

**IDENTIFYING INFORMATION:**

NAME: Weng, Binbin

ORCID iD: <https://orcid.org/0000-0002-5706-5345>

POSITION TITLE: Assistant Professor

**PRIMARY ORGANIZATION AND LOCATION:** University of Oklahoma (OU), Norman, Oklahoma, United States**Professional Preparation:**

ORGANIZATION AND LOCATION	DEGREE (if applicable)	RECEIPT DATE	FIELD OF STUDY
University of Oklahoma, Norman, Oklahoma, United States	PHD	08/2012	Electrical & Computer Engineering
Zhejiang University, Hangzhou, Not Applicable, N/A, China	MS	07/2008	Semiconductor Physics
Xiamen University, Xiamen, Not Applicable, N/A, China	BS	07/2006	Physics

**Appointments and Positions**

2018 - present Assistant Professor, University of Oklahoma (OU), School of Electrical and Computer Engineering, Norman, Oklahoma, United States

2023 - present Faculty Fellow, OU, Institute for Resilient Environmental and Energy Systems, Norman, Oklahoma, United States

2018 - present Director, OU, University MREC Cleanroom Laboratories, Norman, Oklahoma, United States

2016 - 2018 Research Scientist, University of Oklahoma, Microfabrication Research & Education Center (MREC), Norman, Oklahoma, United States

2012 - 2016 Postdoctoral Research Fellow, University of Oklahoma, Electrical & Computer Engineering, Norman, Oklahoma, United States

**Products****Products Most Closely Related to the Proposed Project**

1. He Q, Yang W, Luo W, Wilhelm S, Weng B. Label-Free Differentiation of Cancer and Non-Cancer Cells Based on Machine-Learning-Algorithm-Assisted Fast Raman Imaging. Biosensors (Basel). 2022 Apr 15;12(4) PubMed Central PMCID: [PMC9031282](https://pubmed.ncbi.nlm.nih.gov/3541282/).
2. Weng Binbin., inventors. Photonic Crystal Gas Sensor. US US 2021/0116433 A1. 2021 April.
3. Weng B, Nanny M A, Suflita J M, Moghanloo R G, inventors. , inventors. Automatic, Real-Time Surface-Enhanced Raman Scattering (SERS) Analysis. US US 2021/0088448 A1. 2021 March.
4. Arledge K, Uchoa B, Zou Y, Weng B. Topological sensing with photonic arrays of resonant circular waveguides. Physical Review Research. 2021; 3(3):- . Available from: <https://link.aps.org/doi/10.1103/PhysRevResearch.3.033106> DOI:

10.1103/PhysRevResearch.3.033106

5. Weng B, Qiu J, Yuan Z, Larson P, Strout G, Shi Z. Responsivity enhancement of mid-infrared PbSe detectors using CaF<sub>2</sub> nano-structured antireflective coatings. *Applied Physics Letters*. 2014 January 13; 104(2):021109-. Available from: <http://aip.scitation.org/doi/10.1063/1.4861186> DOI: 10.1063/1.4861186

*Other Significant Products, Whether or Not Related to the Proposed Project*

1. Tahere H, Yi Z, Binbin W. High-Q Surface Light Emission from Active Parity-Time-Symmetric Gratings. *Physical Review Applied*. 2022 April; 17(4). Available from: <http://dx.doi.org/10.1103/physrevapplied.17.044023>
2. Hemati T, Zhang X, Weng B. Towards a low-cost on-chip mid-IR gas sensing solution: chemical synthesis of lead-salt photonic materials. In: He S, Vivien L, editors. *Smart Photonic and Optoelectronic Integrated Circuits XXII*. Smart Photonic and Optoelectronic Integrated Circuits XXII; ; San Francisco, United States. SPIE; c2020. Available from: <https://www.spiedigitallibrary.org/conference-proceedings-of-spie/11284/2548529/Towards-a-low-cost-on-chip-mid-IR-gas-sensing/10.1117/12.2548529.full> DOI: 10.1117/12.2548529
3. Hemati T, Zhang X, Weng B. A direct oriented-attachment growth of lead-chalcogenide mid-infrared nanocrystals film on amorphous substrates. *Journal of Materials Chemistry C*. 2020; 8(38):13205-13212. Available from: <http://xlink.rsc.org/?DOI=D0TC02729D> DOI: 10.1039/D0TC02729D
4. Hemati T, Weng B. Theoretical design of coupled high contrast grating (CHCG) waveguides to enhance CO<sub>2</sub> light-absorption for gas sensing applications. *Journal of Applied Physics*. 2019 April 21; 125(15):- . Available from: <https://pubs.aip.org/jap/article/125/15/154502/308511/Theoretical-design-of-coupled-high-contrast> DOI: 10.1063/1.5091933
5. Weng B, Li L, Qiu J, Shi Z. Recent Development of IV-VI Mid-Infrared Photonic Crystal Laser on Silicon. 2012 Symposium on Photonics and Optoelectronics. 2012 Symposium on Photonics and Optoelectronics (SOPO 2012); ; Shanghai, China. IEEE; c2012. Available from: <http://ieeexplore.ieee.org/document/6271115/> DOI: 10.1109/SOPO.2012.6271115

**Synergistic Activities**

1. Proposal Review Service, e.g., ERC Advanced Grant Program Peer Review, European Research Council (ERC).
2. Journal Review Service for over 20 photonics-related publishers, e.g., *Laser & Photonics Reviews*.
3. Conference organizing activities, e.g., Chair of the “Topological Photonics” tutorial session in the 2022 March Meeting hosted by the American Physical Society (APS).
4. “Big Idea Challenge” Awardee: a Strategic Initiative launched by the OU Vice President for Research and Partnerships (VPRP) for addressing global grand challenges. Dr. Weng leads a multi-disciplinary team of over 20 researchers to tackle greenhouse-gas-emission-induced societal issues in the environment, health, energy, and community sustainability.
5. Principal, OptoKhemia Analytical, LLC: Co-founded a startup company with other OU faculty based on a patented chemical sensing technique for analyzing water contaminants. The company

provides contract services to customers (e.g., US Geological Survey) and builds a business profile with strategic partnerships (e.g., Montrose Environmental Group, Inc.).

**Certification:**

When the individual signs the certification on behalf of themselves, they are certifying that the information is current, accurate, and complete. This includes, but is not limited to, information related to domestic and foreign appointments and positions. Misrepresentations and/or omissions may be subject to prosecution and liability pursuant to, but not limited to, 18 U.S.C. §§ 287, 1001, 1031 and 31 U.S.C. §§ 3729-3733 and 3802.

Certified by Weng, Binbin in SciENcv on 2023-11-18 13:11:10