Swetha, B. M.; Kumar, R.; Yan, F.; Sahoo, B.* Photocatalytic 4-Nitrophenol Reduction by Hydrothermally Synthesized Mesoporous Co and/or Fe Substituted Aluminophosphates. *Catalysts* **2024**, *14*, 408. https://doi.org/10.3390/catal14070408.
15. Orlando, J.; Li, L.; Limbu, T. B.; Eckhart, K.; Wolf, M.; Vickery, W.; Yan, F.; Sydli, S*. Calcium Phosphate Graphene and $Ti_3C_2T_x$ MXene Scaffolds for Osteogenic Activity with Antibacterial Properties. *J. Biomed. Mater. Res. B Appl. Biomater.* **2024**, *12* (6), e35434. https://doi.org/10.1002/jbm.b.35434.
16. Shringi, A. K.; Kumar, R.; Yan, F*. Recent Advances in Bismuth Oxychalcogenides Nanosheets for Sensing Applications. *Nanoscale* **2024**, *16*, 10551–10565. https://doi.org/10.1039/D4NR00821A.
17. Shringi, A. K.; Kumar, R.; Dennis, N. F.; Yan, F*. Two-Dimensional Tellurium Nanosheets for the Efficient Nonenzymatic Electrochemical Detection of H_2O_2. *Chemosensors* **2024**, *12*, 17. https://doi.org/10.3390/chemosensors12020017.
18. Seling, T. R.; Shringi, A. K.; Wang, K.; Riaz, U.; Yan, F*. Bi_2O_2S Nanosheets for Effective Visible Light Photocatalysis of Anionic Dye Degradation. *Mater. Lett.* **2024**, *361*, 136136. https://doi.org/10.1016/j.matlet.2024.136136.
19. Seling, T. R.; Katzbaer, R. R.; Thompson, K. L.; Aksoy, S. E.; Chitara, B.; Shringi, A. K.; Schaak, R. E.; Riaz, U.; Yan, F*. Transition Metal-Doped CuO Nanosheets for Enhanced Visible-Light Photocatalysis. *J. Photochem. Photobiol. A Chem.* **2024**, *448*, 115356. https://doi.org/10.1016/j.jphotochem.2023.115356.
20. Chitara, B.; Dimitrov, E.; Liu, M.; Seling, T. R.; Kolli, B. S. C.; Zhou, D.; Yu, Z.; Shringi, A. K.; Terrones, M.; Yan, F*. Charge Transfer Modulation in Vanadium-Doped WS_2/Bi_2O_2Se Heterostructures. *Small* **2023**, 2302289. https://doi.org/10.1002/smll.202302289.
21. Chitara, B.; Shringi, A. K.; Roy, B.; Wu, M. H.; Yan, F*. Facile Synthesis and Morphology-Induced Photoconductivity Modulation of Bi_2O_2S Nanostructures. *Mater. Lett.* **2023**, *346*, 134545. https://doi.org/10.1016/j.matlet.2023.134545.
22. Riaz, U*.; Gaffar, S.; Hauser, K.; Yan, F. Visible-Light Induced Degradation of Diphenyl Urea and Polyethylene Using Polythiophene Decorated $CuFe_2O_4$ Nanohybrids. *Sci. Rep.* **2023**, *13*, 4975. https://doi.org/10.1038/s41598-023-30669-x.
23. Riaz, U.; Farooq, A.; Mir, N.; Nwanze, F. R.; Yan, F*. Synthesis, Characterization, and Biophysical Interaction Studies of Water Soluble Polypyrrole/Colythiophene Co-Oligomers with Bovine Serum Albumin and Human Serum Albumin: An Experimental and Theoretical Approach. *New J. Chem.* **2023**, *47*, 5667–5679. https://doi.org/10.1039/D2NJ05791C.
24. Riaz, U*.; Mir, N.; Nwanze, F. R.; Yan, F. Experimental and Biophysical Interaction Studies of Alanine Modified Polyaniline with Bovine Serum Albumin and Human Serum Albumin: Influence of Alanine Modification on the Spectral, Morphological and Electronic Properties. *Synth. Met.* **2023**, *292*, 117248. https://doi.org/10.1016/j.synthmet.2022.117248.

25. Dong, X.; Katzbaer, R. R.; Chitara, B.; Han, L.; Yang, L.; Schaak, R. E.; Yan, F*. Optimizing the Synergistic Effect of $CuWO_4$–CuS Hybrid Composites for Photocatalytic Inactivation of Pathogenic Bacteria. *Environ. Sci. Nano* **2022**, *9*, 4283–4294. https://doi.org/10.1039/D2EN00361A.
26. Dong, X.; Mitchell, D. G.; Garcia Cervantes, M. Y.; Chitara, B.; Yang, L.; Yan, *F. Rose Bengal-Integrated Electrospun Polyacrylonitrile Nanofibers for Photodynamic Inactivation of Bacteria. *Environ. Sci. Adv.* **2022**, *1*, 736–745. https://doi.org/10.1039/D2VA00166G.
27. Chitara, B.; Kolli, B. S. C.; Yan, F*. Near-Infrared Photodetectors Based on 2D Bi_2S_3. *Chem. Phys. Lett.* **2022**, *804*, 139876. https://doi.org/10.1016/j.cplett.2022.139876.
28. Limbu, T. B.; Kumari, S.; Wang, Z.; Dhital, C.; Li, Q.; Tang, Y.; Yan, F*. Ingeniously Enhanced Ferromagnetism in Chemically-Reduced 2D $Ti_3C_2T_x$ MXene. *Mater. Chem. Phys.* **2022**, *285*, 126155. https://doi.org/10.1016/j.matchemphys.2022.126155.
29. Limbu, T. B.; Adhikari, B.; Song, S. K.; Chitara, B.; Tang, Y.; Parsons, G. N.; Yan, F*. Toward Understanding the Phase-Selective Growth Mechanism of Films and Geometrically-Shaped Flakes of 2D $MoTe_2$. *RSC Adv.* **2021**, *11*, 38839–38848. https://doi.org/10.1039/D1RA07787B.
30. Chitara, B.; Zhang, K.; Garcia Cervantes, M. Y.; Limbu, T. B.; Adhikari, B.; Huang, S.; Yan, F*. Probing Charge Transfer in 2D MoS_2/Tellurene Type-II p–n Heterojunctions. *MRS Commun.* **2021**, *11*, 868–872. https://doi.org/10.1557/s43579-021-00117-w.
31. Garcia Cervantes, M. Y.; Han, L.; Kim, J.; Chitara, B.; Wymer, N.; Yan, F*. N-Halamine-Decorated Electrospun Polyacrylonitrile Nanofibrous Membranes: Characterization and Antimicrobial Properties. *React. Funct. Polym.* **2021**, *168*, 105058. https://doi.org/10.1016/j.reactfunctpolym.2021.105058.
32. Adhikari, B.; Limbu, T. B.; Vinodgopal, K.; Yan, F*. Atmospheric-Pressure CVD Growth of Two-Dimensional 2H- and 1T′-$MoTe_2$ Films with High-Performance SERS Activity. *Nanotechnology* **2021**, *32*, 335701. https://doi.org/10.1088/1361-6528/abff8f.
33. Chitara, B.; Limbu, T. B.; Orlando, J. D.; Vinodgopal, K.; Yan, F*. 2-D Bi_2O_2Se Nanosheets for Nonenzymatic Electrochemical Detection of H_2O_2. *IEEE Sens. Lett.* **2020**, *4*, 1–4, Art no. 2000504. https://doi.org/10.1109/LSENS.2020.3012300.
34. Chitara, B.; Limbu, T. B.; Orlando, J. D.; Tang, Y.; Yan, F.* Ultrathin Bi_2O_2S Nanosheets Near-Infrared Photodetectors. *Nanoscale* **2020**, *12*, 16285–16291. https://doi.org/10.1039/D0NR02991B.
35. Limbu, T. B.; Chitara, B.; Garcia Cervantes, M. Y.; Zhou, Y.; Huang, S.; Tang, Y.; Yan, F.* Unravelling the Thickness Dependence and Mechanism of Surface-Enhanced Raman Scattering on $Ti_3C_2T_x$ MXene Nanosheets. *J. Phys. Chem. C* **2020**, *124*, 17772–17782. https://doi.org/10.1021/acs.jpcc.0c05143.
36. Limbu, T. B.; Chitara, B.; Garcia Cervantes, M. Y.; Orlando, J. D.; Kumari, S.; Li, Q.; Tang, Y.; Yan, F.* Green Synthesis of Reduced $Ti_3C_2T_x$ MXene Nanosheets with Enhanced Conductivity, Oxidation Stability, and SERS Activity. *J. Mater. Chem. C* **2020**, *8*, 4722–4731. https://doi.org/10.1039/C9TC06984D.
37. Orlando, J. D.; Limbu, T. B.; Chitara, B.; Yan, F.* One-Pot Electrospinning of Polyvinylpyrrolidone/Cellulose Acetate/TiO_2 Nanofibrous Membranes with Enhanced Photocatalytic Properties. *J. Porous Mater.* **2020**, *27*, 911–918. https://doi.org/10.1007/s10934-020-00866-4.
38. Orlando, J. D.; Kahn, E.; Wong, C. Y.; Yeh, Y.; Limbu, T. B.; Chitara, B.; Elias, A. L.; Terrones, M.; Yan, F.* Ultrastrong Raman Enhancement on Gold Nanoparticle-Decorated Transition Metal Dichalcogenides Nanosheets for Molecule Detection. *J. Anal. Sci.* **2019**, *35*, 811–816. https://doi.org/10.13526/j.issn.1006-6144.2019.06.018.
39. Oladele, O.; Chen, C.; Yan, F.; Vlahovic, B.; Tang, Y.* 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.
40. Moujahid, J.; Bang, J. J.; Yan, F.* Effect of Mixing on Reductive Dechlorination of Persistent Organic Pollutants by Fe/Pd Nanoparticles. *Water Environ. Res.* **2019**, *91*, 198–207. https://doi.org/10.1002/wer.1018.
41. Jia, H.; Chen, C.; Oladele, O.; Tang, Y.; Li, G.; Zhang, X.; Yan, F.* Cobalt Doping of Tin Disulfide/Reduced Graphene Oxide Nanocomposites for Enhanced Pseudocapacitive Sodium-Ion Storage. *Commun. Chem.* **2018**, *1*, Article No. 86. https://doi.org/10.1038/s42004-018-0086-z.

42. Chen, C.; Oladele, O.; Tang, Y.; Yan, F.* Freestanding Silver Dendrite/Graphene Oxide Composite Membranes as High-Performance Substrates for Surface-Enhanced Raman Scattering. *Mater. Lett.* **2018**, *226*, 83–86. https://doi.org/10.1016/j.matlet.2018.05.030.
43. Mocanu, M. N.; Yan, F.* Ultrasound-Assisted Interaction between Chlorin-e6 and Human Serum Albumin: pH Dependence, Singlet Oxygen Production, and Formulation Effect. *Spectrochim. Acta A* **2018**, *190*, 208–214. https://doi.org/10.1016/j.saa.2017.09.017.
44. Chen, C.; Tang, Y.; Vlahovic, B.; Yan, F.* Electrospun Polymer Nanofibers Decorated with Noble Metal Nanoparticles for Chemical Sensing. *Nanoscale Res. Lett.* **2017**, *12*, 451. https://doi.org/10.1186/s11671-017-2216-4.
45. King, A. J.; Yan, F.* Determining the Total Antioxidant Capacity in Blackberries Using Cyclic Voltammetry: A Quantitative Analysis Laboratory Experiment. *Chem. Educator* **2017**, *22*, 100–103.
46. Kerr, M. A.; Yan, F.* Bromide-Assisted Anisotropic Growth of Gold Nanoparticles as Substrates for Surface-Enhanced Raman Scattering. *J. Spectrosc.* **2016**, Article ID 3164247. https://doi.org/10.1155/2016/3164247.
47. Kerr, M. A.; Yan, F.* Incorporating Course-Based Undergraduate Research Experience into Analytical Chemistry Laboratory Curricula. *J. Chem. Educ.* **2016**, *93*, 658–662. https://doi.org/10.1021/acs.jchemed.5b00547.
48. Shrestha, Y. K.; Yan, F.* Determination of Critical Micelle Concentration of Cationic Surfactants by Surface-Enhanced Raman Scattering. *RSC Adv.* **2014**, *4*, 37274–37277. https://doi.org/10.1039/C4RA05516K.
49. Romeika, J. M.; Spurgeon, C. L.; Yan, F.* Spectroscopic Studies of Micelle-Enhanced Ligand Exchange of Gallium(III)/4-(2-Pyridylazo)resorcinol Complex by Calf Thymus DNA. *Spectrochim. Acta A* **2014**, *117*, 120–126. https://doi.org/10.1016/j.saa.2013.07.113.
50. Romeika, J. M.; Yan, F.* Recent Advances in Forensic DNA Analysis. *J. Forens. Res.* **2013**, *S12*, 1–13. https://doi.org/10.4172/2157-7145.S12-001
51. Yan, F.*; Reddy, C. V. G.; Shrestha, Y. K.; Spurgeon, C. L.; Kummarapurugu, A. B.; Fischer, B. M.; Vo-Dinh, T. Determination of Ferric Ions by Surface-Enhanced Raman Scattering Based on Desferrioxamine-Functionalized Silver Nanoparticles. *Chem. Commun.* **2013**, *49*, 7962–7964. https://doi.org/10.1039/C3CC43916J
52. Kilibarda, N.; Afton, S. E.; Harrington, J. M.; Yan, F.; Levine, K. E.* Rapid Speciation and Determination of Vanadium Compounds Using Ion-Pair Reversed-Phase Ultra-High-Performance Liquid Chromatography Inductively Coupled Plasma-Sector Field Mass Spectrometry. *J. Chromatogr. A* **2013**, *1304*, 121–126. https://doi.org/10.1016/j.chroma.2013.06.074
53. Beard, J. L.; Yan, F.* Forensic Ink Analysis Using Thin-Layer Chromatography Combined with Surface-Enhanced Raman Spectroscopy—An Undergraduate Instrumental Analysis Experiment. *Chem. Educator* **2013**, *18*, 131–135. https://doi.org/10.1007/s00897132483
54. Yan, F.* Plasmonic Colorimetry: Visual Detection of Environmentally Relevant Species. *Int. J. Environ. Technol. Manag.* **2013**, *16*, 49–64. https://doi.org/10.1504/IJETM.2013.050683
55. Kim, J.; Yu, Y.; Yan, F.; Bang, J.; You, T.; Lee, S.* A New Strain of Bacteria Degrading TNT and 2,4/2,6-DNT from Explosives-Contaminated Soil. *Atlas J. Biol.* **2012**, *2*, 116–124. http://doi.org/10.5147/ajb.v2i2.20
56. Tao, J.; Zhang, X.; Guo, N.; Chen, S.; Huang, C.; Zheng, L.; Li, Y.; Xu, G.; Ren, Y.; Yang, L.; Hamze, F.; Yan, F.; Tu, Y.* Squamous Cell Carcinoma Complicating Discoid Lupus Erythematosus in Chinese Patients: Review of the Literature, 1964–2010. *J. Am. Acad. Dermatol.* **2012**, *66*, 695–696. https://doi.org/10.1016/j.jaad.2011.09.033

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57. Gregas, M. K.; Yan, F.; Scaffidi, J.; Wang, H.; Vo-Dinh, T. Characterization of Nanoprobe Uptake in Single Cells: Spatial and Temporal Tracking via SERS-Labeling and Modulation of Surface Charge. *Nanomedicine: Nanotechnol., Biol. Med.* **2011**, *7*, 115–122.

58. Yan, F.; Reddy, C. V. G.; Zhang, Y.; Vo-Dinh, T. A Novel Cyanide Ion Sensing Approach Based on Raman Scattering for the Detection of Environmental Cyanides. *Ecotoxicol. Environ. Saf.* **2010**, *73*, 1490–1494.
59. Musundi, W. B.; Yan, F.; Vo-Dinh, T. Plasmonics Nanoprobes: Detection of Single Nucleotide Polymorphisms in the Breast Cancer BRCA1 Gene. *Anal. Bioanal. Chem.* **2010**, *398*, 729–736.
60. Reddy, C. V. G.; Yan, F.; Zhang, Y.; Vo-Dinh, T. A Highly Sensitive Raman Method for Selective Cyanide Detection Based on Evaporated Cuprous Iodide Substrate. *Anal. Methods* **2010**, *2*, 458–460.
61. Yan, F.; Zhang, Y.; Kim, K. S.; Yuan, H.; Vo-Dinh, T. Intracellular Photodynamic Therapy Using Methylene Blue-Containing Protein Nanocages. *Photochem. Photobiol.* **2010**, *86*, 662–666.
62. Dhawan, A.; Du, Y.; Yan, F.; Gerhold, M. D.; Misra, V.; Vo-Dinh, T. Methodologies for Developing Surface-Enhanced Raman Scattering (SERS) Substrates for Detection of Chemical and Biological Molecules. *IEEE Sens. J.* **2010**, *10*, 608–616.
63. Yan, F.; Zhang, Y.; Yuan, H.; Gregas, M. K.; Vo-Dinh, T. Apoferritin Protein Cages: A Novel Drug Nanocarrier for Photodynamic Therapy. *Chem. Commun.* **2008**, 4579–4581.
64. Yan, F.; Vo-Dinh, T. Surface-Enhanced Raman Scattering Detection of Chemical and Biological Agents Using a Portable Raman Integrated Tunable Sensor. *Sens. Actuators, B: Chem.* **2007**, *121*, 61–66.
65. Sadik, O. A.; Yan, F. Electrochemical Biosensors for Monitoring the Recognition of Glycoprotein–Lectin Interactions. *Anal. Chim. Acta* **2007**, *588*, 292–296.
66. Chen, K.; Vo-Dinh, K. C.; Yan, F.; Wabuyele, M. B.; Vo-Dinh, T. Direct Identification of Alizarin and Lac Dye on Painting Fragments Using Surface-Enhanced Raman Scattering. *Anal. Chim. Acta* **2006**, *569*, 234–237.
67. Chen, K.; Leona, M.; Vo-Dinh, K. C.; Yan, F.; Wabuyele, M. B.; Vo-Dinh, T. Application of Surface-Enhanced Raman Scattering (SERS) for the Identification of Anthraquinone Dyes Used in Works of Art. *J. Raman Spectrosc.* **2006**, *37*, 520–527.
68. Yan, F.; Wabuyele, M. B.; Griffin, G.; Vass, A. A.; Vo-Dinh, T. Surface-Enhanced Raman Scattering Detection of Chemical and Biological Agent Stimulants. *IEEE Sens. J.* **2005**, *5*, 665–670.
69. Yan, F.; Williams, S.; Griffin, G. D.; Jagannathan, R.; Plunkett, S. E.; Shafer, K. H.; Vo-Dinh, T. Near-Real-Time Determination of Hydrogen Peroxide Generated from Cigarette Smoke. *J. Environ. Monit.* **2005**, *7*, 681–687.
70. Vo-Dinh, T.; Yan, F.; Wabuyele, M. Surface-Enhanced Raman Scattering for Medical Diagnostics and Biological Imaging. *J. Raman Spectrosc.* **2005**, *36*, 640–647.
71. Wabuyele, M.; Yan, F.; Griffin, G.; Vo-Dinh, T. Hyperspectral Surface-Enhanced Raman Imaging (HSERI) of Labeled Silver Nanoparticles in Single Cells. *Rev. Sci. Instrum.* **2005**, *76*, 063710.
72. Yan, F.; Xu, H.; Anker, J.; Kopelman, R.; Ross, B.; Rehemtulla, A.; Reddy, R. Synthesis and Characterization of Silica-Embedded Iron Oxide Nanoparticles for Magnetic Resonance Imaging. *J. Nanosci. Nanotechnol.* **2004**, *4*, 72–76.
73. Sadik, O. A.; Yan, F. Novel Fluorescent Biosensor for Pathogenic Toxins Using Cyclic Polypeptide Conjugates. *Chem. Commun.* **2004**, 1136–1137.
74. Yan, F.; Kopelman, R. The Embedding of Meta-Tetra(hydroxyphenyl) Chlorin into Silica Nanoparticle Platforms for Photodynamic Therapy and Their Singlet Oxygen Production and pH Dependent Optical Properties. *Photochem. Photobiol.* **2003**, *78*, 587–591.
75. Xu, H.; Yan, F.; Monson, E.; Kopelman, R. Room-Temperature Preparation and Characterization of Poly(ethylene glycol)-Coated Stöber Silica Nanoparticles for Biomedical Applications. *J. Biomed. Mater. Res.* **2003**, *66A*, 870–879.
76. Yan, F.; Sadik, O. A. Enzyme Modulated Cleavage of dsDNA for Studying Interfacial Biomolecular Interactions. *J. Am. Chem. Soc.* **2001**, *123*, 11335–11340.
77. Yan, F.; Sadik, O. A. Enzyme Modulated Cleavage of dsDNA for Supramolecular Design of Biosensors. *Anal. Chem.* **2001**, *73*, 5272–5280.
78. Yan, F.; Erdem, A.; Meric, B.; Kerman, K.; Ozsoz, M.; Sadik, O. A. Electrochemical DNA Biosensor for the Detection of Specific Gene Related to *Microcystis* Species. *Electrochem. Commun.* **2001**, *3*, 224–228.
79. Yan, F.; McNally, R.; Kontanis, E. J.; Sadik, O. A. Preliminary Quantitative Investigation of Postmortem Adipocere Formation. *J. Forensic Sci.* **2001**, *46*, 185–190.

80. Yan, F.; Ozsoz, M.; Sadik, O. A. Electrochemical and Conformational Studies of Microcystin-LR. *Anal. Chim. Acta* **2000**, *409*, 247–255.
81. Sadik, O. A.; Ngundi, M. M.; Yan, F. Environmental Biosensors for Organochlorines, Cyanobacterial Toxins and Endocrine Disrupting Chemicals. *Biotechnol. Bioprocess Eng.* **2000**, *5*, 407–412.
82. Ji, M.; Huang, X.; Yan, F. 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. *J. Nanchang Univ. (Nat. Sci.)* **1993**, *17*, 50–54.

BOOK CHAPTERS

1. Dong, X.; Songsart-Power, M.; Limbu, T. B.; Yan, F. Recent Advances in Surface-Enhanced Raman Scattering for Forensic Trace Analysis. In *Forensic Science: Detection*; Hou, H. J. M., Ed.; CRC Press: Boca Raton, FL, 2023; Chapter X.
2. Yan, F.; Vo-Dinh, T. Methods & Applications of Metallic Nanoshells in Biology and Medicine. In *Nanotechnology in Biology and Medicine: Methods, Devices and Applications*; Vo-Dinh, T., Ed.; CRC Press: Boca Raton, FL, 2007; Chapter 30.
3. Wabuyele, M. B.; Yan, F.; Vo-Dinh, T. Cellular Imaging and Analysis Using SERS-Active Nanoparticles. In *Nanotechnology in Biology and Medicine: Methods, Devices and Applications*; Vo-Dinh, T., Ed.; CRC Press: Boca Raton, FL, 2007; Chapter 28.
4. Vo-Dinh, T.; Yan, F. Gene Diagnostics Using SERS Nanoprobes and Nanostructures. In *Nanotechnology in Biology and Medicine: Methods, Devices and Applications*; Vo-Dinh, T., Ed.; CRC Press: Boca Raton, FL, 2007; Chapter 37.
5. Vo-Dinh, T.; Yan, F.; Wabuyele, M. B. Surface-Enhanced Raman Scattering for Biomedical Diagnostics and Molecular Imaging. In *Surface-Enhanced Raman Scattering – Physics and Applications*, Topics in Applied Physics; Kneipp, K., Moskovits, M., Kneipp, H., Eds.; Springer: Berlin, 2006; Vol. 103, pp 409–427.
6. Vo-Dinh, T.; Yan, F. Surface-Enhanced Raman Spectroscopy. In *Optical Chemical Sensors – International School of Quantum Electronics (NATO ASI Series)*; Baldini, F., Ed.; Springer: Dordrecht, 2006; pp 239–259.
7. Vo-Dinh, T.; Yan, F.; Stokes, D. L. Metallic Nanostructures for Surface-Enhanced Raman Scattering Bioanalysis. In *Protein Nanotechnology*; Vo-Dinh, T., Ed.; Humana Press: Totowa, NJ, 2005; Vol. 300, pp 255–283.

PRESENTATIONS

1. F. Yan. Semiconducting metal-based nanomaterials for photocatalysis and sensing. International Conference on Advances in Materials Science and Technology (ICAMST-2025), Karnataka, India. July 25, 2025.
2. Ra. Kumar, A. K. Shringi, F. Yan. Efficient ORR electrocatalysis with cobalt-doped Bi_2O_2S decorated on N-doped carbon fibers. Oral presentation. The 67th Electronic Materials Conference (EMC). Durham, NC. June 25-27, 2025
3. A. K. Shringi, R. Kumar, F. Yan. Plasma-induced defect engineering in 2D ReS2 nanosheets for enhanced NO2 gas sensing. Poster presentation. The 67th Electronic Materials Conference (EMC). Durham, NC. June 25-27, 2025.
4. F . Yan . Layered nanomaterials for environmental, sensing, and energy applications. Dr. Booker Juma Seminar Series, Department of Chemistry, Physics, and Material Science, Fayetteville State University, Fayetteville, NC. October 25, 2024.
5. F. Yan. Enhancing analytical chemistry education through online pedagogy. Southeast Regional Meeting of the American Chemical Society (SERMACS). Durham, NC. October 28, 2023.
6. F. Yan, D. Taylor, U. Riaz. A MRSEC–PREM partnership: Harnessing nanostructures for sensing, solar cells, and environmental remediation. Pennsylvania State University. University Park, Pennsylvania. October 20, 2023.

7. F. Yan. Estimating time since death for submerged bodies. RTP180 – Forensic Science, Durham, NC. October 20, 2022.
8. F. Yan. Hybrid semiconductors for photocatalytic inactivation of pathogenic bacteria under visible-light irradiation. Tri Beta Biology Honor Society Seminar Series, NCCU. September 1, 2022.
9. F. Yan. Mixed-dimensional heterostructures: Synthesis, properties, and applications. MRSEC virtual Fall seminar series. Pennsylvania State University. University Park, Pennsylvania. September 20, 2021.
10. 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.
11. 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.
12. F. Yan, Noble metal nanoparticle-based plasmonic sensing. Analytical seminar series, Department of Chemistry, University of North Carolina at Chapel Hill, Chapel Hill, NC. April 10, 2017.
13. 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.
14. F. Yan, M. A. Kerr. Integrating authentic research experiences into undergraduate analytical chemistry. PITTCON. Atlanta, GA. March 6-10, 2016.
15. 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.
16. F. Yan, C. L. Spurgeon, Y. K. Shrestha. Micelle-enhanced nanoplasmonic colorimetry for DNA detection. PITTCON, Philadelphia, PA. March 17 – 21, 2013.
17. 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.
18. F. Yan, C. L. Spurgeon, Spectroscopic study of micelle-enhanced ligand exchange of gallium (III)/4-(2-pyridylazo) resorcinol complex by calf thymus DNA. The American Chemical Society Southeastern Regional Meeting (SERMACS), Raleigh, NC. November 14-17, 2012.
19. F. Yan, J. O. Onabanjo, R. A. Usman, J. M. Romeika, Ultrasensitive SERS nanoprobes for selective detection of trivalent metal ions. PITTCON. Orlando, FL. March 11-15, 2012
20. F. Yan. Optical spectroscopy & nanotechnology metallic nanostructure-based surface-enhanced Raman scattering: principles and biomedical applications. Pulmonary Research Conference, Duke University Medical Center, Durham, NC. July 12, 2010.
21. F. Yan, Y. Zhang, K. Chen, G.D. Griffin, T. Vo- Dinh. Plasmonics nanoprobes for molecular diagnostics and imaging. PITTCON 2007. Chicago, IL, February 25-March 2, 2007.
22. F. Yan, Plasmonics – Enhanced nanoprobes (PEN): An enabling sensor technology for the detection of CAD biomarkers. Cardiovascular Genomics Forum, Duke Institute for Genome Sciences & Policy, Durham, NC. January 4, 2007.
23. F. Yan, K. Chen, M. B. Wabuyele, G. D. Griffin, T. Vo-Dinh, Photonic-based sensors for food safety (invited Talk), PittCon 2006, March 12-15, Orlando, FL. 2006.
24. F. Yan, M. B. Wabuyele, G. D. Griffin, T. Vo-Dinh, Plasmonic sensors for the detection of chemical/biological warfare agents using surface-enhanced Raman spectroscopy, Detector/Sensor Research and Technology for Homeland and National Security: Chemical, Biological, Nuclear and Radiological Weapons, and Toxic Industrial Chemicals, Gatlinburg, TN. September 14 -16, 2004.
25. F. Yan, S. Williams, G. D. Griffin, T. Vo-Dinh, S. E. Plunkett, K. H. Shafer, W. Reininghaus, Near-real-time determination of hydrogen peroxide generated from aqueous extracts of cigarette smoke, Sixth Philip Morris USA Symposium on Fundamental Science, Richmond, VA. October 28-30, 2004.
26. F. Yan, M. B. Wabuyele, T. Vo-Dinh, "Plasmonics nanoprobes for biomedical diagnostics & imaging optical imaging 2004 Fourth Inter-Institute Workshop on Optical Diagnostic Imaging from Bench to Bedside at the National Institutes of Health, Bethesda, Maryland. September 20-22, 2004
27. F. Yan, T. Vo-Dinh, Advanced biophotonics sensors for environmental and medical applications. Advanced Sensing Technologies, a 2004 Spring Seminar Series-Stanford University US-Asia Technology Management Center, April 29, 2004.

28. F. Yan, T. Vo-Dinh, Advanced photonics sensors for diagnotics: From laser to biochips. Novel diagnostic technologies symposium, the USDA ARS National Animal Disease Center, Ames, IA. April 12-13, 2004.
29. F. Yan, Surface-enhanced Raman scattering (SERS) gene probes: frontiers in medical diagnostics (invited talk), PittCon 2004, Chicago, IL. March 9-12, 2004.
30. F. Yan, M. B. Wabuyele, G. D. Griffin, T. Vo-Dinh, Targeted SERS nanoparticles for intracellular sensing. PittCon, Chicago, IL. March 9-12, 2004.
31. F. Yan, R. Jagannathan, G. D. Griffin, C. J. Brown, D. L. Stokes, A. L. Wintenberg, T. Vo-Dinh. Biosensing methods for monitoring hydrogen peroxide related to exposure to cigarette smoke. Fifth Philip Morris USA Symposium on Fundamental Science, Richmond, VA. October 28-30, 2003.
32. F. Yan, H. Xu, W. Tang, R. Kopelman, Silicon-based dynamic nanoplatforms for the detection, therapy, and monitoring of cancer. Pittcon'03, Orlando, FL. March 9-14, 2003.
33. 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.
34. F. Yan, O. A. Sadik. Fluorescence sensor for the detection of cyanobacteria toxins. PittCon, New Orleans, March 12-17, 2000.
35. F. Yan, O. A. Sadik, Kinetics of DNA binding to anticancer drug using electrochemical quartz crystal microbalance. The 217th American Chemical Society National Meeting, Boston, MA, Fall 1998.
36. F. Yan, M. Masila, A. Sargent, O. A. Sadik, Sensors for direct monitoring of environmental pollutants. The 214th American Chemical Society National Meeting, Las Vegas Convention Center, Las Vegas, NV, September 7-11, 1997.

CURRENT SUPPORT

1. Department of Energy (Award #TBA). Role: Subaward PI. (PI: K.C, Riter, RTI International). $800,000, 1/1/2025- 12/31/2026. Sustainable, High Efficacy Lighting Fixtures for Commercial Markets with Materials Transparency.
2. Army Research Office (Award #W911NF2210109). Role: PI. $400,000. 7/11/2022-07/10/2025."Tunable Broadband Photodetectors Based on 2D Heterostructures"
3. National Science Foundation (Award # DMR-2122044). Role: Co-PI (PI: Marvin Wu). $3,825,000. 7/1/21-6/30/27. "NCCU-PSU Partnership for Research and Education in Nanoscale Materials"
4. Alfred P. Sloan Foundation (Award #G-2021-17117). Role: co-PI (PI: Abdul Mohammed). $250,000. 1/1/2022 – 12/31/2026. "Central-to-Chapel Hill Masters-to-Doctorate (M.S.-to-Ph.D.) Bridge Program"

PAST SUPPORT

1. National Science Foundation (Award # 1831133). Role: PI. $500,000. 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-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"
3. 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"
4. 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:SubawardPI; $11,080 3/1/15-5/31/17. "Enhancing Student Learning in Analytical Chemistry Through Course-Based Research Experience"
5. 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"

6. 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"
7. 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 Multdisciplinary Research"
8. 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"
9. 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"
10. 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"
11. 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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