FAU
BOARD OF TRUSTEES
Florida Atlantic University

Item: AS: I-1

COMMITTEE ON ACADEMIC AND STUDENT AFFAIRS

Tuesday, November 14, 2023

SUBJECT: REPORT ON RESEARCH

PROPOSED COMMITTEE ACTION

No action is necessary. This item is only informational.

BACKGROUND INFORMATION

Dr. Gregg Fields, Interim Vice President for Research, will give a general update on the Division of Research.

IMPLEMENTATION PLAN/DATE

N/A

FISCAL IMPLICATIONS

N/A

Supporting Documentation: PowerPoint Presentation

Presented by: Dr. Gregg Fields, Interim VP for Research **Phone:** 561-297-0268

RESEARCH
OVERVIEW

Gregg Fields, Ph.D.
Interim Vice President
for Research

Total Sponsored Research Expenditures

2023	$67.25M
2022	$56.1M
2021	$55.9M
2020	$50.2M
2019	$45.7M
2018	$41.5M

Research Growth

Value of Research Awards Received

$75.4 2023

$67M 2022

$78M 2021

$63M 2020

$57M 2019

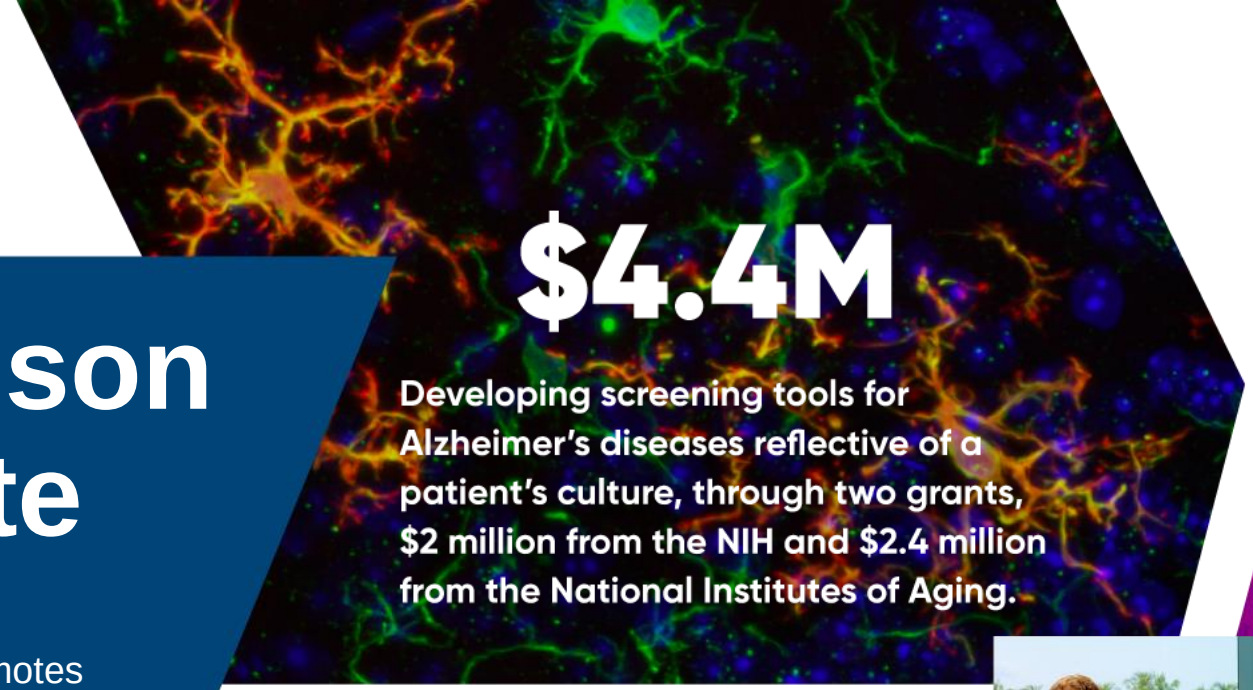
CAREER Awards Skyrocket

*FY23 not final

$14.5M	College of Engineering and Computer Science
$12.4M	College of Education
$8.6M	Charles E. Schmidt College of Medicine
$5.9M	Charles E. Schmidt College of Science
$5.5M	Christine E. Lynn College of Nursing
$2.1M	Dorothy F. Schmidt College of Arts and Letters
$1.5M	Harriet L. Wilkes Honors College
$1.04M	College of Business
$549K	Graduate College
$347K	College of Social Work and Criminal Justice

Stiles-Nicholson Brain Institute

Advanced neuroscience research that promotes superior neuroscience education, facilitates the translation of research discoveries and enhances the public understanding of the dimensions of brain research and its benefits.



$4.4M

Developing screening tools for Alzheimer's diseases reflective of a patient's culture, through two grants, $2 million from the NIH and $2.4 million from the National Institutes of Aging.

$100K

NIH Blueprint for Neuroscience Research program, called Blueprint MedTech, to develop non-invasive, non-opioid-based treatment for chronic pain.

To train the next generation of brain scientists, the FAU Stiles-Nicholson Brain Institute and Charles E. Schmidt College of Science launched the new Neuroscience Graduate Program

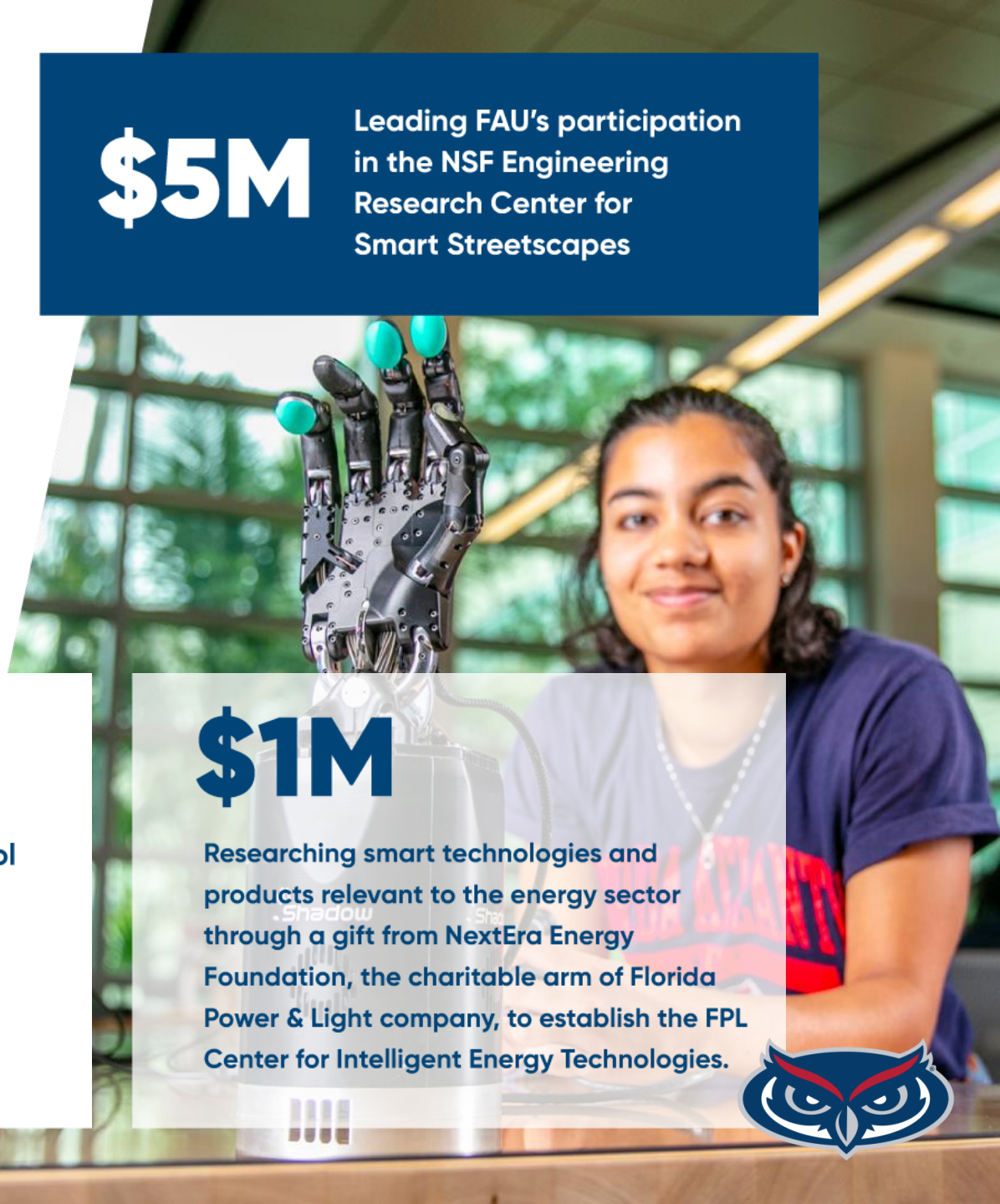
I-SENSE

(Institute for Sensing and Embedded Network Systems Engineering)

Innovation hub for sensing, computing, communication, AI, connected autonomy and cryptography, providing technical expertise and engineering support, and tackling society's most pressing challenges, from safeguarding water systems and agricultural resources, to managing growing cities, to supporting health and wellness.

$5M

Leading FAU's participation in the NSF Engineering Research Center for Smart Streetscapes



$1.3M

Developing technology that enables autonomous interference-avoiding connectivity of U.S. Air Force assets, through a grant from the Air Force Research Laboratory.

$1.2M

Empowering amputees to control the full dexterity of artificial hands through a grant from the National Science Foundation.

$1M

Researching smart technologies and products relevant to the energy sector through a gift from NextEra Energy Foundation, the charitable arm of Florida Power & Light company, to establish the FPL Center for Intelligent Energy Technologies.

FAU Harbor Branch Oceanographic Institute

Solution-oriented research addresses critical issues affecting coastal zones, oceans and human well-being, including conducting studies around the world in varying climates, ecosystems and cultures.

$2.8M

Establishing a queen conch hatchery in Grand Bahama with a gift from the Builders Initiative.

$20.9M

Researching persistent maritime surveillance research from the U.S. Office of Naval Research.

~600K

Collaborator on a grant from the U.S. Department of Defense for a powerful high resolution imaging technique that can reveal nanoscale structures.

$400K

Launched a public boat tour of the Indian River Lagoon aboard The Discovery, a 36-passenger pontoon, through a grant from the U.S. Environmental Protection Agency's South Florida Initiative Program.

I-HEALTH

(Institute for Human Health and Disease Intervention)

Leads paradigm-shifting research groups focused on cancer, infectious diseases, and human health and dementia fueled by multidisciplinary collaborations across FAU's colleges and with regional clinical partners.

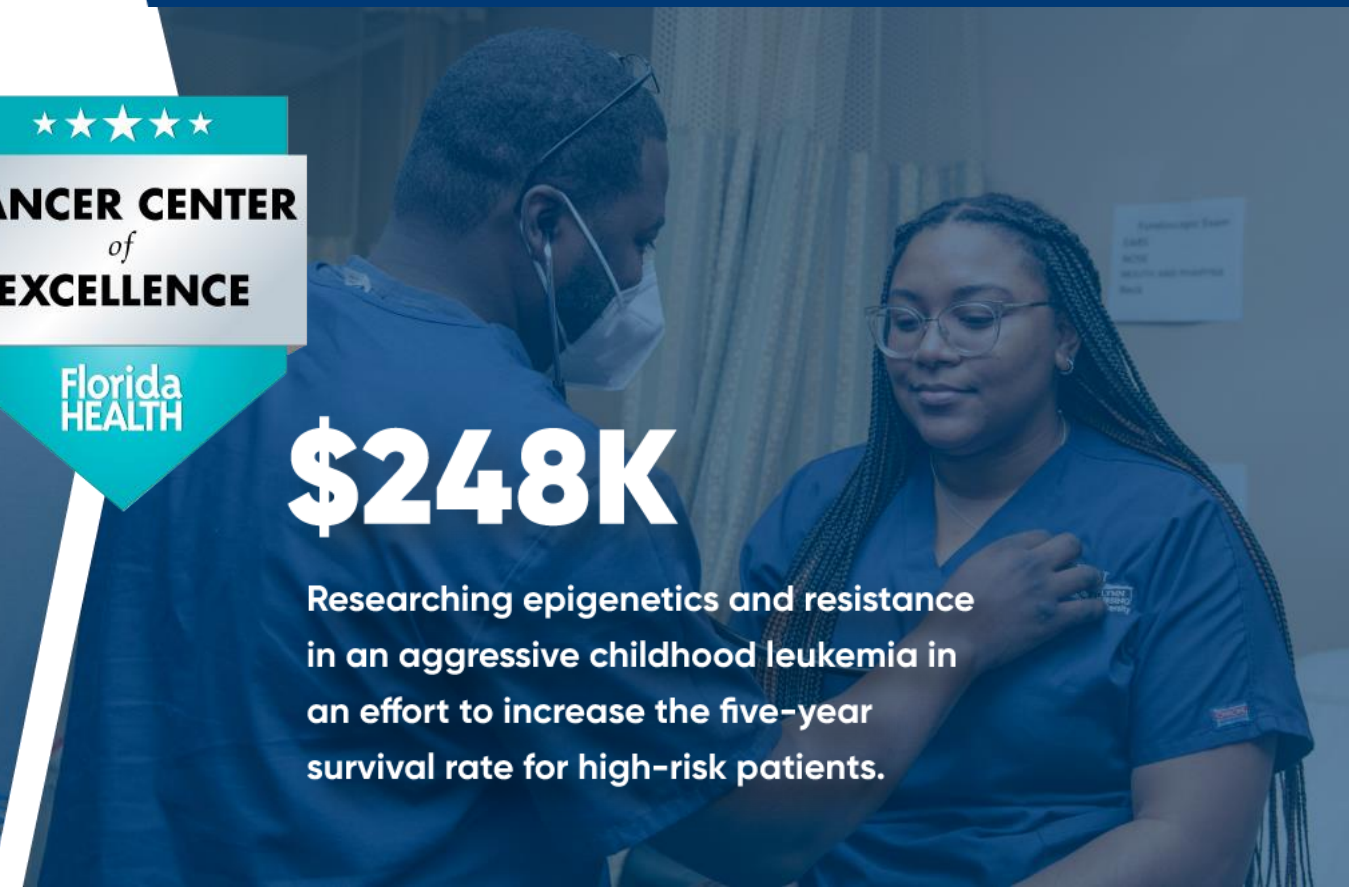
$772K

Provide age-appropriate, culturally relevant information to diverse young breast cancer survivors through a grant from the National Institutes of Health

CANCER CENTER of EXCELLENCE
Florida HEALTH

110

Through the partnership of Memorial Cancer Institute and FAU, the Florida Cancer Center of Excellence, more than 110 physicians and scientists opened more than 65 clinical trials that provide access to patients with new agents that are not yet approved by FDA.



$248K

Researching epigenetics and resistance in an aggressive childhood leukemia in an effort to increase the five-year survival rate for high-risk patients.

Cancer Center of Excellence:

An Exclusive Designation by the Florida Legislature

Early Path to Prevention

Guiding Young Breast Cancer Surviors

Partnering for the Cure

Collaboration Leads to Better Cancer Treatment for All

Connecting Cancer and Epigenetics

Patrick Grant, Ph. D.

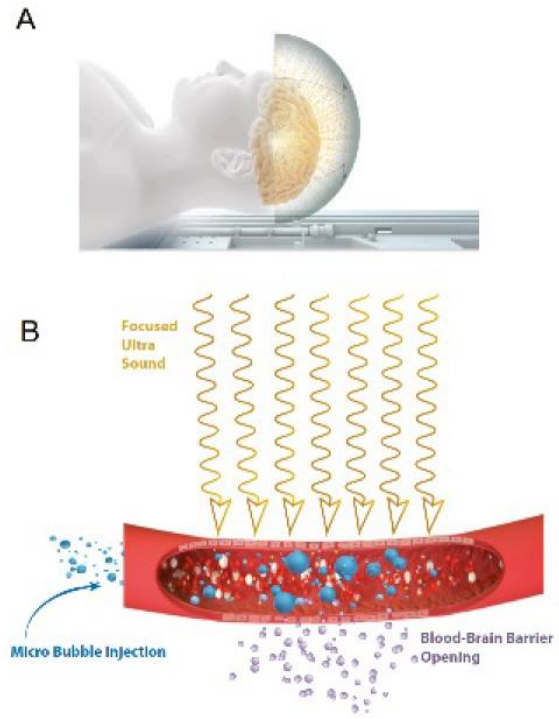
Investigating Childhood Cancer Treatment Resistance

FLORIDA CANCER CONNECT

MR-Guided Focused Ultrasound (MRgFUS)

State of Florida Board of Governors appropriation “Research University Alzheimer’s Research Using Exablate Neuro-focused Ultrasound,” 1/1/22-12/31/27, $1,500,000 total costs.

ClinicalTrials.gov Identifier: NCT03671889 (ExAblate Blood-Brain Barrier (BBB) Disruption for the Treatment of Alzheimer's Disease)



'There's hope:' Delray Medical, FAU progress in Alzheimer's research using new technology

by Luli Ortiz | Friday, February 17th 2023

Delray Medical Center's Dr. Floyd Tucker with patient participating in FDA-approved clinical trial, using focused ultrasound to disrupt the blood-brain barrier, which has the potential to lead to cognitive improvement in patients with Alzheimer's. (Delray Medical Center)

DELRAY BEACH, Fla. (CBS12) — Alzheimer's disease affects more than six million Americans over the age of 65 and a new technology is offering some hope in the fight against the brain disorder.

Delray Medical Center and Florida Atlantic University's Institute for Human Health and Disease Intervention (I-Health) worked together in a collaborative FDA-approved clinical trial this week, using non-invasive focused ultrasound technology, a tool now evolving in the medical field, to treat the first patient in Florida at the hospital.

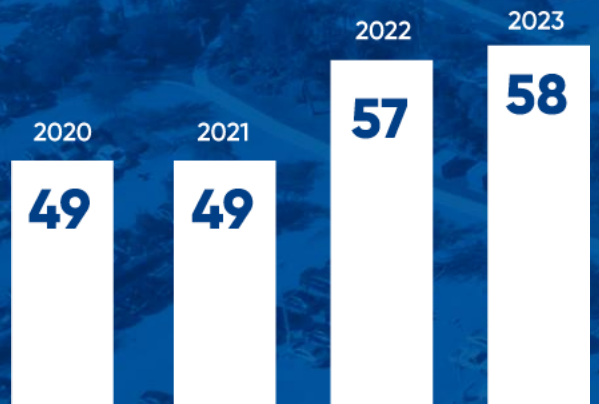
Road to R1

What is the significance to R1/Tier One designation?

R1 universities meet benchmarks in research, educational activity and vital research staffing including postdoctoral fellows, as measured by the Carnegie Classification of Institutions of Higher Education.

How is FAU approaching R1?

- Talent Acquisition: Senior Faculty hires, additional Postdoctoral Fellows
- Research Acceleration: Institutes
- Infrastructure Expansion: Cutting-edge technology acquisition



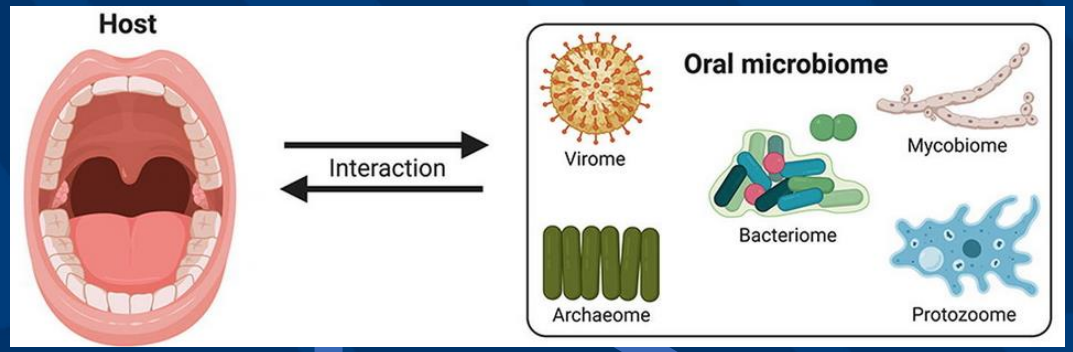
Example: Increase in Postdoctoral Fellows

2024

Florida Atlantic is on the precipice to achieve Carnegie Classification of Institutions of Higher Education's highest and most coveted Very High Research Activity status (R1) for the next adjustment in 2024.

Note: This prediction is based on R1 status equaling 137, which has a number of uncertainties, including movement/ improvements of other universities and inclusion of a new social mobility factor.

The Microbiome and Human Disease



- Bacteremia
- Inflammatory mediators

Low-grade systemic inflammation

Direct Pathway

Indirect Pathway

Atherosclerosis

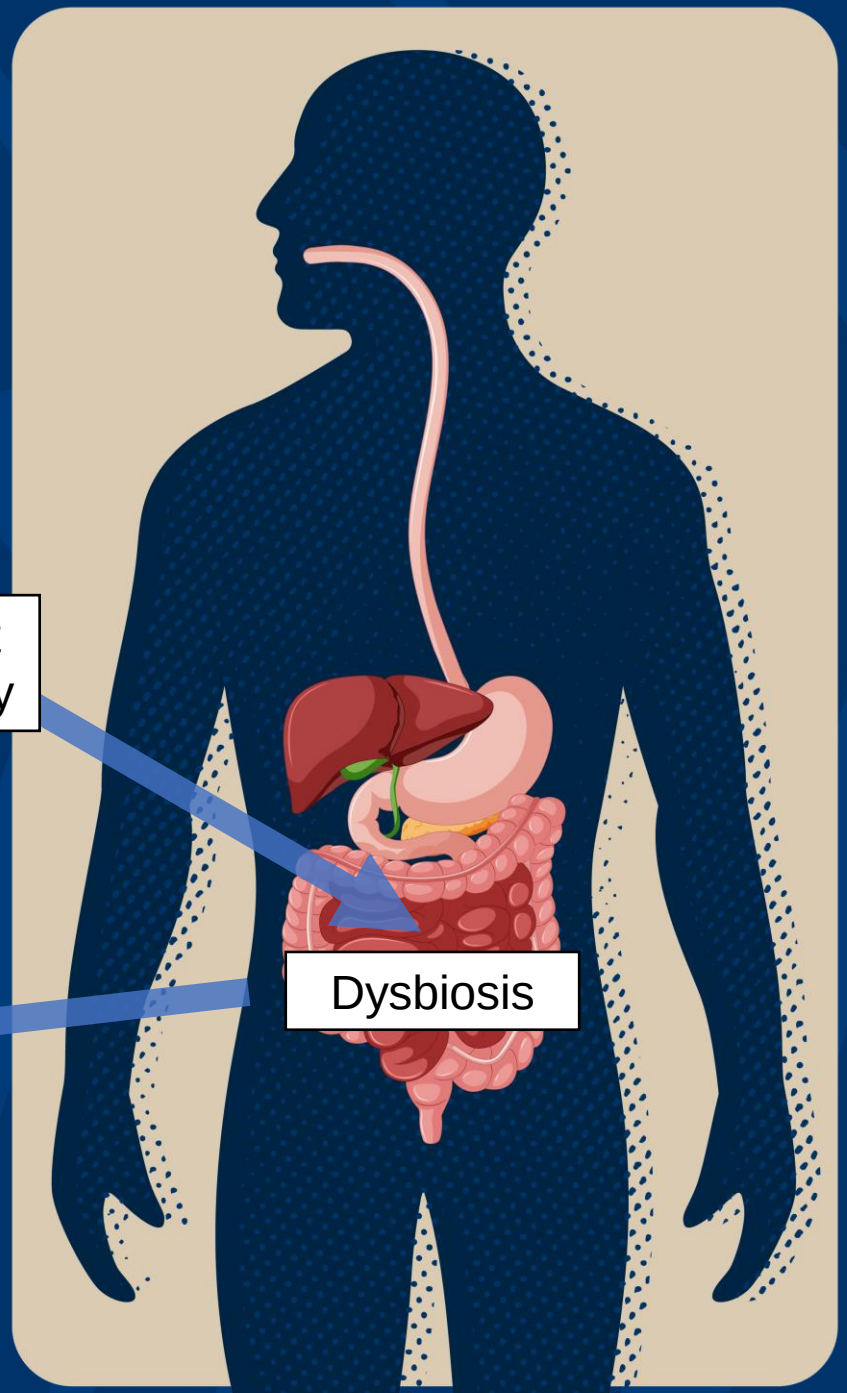
NAFLD

Diabetes

Alzheimer's disease

Rheumatoid arthritis

Cancer



Dysbiosis

- Impaired gut barrier function
- Endotoxemia
- Altered gut immune profile