

State of the School

School of Mechanical Engineering

08/15/2024



Our Agenda For Today

Learn

- State of the School
- Meet new faculty & staff
- Visit from the Dean with Q&A



Plan

- Strategic Planning
- Lunch
- One School, Many Locations



Visit

- Herrick Labs
- Zucrow Labs
- ME Building Renovation



School of Mechanical Engineering Mission Statement



*Changing the world for the better,
one student at a time.*

One student at a time

All faculty and staff contribute to her success

Monique McClain
(Purdue PhD '20)

Faculty teach her classes

Advisors help her create a plan of study

Lab technicians enable her to conduct experiments

Research scientists help her with literature reviews

Scholarship office finds ways for her to pay tuition

Admins check in on her well-being

Career office helps her find a job



She then invests in her own students...

A positive feedback loop!



Creates her own research team...



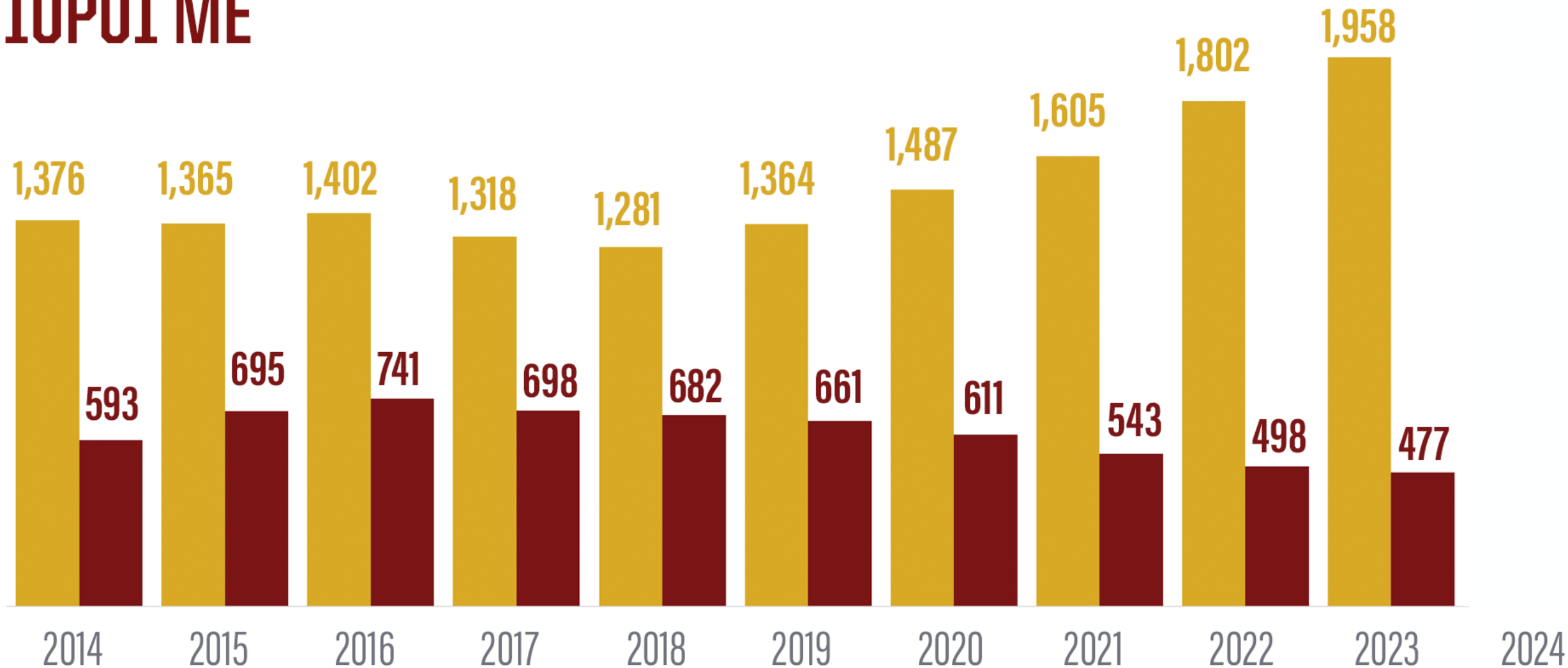
School of Mechanical Engineering Mission Statement



*Changing the world for the better,
one student at a time.*

Undergraduate Enrollment Purdue ME

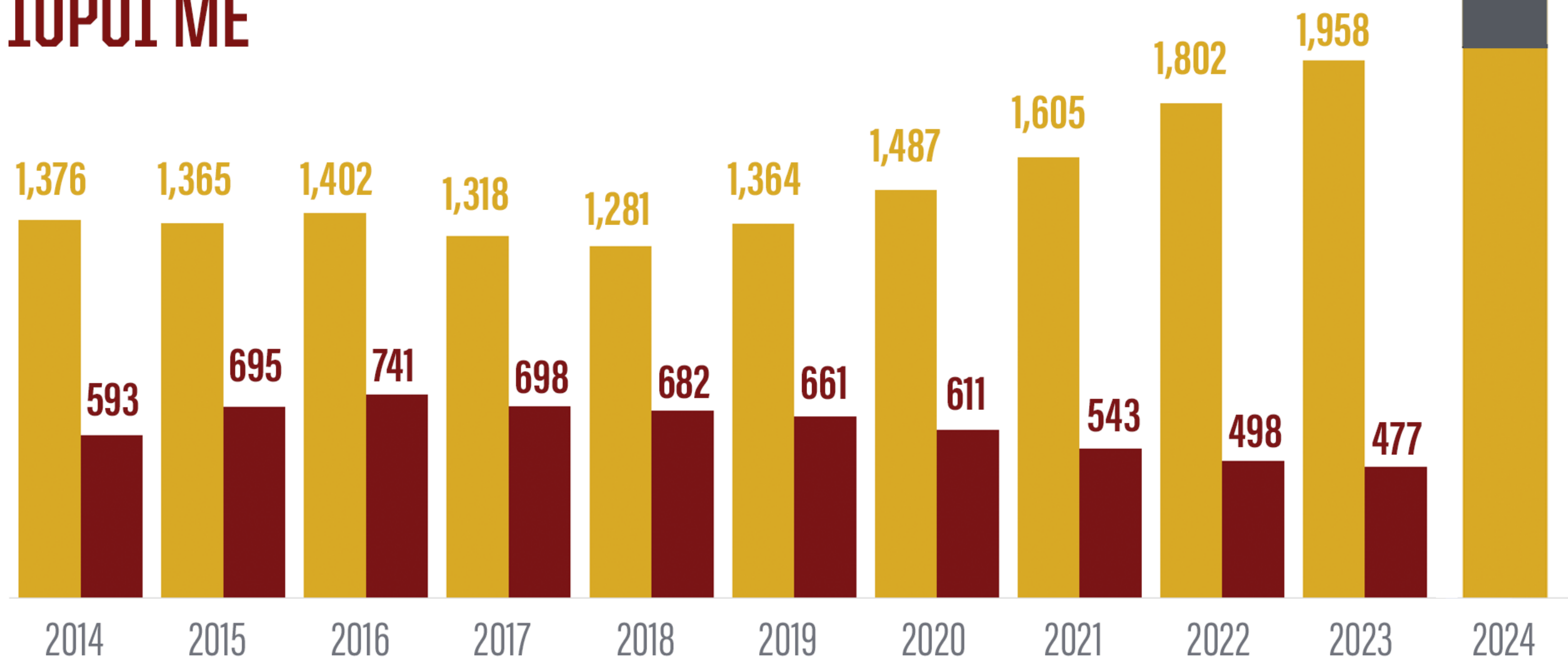
IUPUI ME



Undergraduate Enrollment Purdue ME IUPUI ME

TOTAL: 2,899

Motorsports 204
Indianapolis 707
(includes first-year students)
West Lafayette 1,988

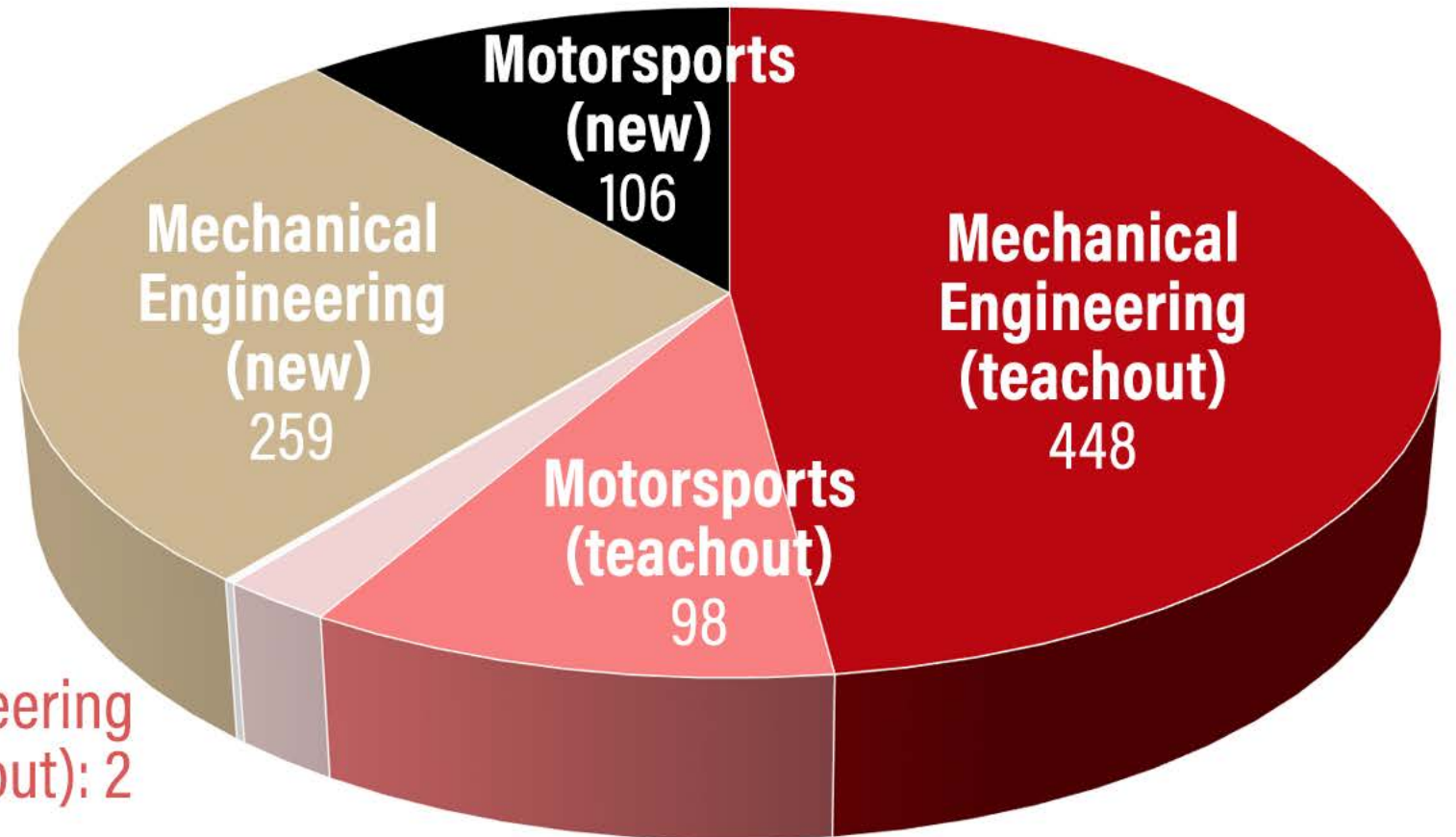


Stats about the Purdue ME students in Indy

Graduate Students



Undergraduate Students



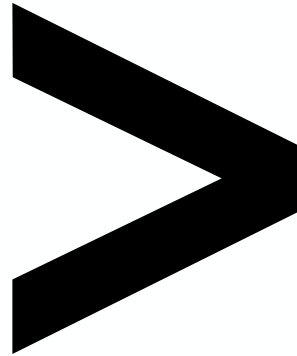
Motorsports Engineering
Technology (teachout): 2

Energy Engineering (teachout): 21

Purdue now has the largest undergraduate mechanical engineering program in the country



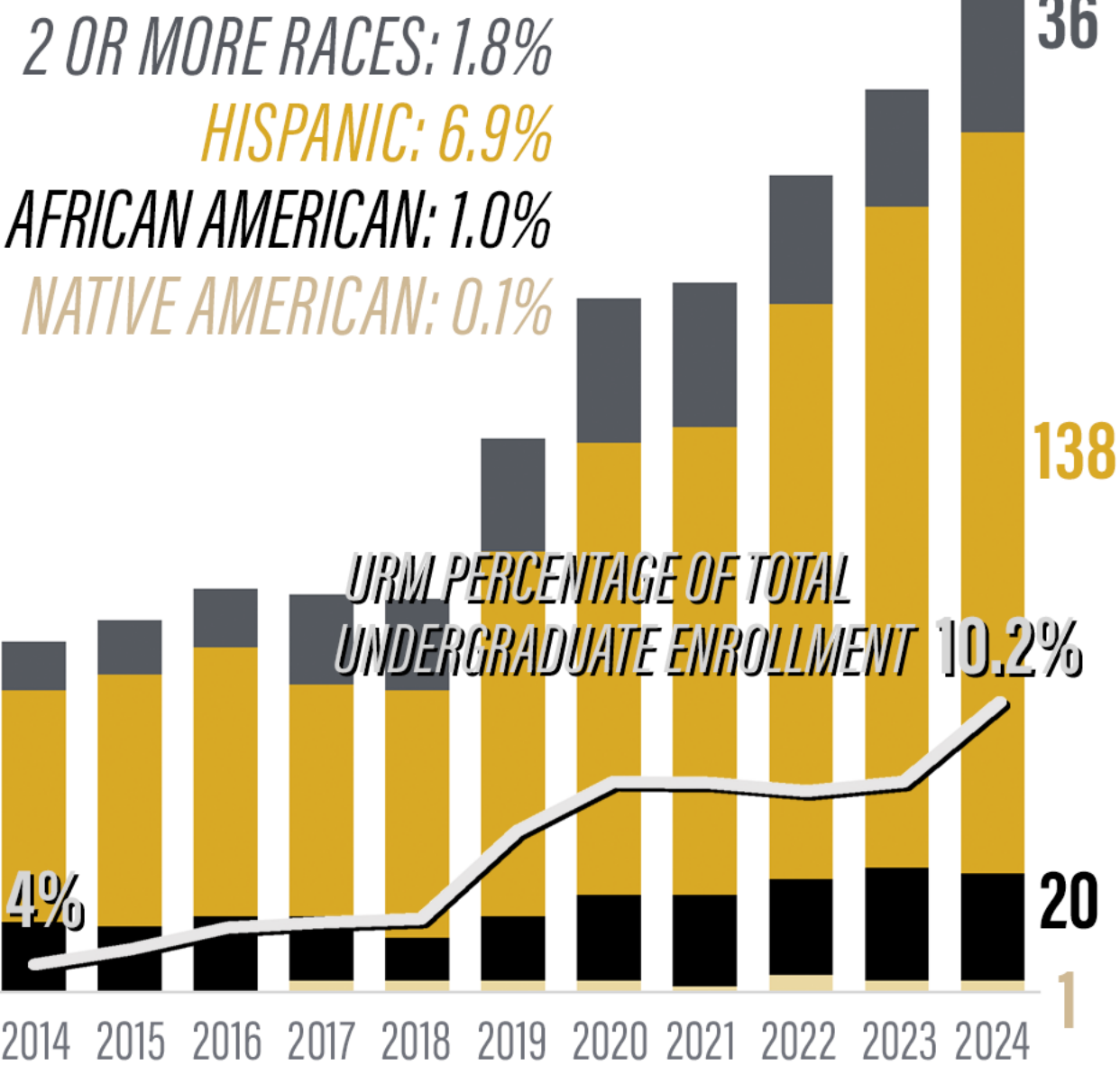
2,899



2,489

Purdue ME URM Enrollment

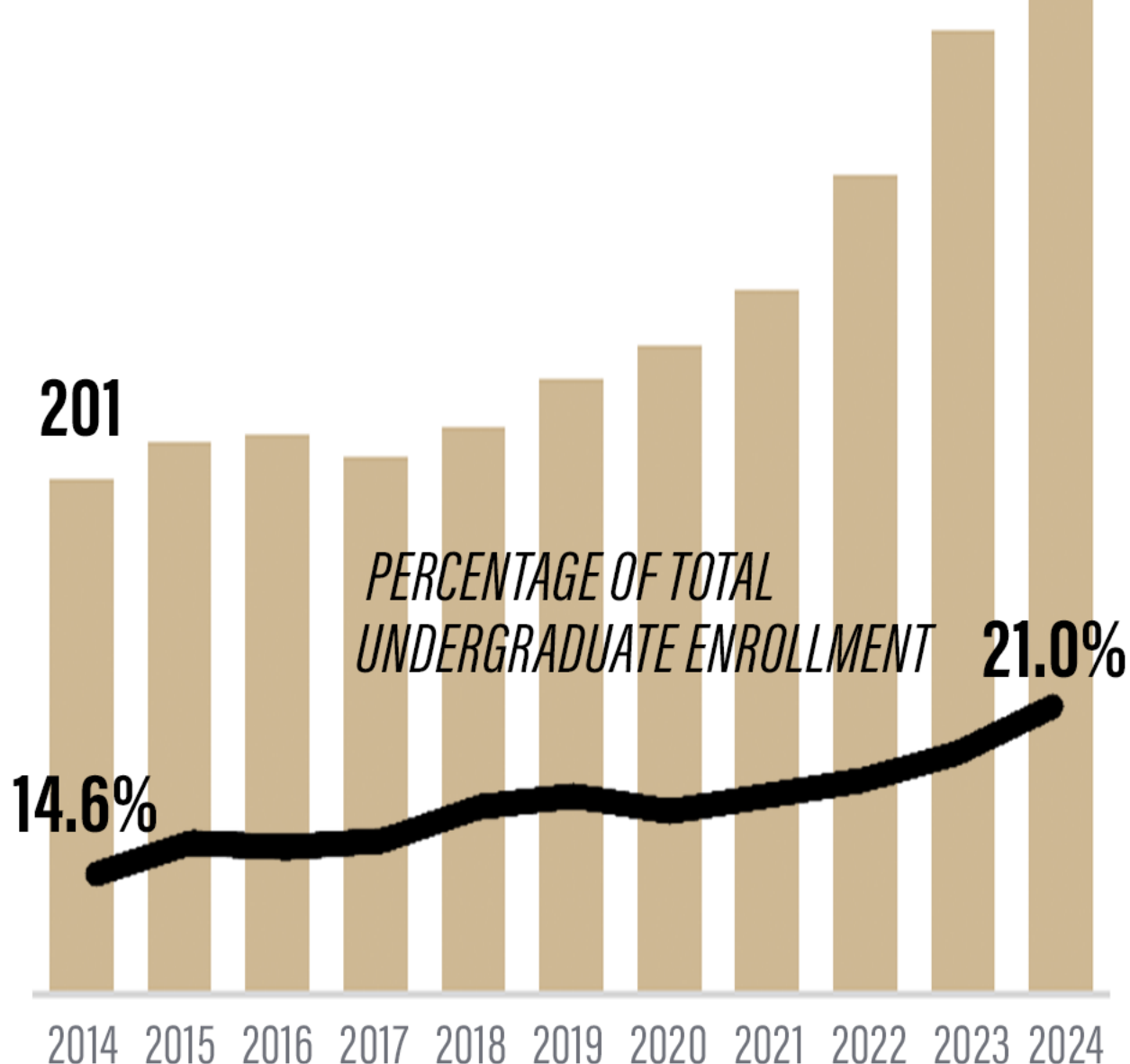
Undergraduate students in West Lafayette



Purdue ME Female Enrollment

419

Undergraduate students in West Lafayette



- 43% study abroad
(national ENGR average is +5%)
- 93% of students graduate with industry and/or research experience
- ~75% go to industry
~20% go to grad school
~5% go back to their home country
- 43 students achieved 100% G.R.I.T.
(out of ~400 = +10%)



Purdue ME Rankings

US News and beyond



US News

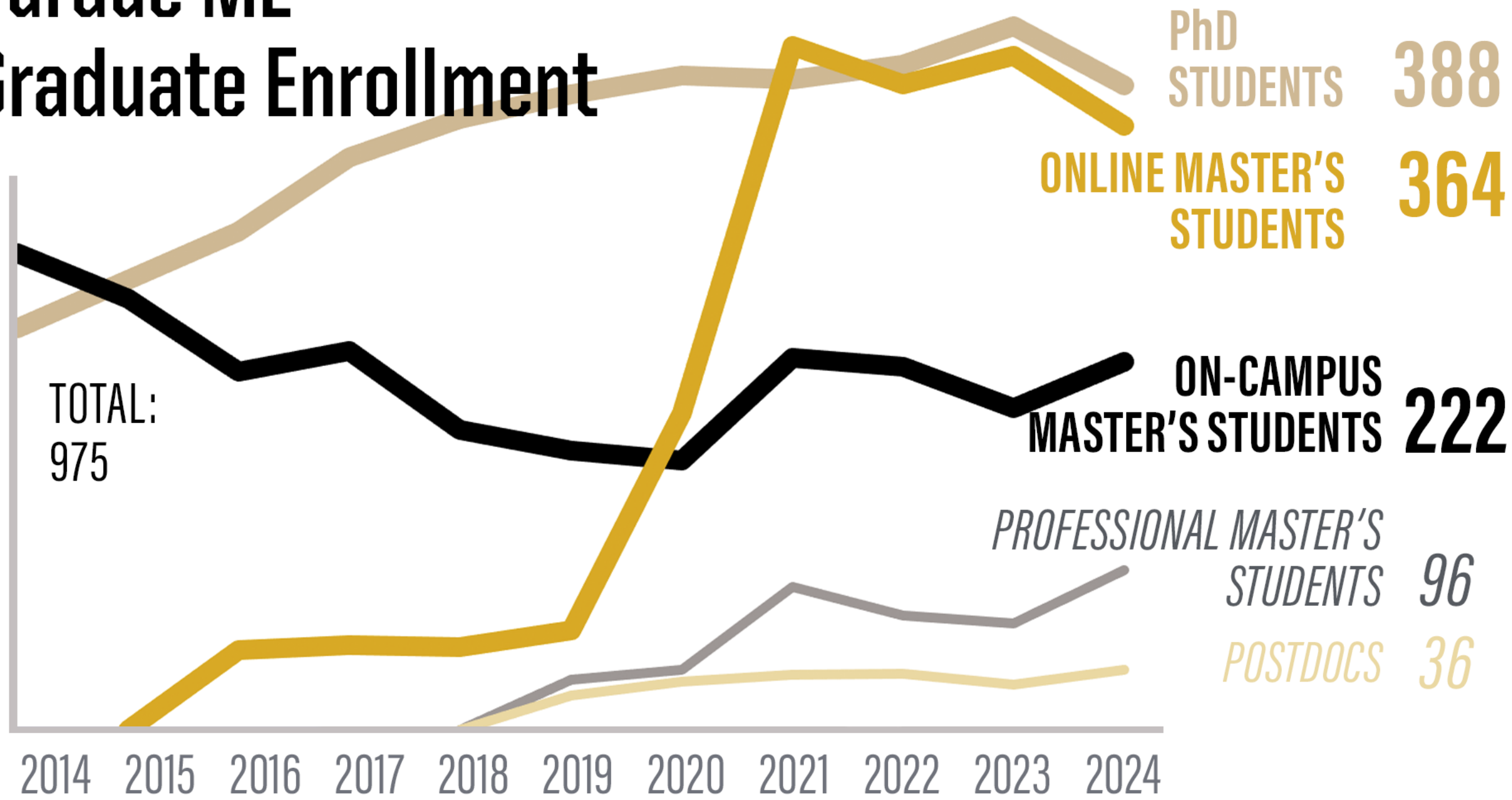
- #6 Undergraduate program
- #8 Graduate program
- #1 Online Master's

ScholarGPS

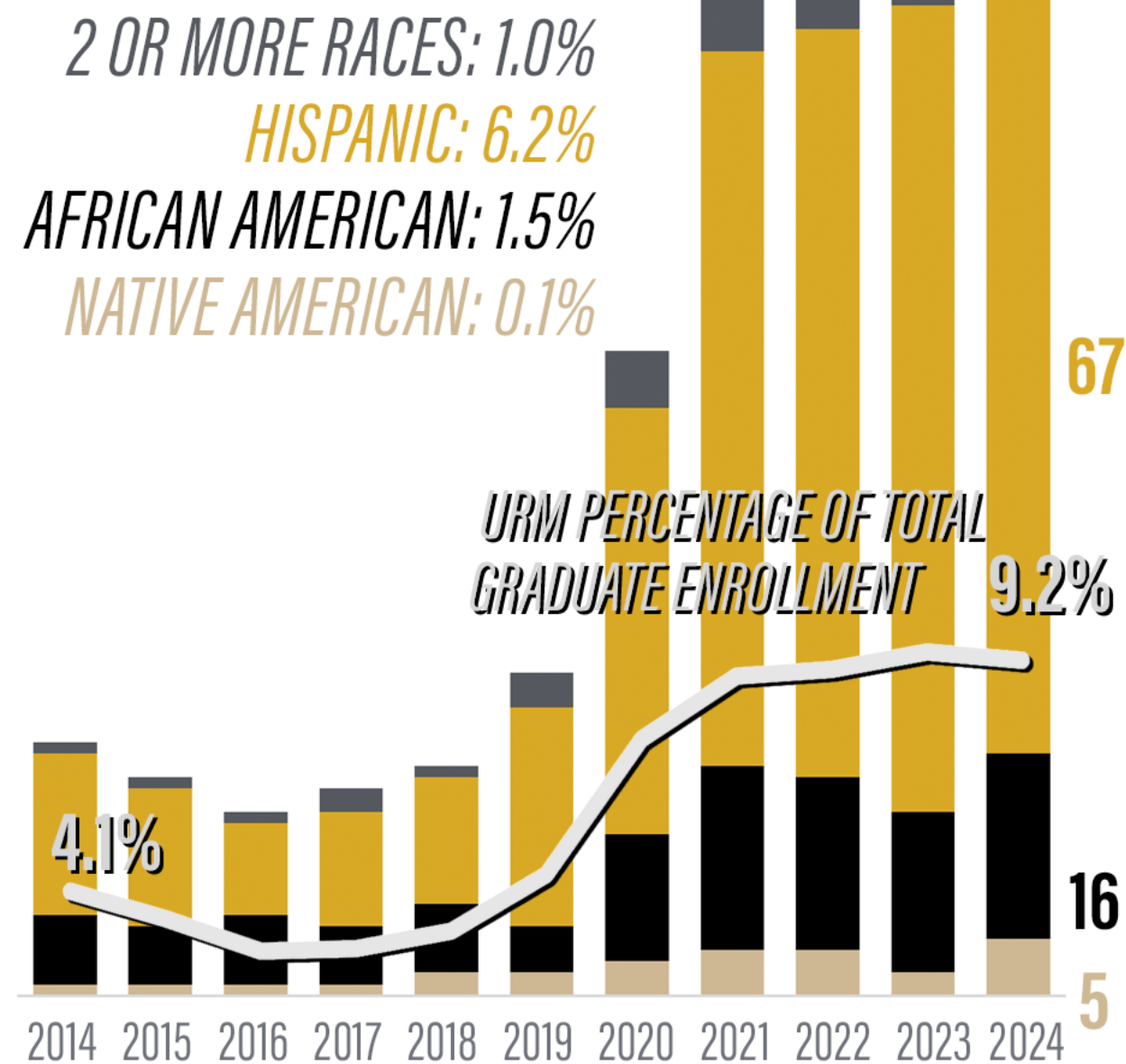
- #3 mechanical engineering program in the US over the last five years

We are always looking for alternative rankings and metrics beyond US News

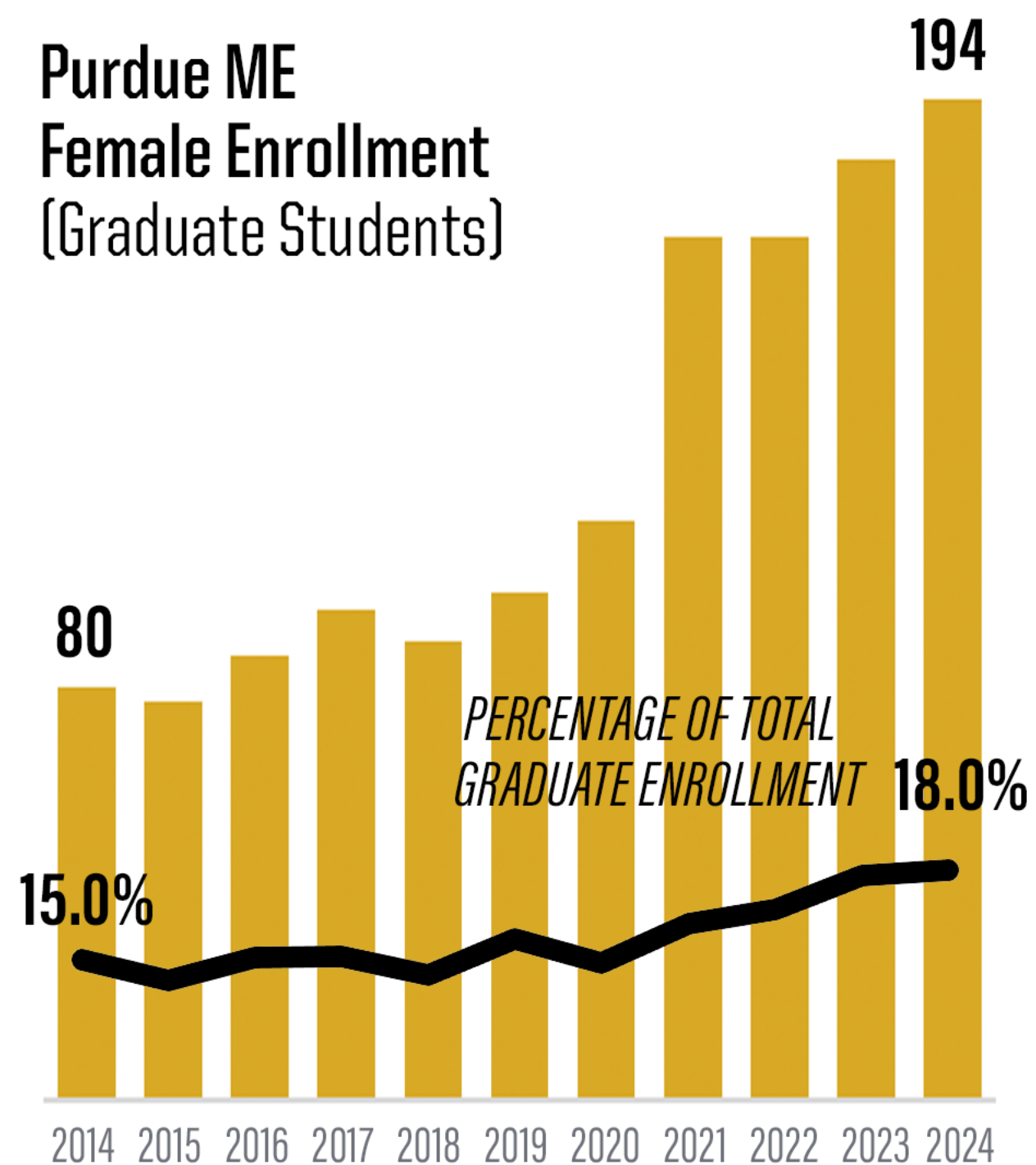
Purdue ME Graduate Enrollment



Purdue ME URM Enrollment (Graduate Students)

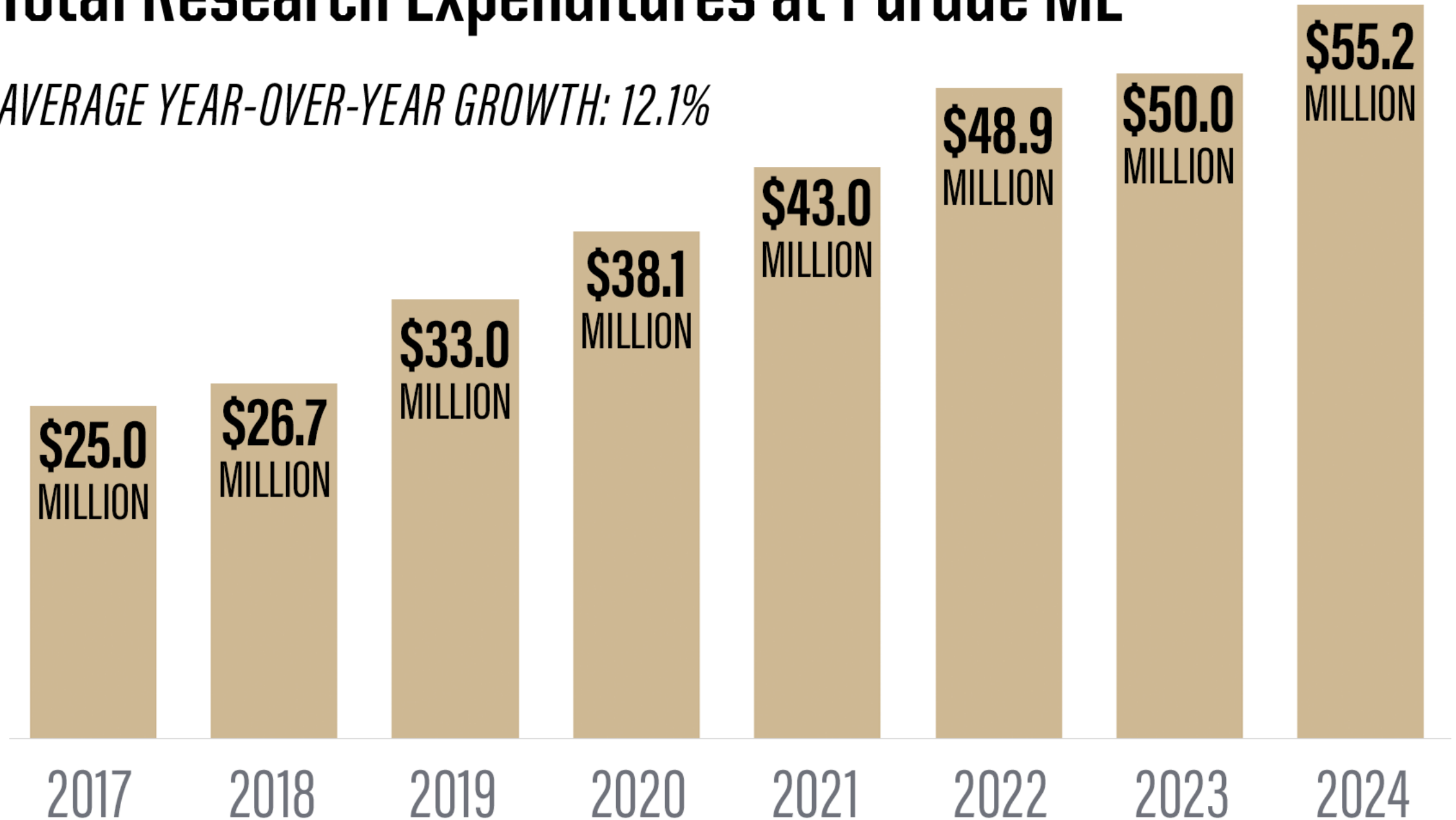


Purdue ME Female Enrollment (Graduate Students)



Total Research Expenditures at Purdue ME

AVERAGE YEAR-OVER-YEAR GROWTH: 12.1%



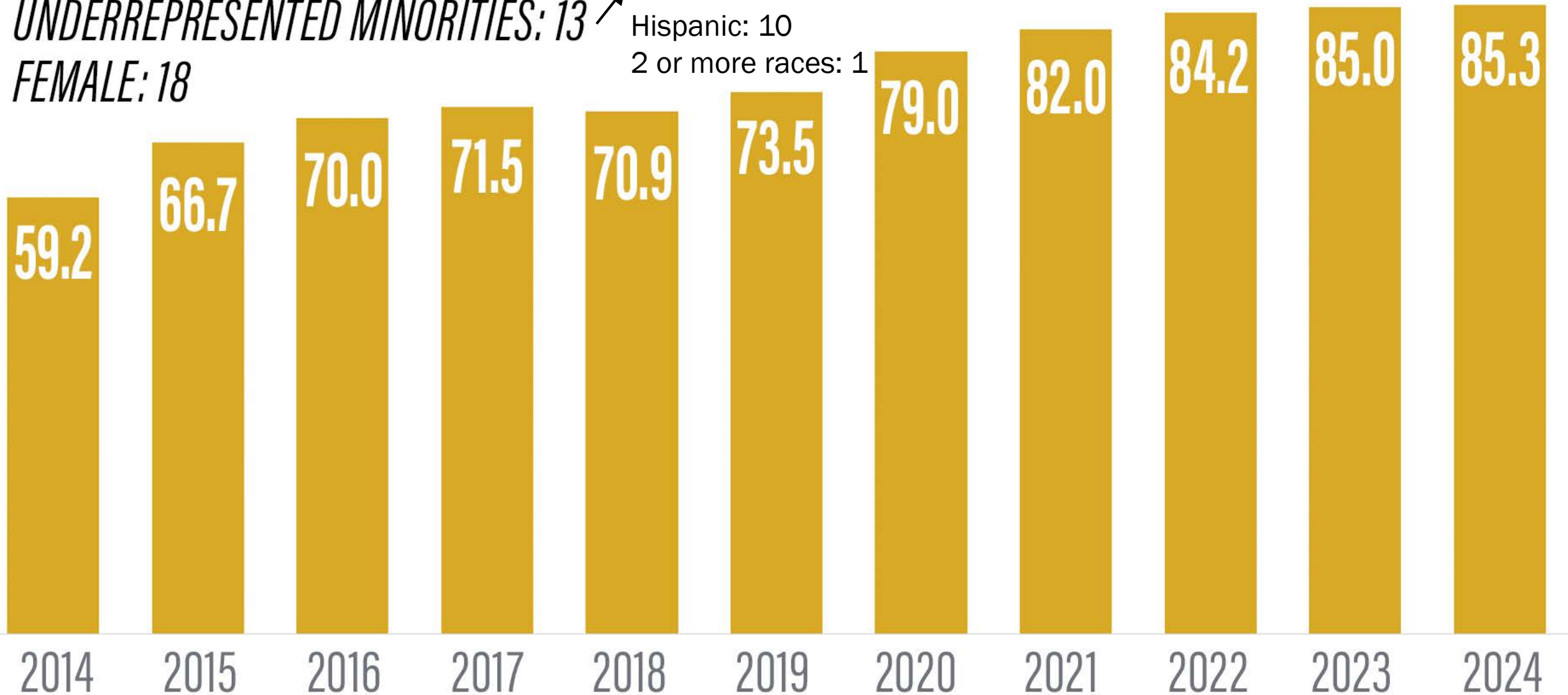
Purdue ME Faculty FTEs (Full Time Equivalent)

TOTAL FACULTY MEMBERS: 99

UNDERREPRESENTED MINORITIES: 13  African American: 2
Hispanic: 10

FEMALE: 18

2 or more races: 1



Purdue ME faculty who are journal editors

33 faculty are involved in editing 46 journals (that we know about!)

Alex Chortos: Associate Editor, Flexible Electronics

Amy Marconnet: Associate Editor, Journal of Electronic Packaging

Andrea Vacca: Editor in Chief, International Journal of Fluid Power
Associate Editor, Actuators

Editorial Board, International Journal of Hydromechatronics

Arezoo Ardekani: Associate Editor, Applied Mechanics Reviews

Babak Anasori: Editor-in-Chief, Graphene and 2D Materials

Carlos Larriba-Andaluz: Editorial Board, Scientific Reports

Dave Cappelleri: Associate Editor, IEEE Transactions on Robotics

Associate Editor, Journal of Micro-Bio Robotics

Associate Editor, IEEE Robotics & Automation Letters

Davide Ziviani: Subject Editor, Elsevier Energy

Eckhard Groll: Associate Editor, International Journal of Refrigeration

Eduardo Barocio Vaca: Editorial Board, Additive Manufacturing Letters

Euiwon Bae: Editorial board, Scientific Reports

Editor, Journal of Microbiological Methods

Fabio Semperlotti: Associate Editor, ASME Journal of Vibration and Acoustics

Fu Zhao: Associate Editor, Journal of Cleaner Production

Guang Lin: Associate Editor, Multiscale Modeling and Simulation

Guillermo Paniagua: Executive Editor, Thermopedia

Associate Editor, Springer CEAS Space Journal

Hector Gomez: Editor, Engineering with Computers

James Gibert: ASME Journal of Vibration and Acoustics

Jitesh Panchal: Associate Editor, ASME Journal of Mechanical Design

Jong Hyun Choi: Associate Editor, Discover Applied Sciences

Editorial Board: Scientific Reports, Micromachines

Kartik Ariyur: Associate Editor, International Journal of Adaptive Control and Signal Processing

Laura Blumenschein: Associate Editor, The International Journal of Robotics Research

Marcial Gonzalez: Associate Editor, Mechanics Research Communications

Martin Jun: Associate Editor, Journal of Manufacturing Processes

Neera Jain: Associate Editor, Journal of Dynamic Systems, Measurement, and Control

Associate Editor, IFAC Annual Reviews in Control

Associate Editor, IEEE Open Journal of Control Systems

Partha Mukherjee: Editor-in-Chief, ASME Journal of Electrochemical Energy Conversion and Storage

Peter Meckl: Editor of ASME Letters in Dynamic Systems and Control

Sohel Anwar: Editorial Board, IEEE Transactions on Vehicular Technology

Song Zhang: Associate Editor, Journal of Optics and Lasers in Engineering

Steve Son: Editor in Chief, The JANNAF Journal of Propulsion and Energetics

Thomas Siegmund, editorial board member, Int'l Journal of Mechanical Sciences

Xianfan Xu: Editorial Board, Scientific Reports

Associate Editor, International Journal of Heat and Mass Transfer

Xiaoping Du: Editor, Structural and Multidisciplinary Optimization

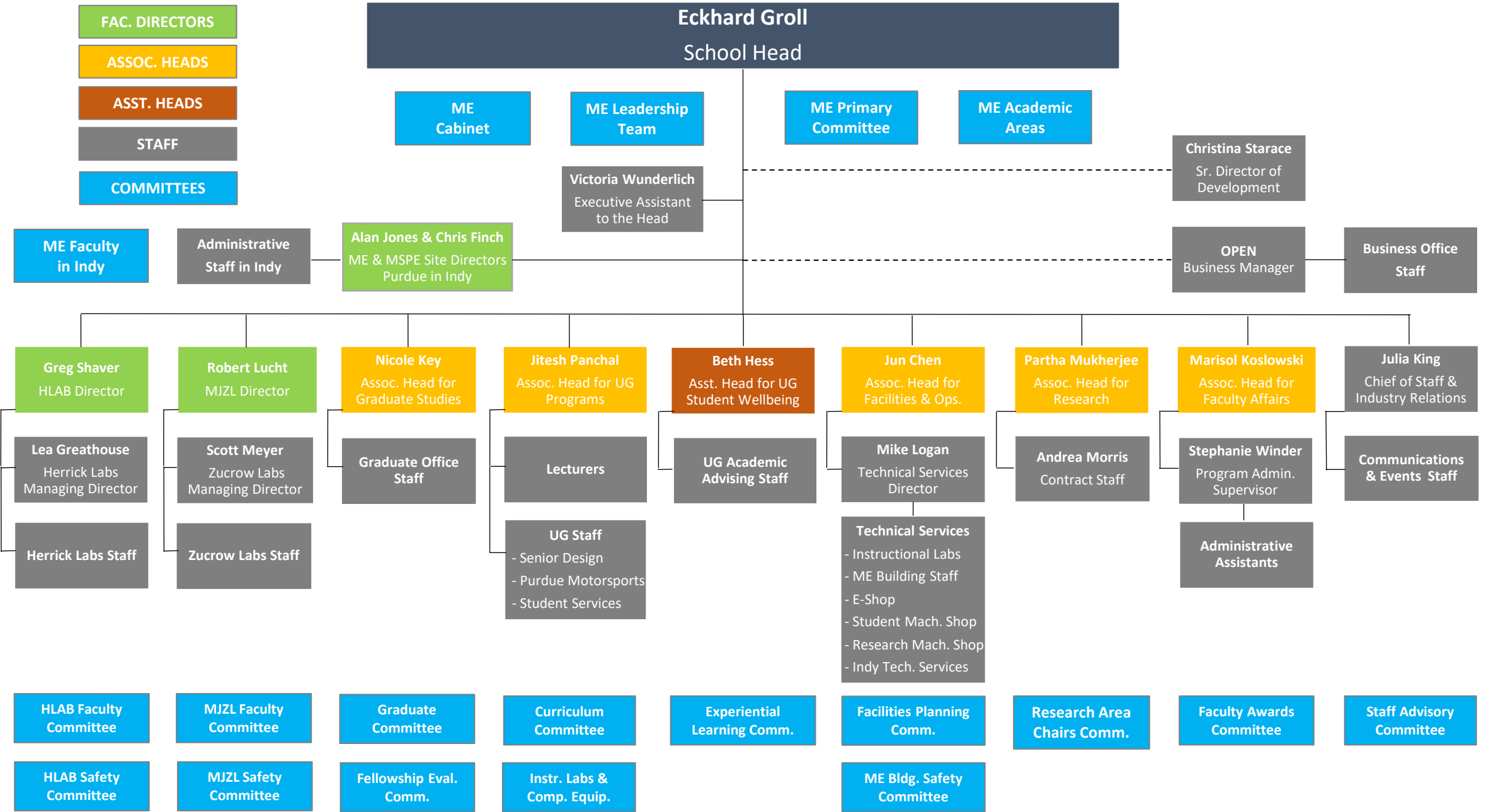
Yan Gu: Associate Editor, IEEE Robotics and Automation Letters

Associate Editor, IFAC Mechatronics: The Science of Intelligent Machines

Technical Editor, IEEE/ASME on Mechatronics

Yung Shin: Editor in Chief, Lasers in Manufacturing and Materials Processing

Editor in Chief, Advanced Manufacturing



Comings and Goings

New positions for faculty and staff



- **Marisol Koslowski** is now Associate Dean for Global Engineering Programs and Partnerships
 - *ME Associate Head for Faculty Affairs position is now open*
- **David Cappelleri** is now Assistant Vice President for Research Innovation
- **Dan Williams** is now Director of the Purdue AI Racing Team
- **Euiwon Bae** will be the new Assistant Director of Senior Design
- **Francisco Montalvo** is now Assistant Director for Experiential Learning

Comings and Goings

New positions for faculty and staff



- Promotions to full professor:
 - Ilias Bilonis
 - Hamid Dalir
 - Chi Hwan Lee
 - Amy Marconnet
 - Liang Pan
 - Whitney Yu
- Promotions to associate professor:
 - Aaron Morris
 - Davide Ziviani

Comings and Goings

Retirements



July 2024:

- Gordon Pennock

December 2025:

- Stuart Bolton
- Jim Braun
- Patricia Davies
- Klod Kokini
- Peter Meckl

- *226 combined years of experience at Purdue*

Our Indianapolis faculty and staff

Welcome to the family!

FACULTY

Babak Anasori Associate Professor

Sohel Anwar Professor

Jie Chen Professor

Hamid Dalir Professor

Xiaoping Du Professor

Hazim El Mounayri Associate
Professor

Chris Finch Professor of Practice

Alan Jones Associate Professor

Carlos Larriba-Andaluz Associate
Professor

Razi Nalim Professor

Hosop Shin Assistant Professor

Andres Tovar Associate Professor

Diane Wagner Associate Professor

Xialiang Wei Assistant Professor

Jian Xie Professor

Shengfeng Yang Assistant Professor

Huidan (Whitney) Yu Associate
Professor

Jing Zhang Associate Professor

Likun Zhu Professor

STAFF

Jess Chen Instructional Support
Engineer

Hessam Noori Dokht Instructional
Support Manager

Zachary Sigafos Executive Assistant

Christine Warnock Senior
Administrative Assistant

ACADEMIC ADVISORS (shared
between BME, ECE, ME, and MSPE)

Sean Cook

Shelby Franklin

Cecily Girton

Brian Kennely

Danny King

Jane Talla

Kate Winton

New West Lafayette faculty and staff

Welcome to the family!

NEW FACULTY

Eduardo Barocio Vaca Assistant Professor

Jie Cai Associate Professor

Eric Holloway Professor of Practice

Daniel Williams Professor of Practice

FACULTY JOINING JANUARY 2025

Ashwin Ramachandran Assistant Professor

Li Zhan Assistant Professor (75% ME / 25% BME)

NEW STAFF

Eric Bach Research Scientist

Miranda Baer Academic Advisor

Julia Davis Associate Communications Specialist

Lea Greathouse Operations Manager, Ray W. Herrick Laboratories

Karen Hurtubise Program Coordinator, Schedule Deputy & Scholarship Coordinator

Lily Krest Academic Advisor

Manuel Mar Valencia Operations Manager, Autonomous Racing Team

Jonathan Martz Academic Advisor

Brian McVay Machine Shop Student Educator

Nicholas Novosel Academic Advisor

Austin Webb Research Scientist

Edward Woltersdorf Administrative Assistant

NEW IN THE BUSINESS OFFICE

Naomi Harris Research Account Specialist

Noelle Larimer Business Assistant Lead

Ravin Levin Business Assistant Lead

Coffee Break



**Meet your new
co-workers!**

Welcome the Dean



Arvind Raman

Dean of the College of
Engineering, Robert V. Adams
Professor in Mechanical
Engineering, Professor of
Materials Engineering (by
Courtesy)

Strategic Planning Breakout Sessions

Education

Undergraduate

- Indy/motorsports
- Office hours / tutorial rooms
- New concentrations, certificates, & minors
- "One student at a time"

Graduate

- Area exams
- Requirements for transition from MS thesis to direct PhD
- Building community among grad students
- Professional Master's

Research

- Research opportunities in Indy
- Integrating with strategic initiatives at the College and University
- Strategic partnerships with national labs & institutions
- Possible ME-led research centers we should pursue during the next 1 or 2 years

People

Faculty

- Recruiting, retention, and recognition
- Expansion of global partnerships and programs
- Faculty-staff interactions, expectations, and roles

Staff

- Development opportunities
 - Study abroad
 - Staff sabbaticals
 - Staff exchanges
- Faculty-staff interactions, expectations, and roles

Facilities

- Instructional lab growth with enrollment growth
- Effective use of research space
- Office space for graduate students and post-docs

Lunch



One School, Many Locations

Challenges & Opportunities



Tours

ME Building

- Instructional and common spaces
- Currently under renovation



Herrick Labs

- HVAC, refrigeration, and smart buildings
- Engine test cells



Zucrow Labs

- Rockets, turbines, and combustion
- Energetic materials

