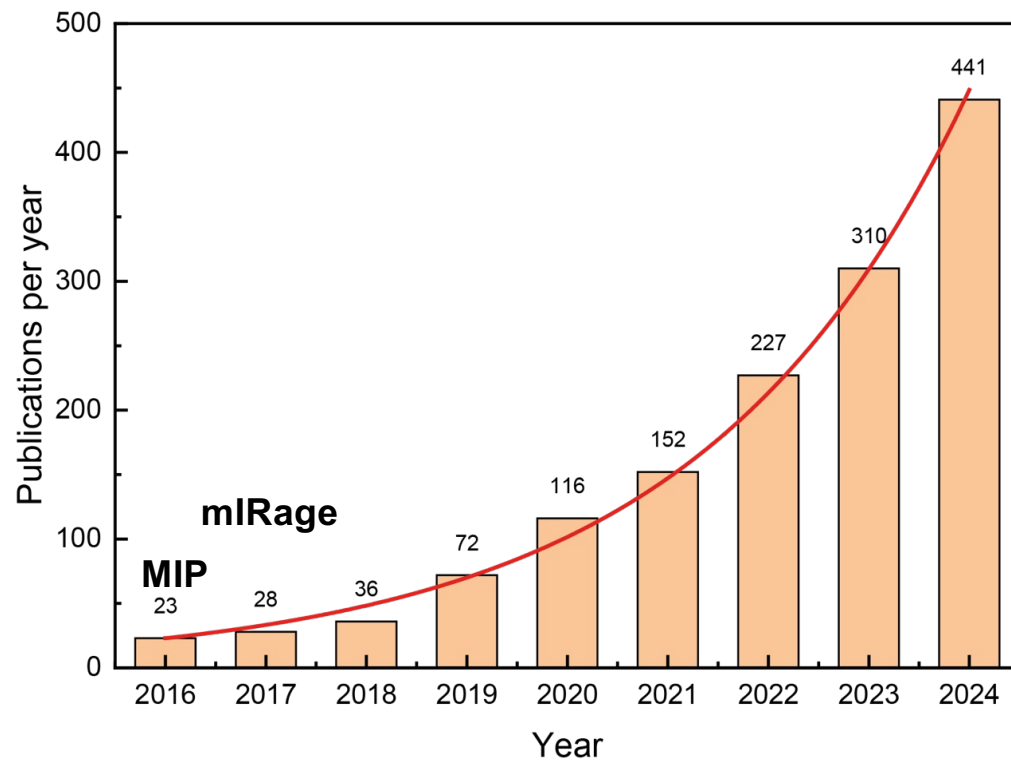
A top-down view of a wooden desk. In the upper left is a small potted plant with green grass-like leaves. To its right is a white computer keyboard. In the center are two black binder clips. In the lower right is a white cup of coffee on a saucer. Below the coffee is a black spiral-bound notebook with a pen resting on it. The text is overlaid on the left side of the desk.

**What a wonderful
year 2024**

**Cheng-Yang Annual Symposium
12/20/2024**

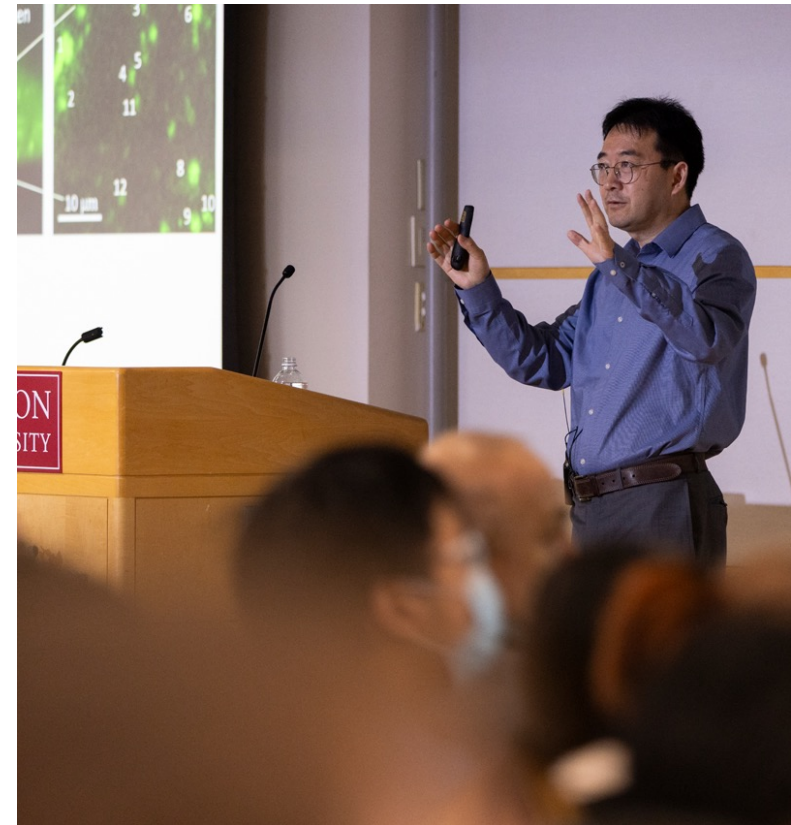
Jan 2024, MIP microscopy received 2024 SPIE Biophotonics Innovation Award



April 2024: Cheng Delivers Delisi Award Lecture



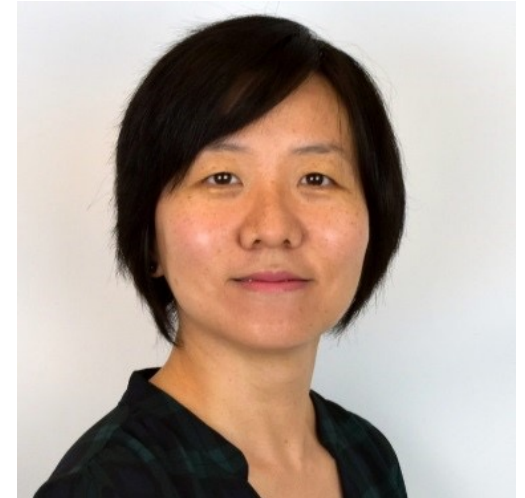
“Seeing the Unseen Using Molecular Fingerprints”



May 2024, Professor Yang Promoted to Full Professor

Faculty Highlight: Chen Yang Awarded Full Professorship

This year, BU awarded 22 faculty from across the Charles River and Medical Campuses with full professorships, and BU nano faculty member **Chen Yang** was among them. Professor Yang holds appointments in the departments of Electrical and Computer Engineering, Chemistry, and Materials Science and Engineering. Professor Yang holds several prestigious awards for her work, including the 2023 American Institute for Medical and Biological Engineering (AIMBE) Fellowship, Purdue Award for Outstanding PhD Advisor Award from Purdue University, NSF CAREER Award, Purdue University Seeds of Success Award, and membership in the American Chemical Society, Materials Research Society, and the International Society for Optics and Photonics (SPIE).



Some Awards by Group Members

June 2024: Chinmayee received the best presentation award in SPEC, Greece

July 2024: Mingsheng received best poster award in GRC

July 2024: Carolyn received the best presentation award for her DoD fellowship

Early August
2024, SRP
microscopy
receives Raman
Award for the
most innovative
Technology
Development,
ICORS, Rome



Late August 2024
ACS Meeting

Analytical Division
Spectrochemical
Analysis Award



Research Highlights

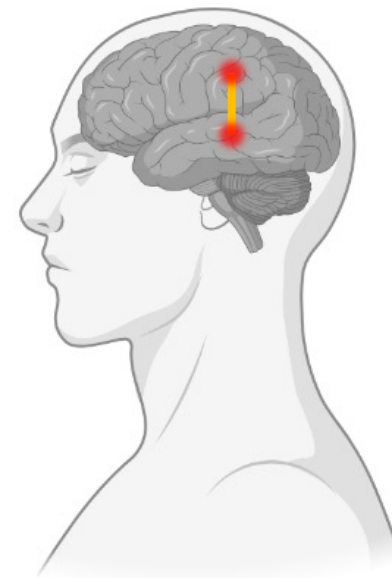


In this episode of Photonics Hot List:

Researchers at Boston University are working to unravel some mysteries of the brain. They've shown that a split ring resonator using microwaves could safely, and potentially noninvasively, treat neurological diseases.

<https://www.laserfocusworld.com/home/video/55243156/photonics-hot-list-november-15-2024>

Neural inhibition via microwave resonator



Carolyn Marar, Yang, Cheng,
Science Advances 2024



July 4th Potluck



Summer tennis games



Career advances: 5 PhDs & 4 APs in 2024

- **Yifan Zhu (CHEM)**
 - **Jiaze Yin (ECE)**
 - **Zhongyue Guo (BME)**
 - **Hongli Ni (ECE)**
 - **Xiaowei Ge (ECE)**
 - **Yeran Bai (Tenure Track Assistant Professor)**
 - **Jian Zhao (Tenure Track Assistant Professor)**
 - **Haonan Lin (Research Assistant Professor)**
 - **Hongjian He (Research Assistant Professor)**
-

New members who joined us in 2024

New PhD students

- **Biwen Gao (PhD Chemistry)**
- **Bethany Weinberg (PhD Biology)**
- **Pham Thao (PhD, BME)**
- **Xinrui Gong (PhD, BME)**
- **Dingcheng Sun (PhD, BME)**

New Postdoc fellows

- **Jiaze Yin (BU)**
 - **Pintian Lyu (Nanjing Univ)**
 - **Yifan Zhu (BU)**
 - **George Abu-Aqil (Israel)**
 - **Nathaniel Hai (Israel)**
-

Research Papers published in 2024

Chemical Imaging

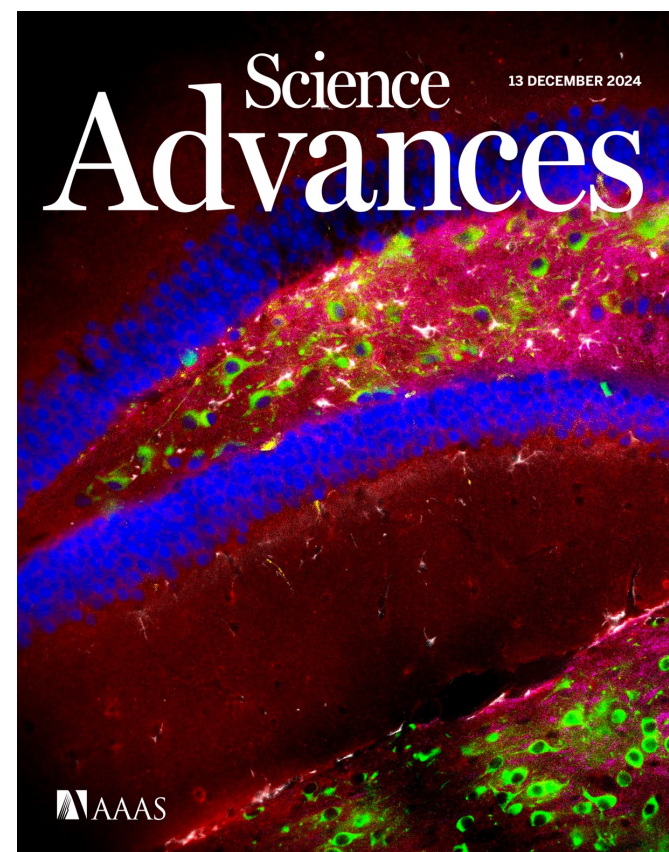
Danchen Jia et al, Science Advances
Jing Zhang, Jiabao Xu et al, Science Advances
Pereira, Xiaowei Ge et al, Nature Microbiology
Crag Prater et al, APL Photonics, tutorial of OPTIR
Qing Xia et al, Science Advances
Zhongyue Guo et al, Angew Chem Int Ed
Hongli Ni, Yuhao Yuan et al, Nature Photonics
Le Wang, Haonan Lin et al, Nature Communications
Xinyan Teng, Mingsheng et al, Analytical Chemistry
Yinu Wang, Clinical Cancer Research (Matei group)
Yeran Bai, Zhongyue Guo, JOVE
Hongjian He, Jiaze Yin, Nature Methods
Hongli Ni, Chinmayee Dessai, Theranostics

Neuromodulation

Carolyn Marar, Ying Jiang, Science Advances
Zhiyi Du, Mingsheng Li, Advanced Science
Guo Chen, Feiyuan Yu, Advanced Science
Zhiyi Du et al, Accounts of Chem Res

Science Advances

Special issue on Chemical Imaging Frontiers



Research Grants in 2024 (total \$4,295,884)

R01 EB035429	“Super-sensitive vibrational imaging”, Cheng PI	\$2,147,036	01/01/2024- 12/31/2027
R33 CA287046	“Bio-orthogonal MIP imaging of cancer metabolism”, Cheng PI	\$1,221,348	9/1/2024 to 8/31/2027
Triblazer R21 Brain Initiative	“Injectable Optoacoustic Retinal Prostheses ”, Yang PI	\$660,000	07/01/2024- 06/30/2027
Daylight solutions	“IR-AMES”, Qing Xia PI	\$100,000	1/1/2024 - 12/31/2024
Veteran Affairs	Cheng, PI	\$167,500	01/01/2024- 12/31/2024

An outlook into 2025

- **Nature Methods, SRS nanoscopy, Haonan Lin et al. in press**
 - **Nature Photonics, Review, SRS, Min, Ozeki, Cheng, in press**
 - **Nature Methods: Focus Issue on Bond-selective Imaging**
 - **MIRA award (Cheng PI): scored 21**
 - **New PhDs, New Assistant Professors to be generated**
 - **...**
-