AGENDA

University of Connecticut
Board of Trustees

Committee for Research, Entrepreneurship and Innovation

Tuesday, May 24, 2022

Meeting held by Telephone:

Public Call in #: (415) 655-0002 US Toll
Access Code: 2624 949 3893

Public Access Link: *https://ait.uconn.edu/bot*

(A recording of the meeting will be posted on the Board website https://boardoftrustees.uconn.edu/ within seven days of the meeting.)

AGENDA

Call to order at **1:00 p.m.**

1. Public Participation*
   * If members of the public wish to address the Committee during the Public Participation portion of the meeting, you must submit a request in writing 30 minutes prior to the start of the meeting by 12:30 p.m. to the following email address: BoardCommittees@uconn.edu. Please indicate your name, telephone number, and topic on the agenda to be discussed. Per the University By-Laws, the Board may limit public comment. As an alternative, you may also submit your comments via email which will be shared with the Committee.

ACTION ITEM:

2. Minutes of the Meeting of the Research, Entrepreneurship and Innovation Committee of March 8, 2022.

PRESENTATION/DISCUSSION ITEMS:

3. Update on the Visit of National Science Foundation (NSF) Director
   Pamir Alpay, Interim Vice President for Research, Innovation, & Entrepreneurship

4. Update on the UConn Genomic & Mechanistic Metabolism Group (GMMG)
   Ji-Young Lee, Professor and Department Head, Nutritional Sciences

5. Update on the TIP Innovation Fellows Program
   Caroline Dealy, Director

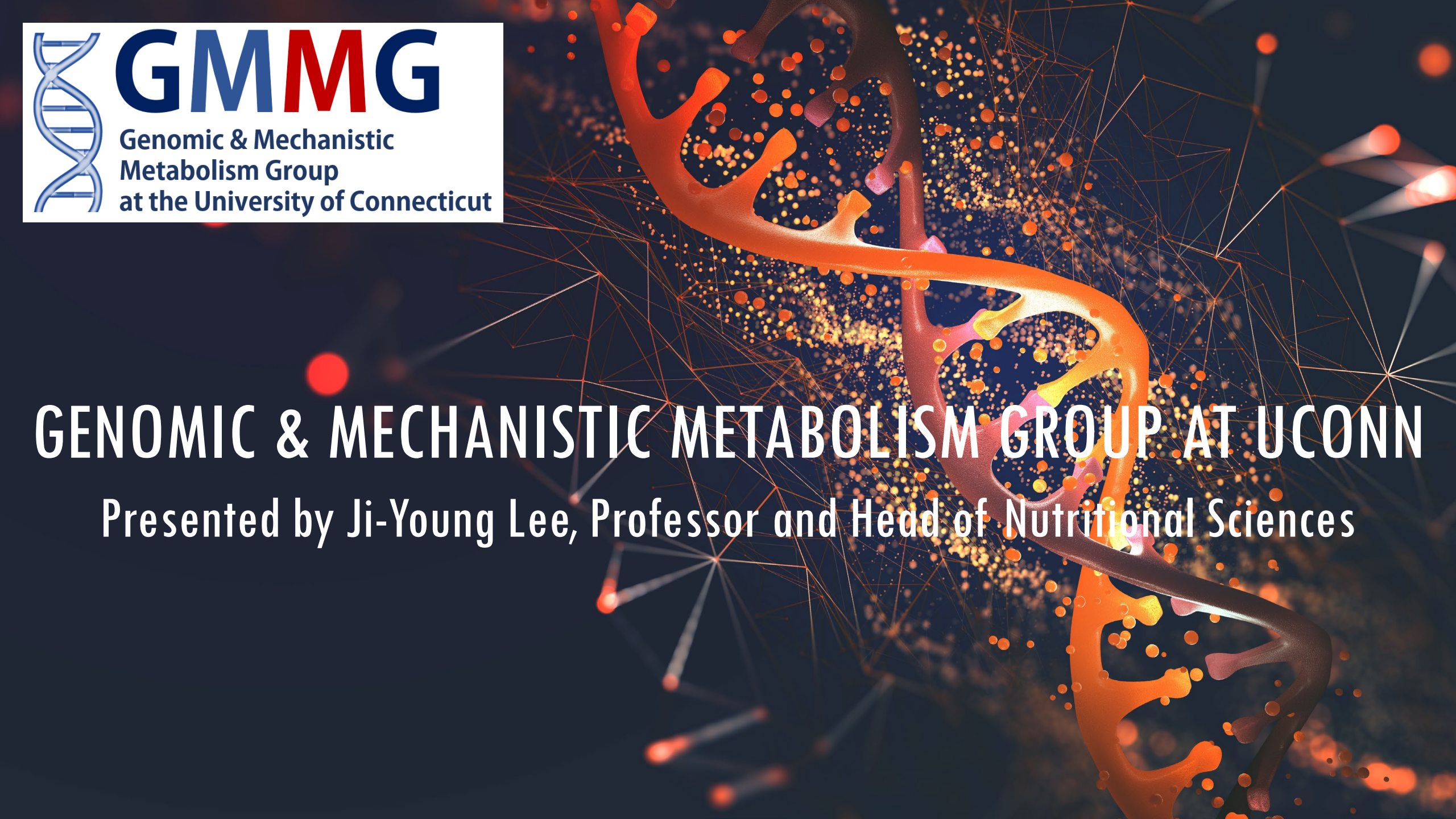
6. Update on the CT Center for Entrepreneurship & Innovation (CCEI)
   Jennifer Mathieu, Director

7. Other business

8. Executive Session (as needed)

9. Adjournment

PLEASE NOTE: *If you are an individual with a disability and require accommodations, please call or e-mail the Board of Trustees Office at (860) 486-2333 or boardoftrustees@uconn.edu prior to the meeting.*


GMMG
Genomic & Mechanistic
Metabolism Group
at the University of Connecticut
GENOMIC & MECHANISTIC METABOLISM GROUP AT UCONN
Presented by Ji-Young Lee, Professor and Head of Nutritional Sciences

INTER-DEPARTMENTAL AND CROSS-CAMPUS COLLABORATIONS AT UCONN!

UCONN
COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES

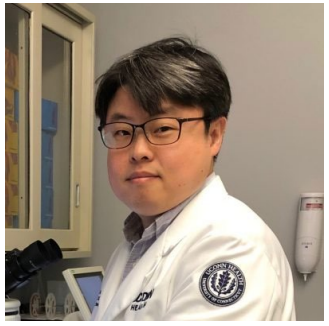
UCONN
SCHOOL OF PHARMACY

UCONN
SCHOOL OF MEDICINE

GMMG MEMBERS

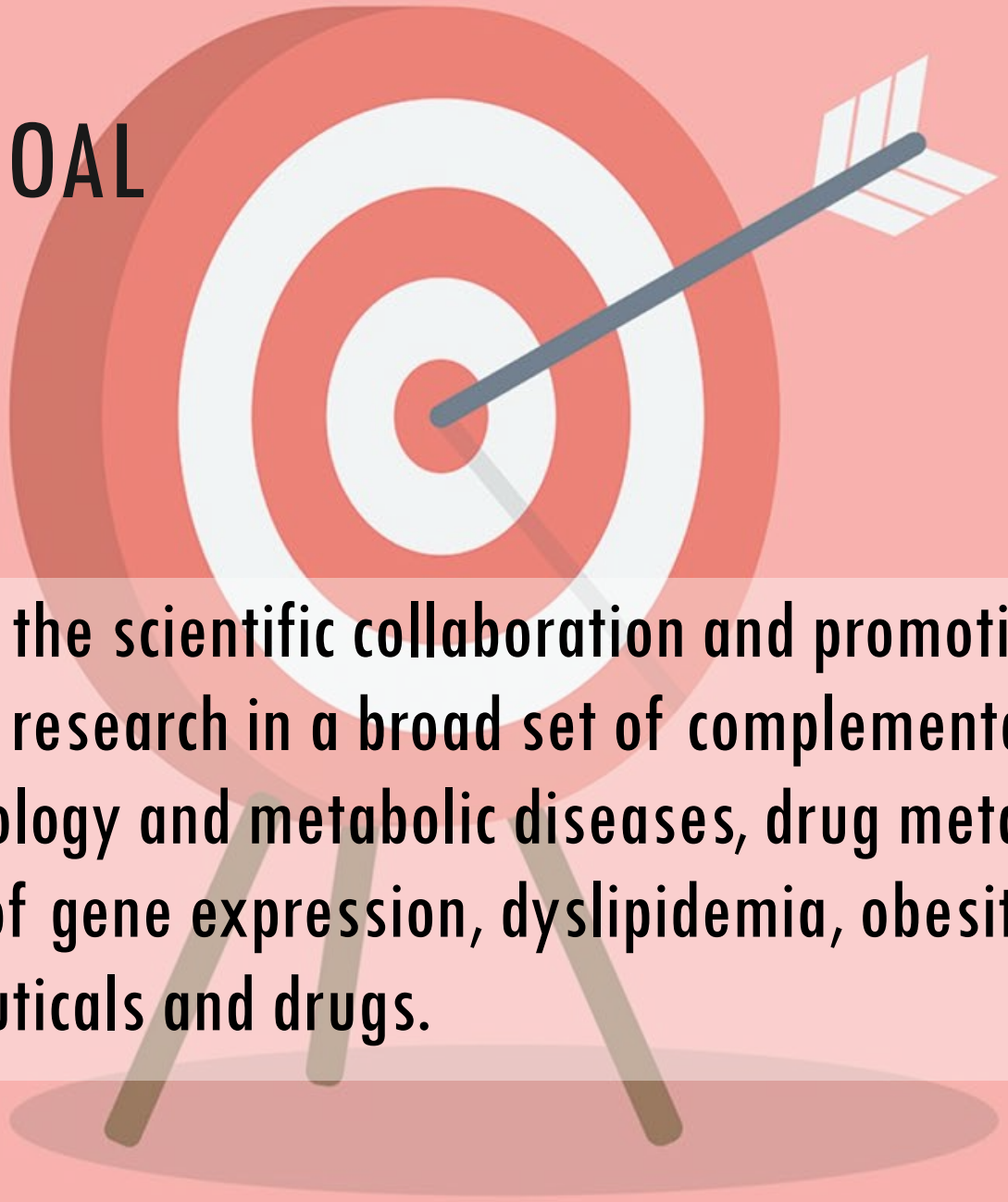
UCONN
COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES

UCONN
SCHOOL OF PHARMACY



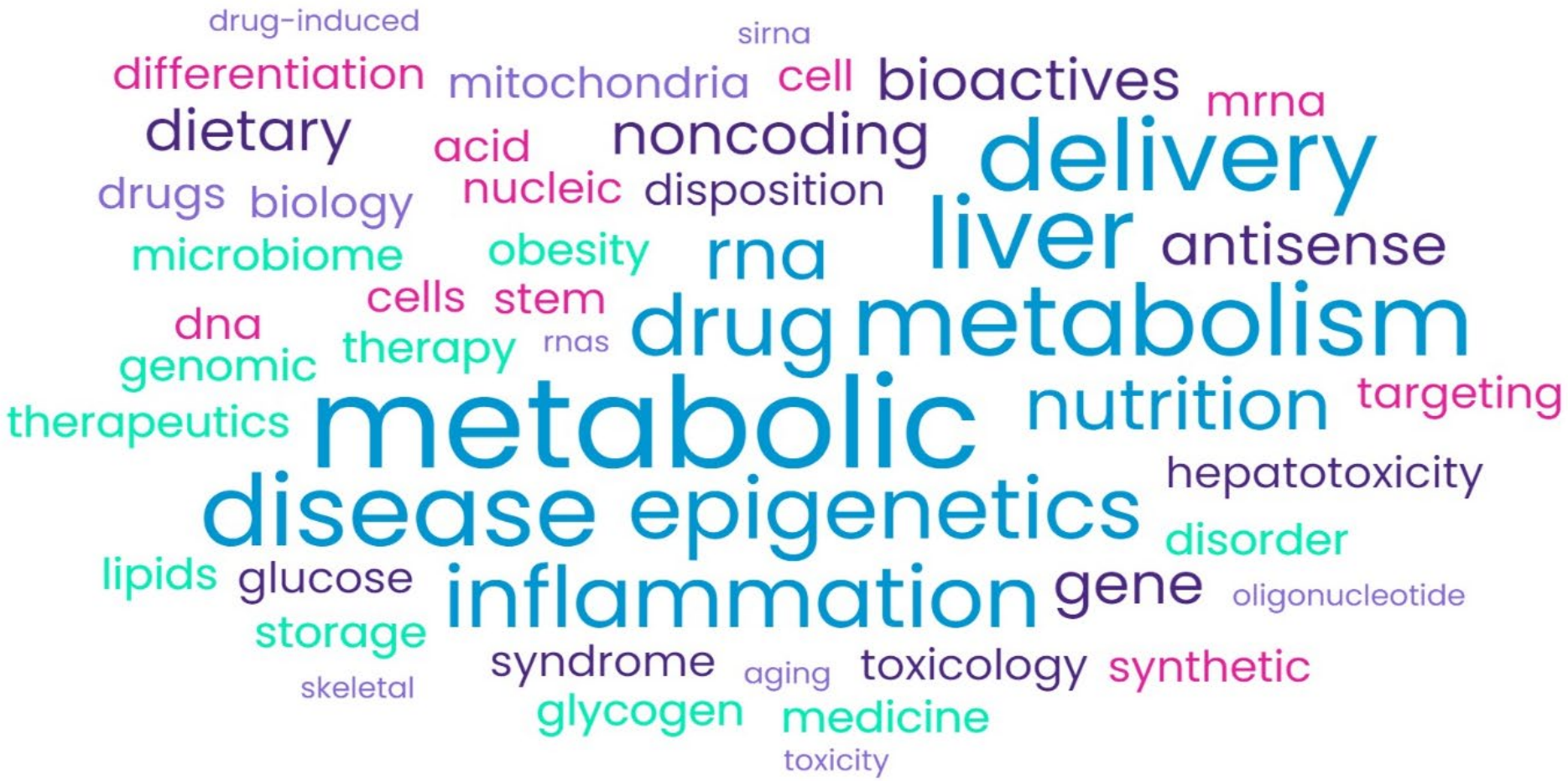
UCONN
SCHOOL OF MEDICINE

OUR GOAL



To facilitate the scientific collaboration and promotion of innovative and multi-disciplinary research in a broad set of complementary areas, such as liver pathophysiology and metabolic diseases, drug metabolism, nutrition, epigenetic regulation of gene expression, dyslipidemia, obesity, and nano-delivery systems for nutraceuticals and drugs.

OUR RESEARCH INTERESTS



OUR EXPERTISE:
NUTRITION & EXERCISE FOR OPTIMAL HEALTH

Catherine Andersen, Associate Professor in Nutritional Sciences
Clinical Nutrition; Immune Functions and Cardiovascular Disease; Nutrigenomics

Christopher Blesso, Associate Professor in Nutritional Sciences
Cardiometabolic Disease; Bioactive Compounds; Gut Microbiome; Lipids

Sangyong Choi, Assistant Professor in Nutritional Sciences
Nutrigenetics and Nutrigenomics; Cardiometabolic Disease; Micronutrients

Ji-Young Lee, Professor & Head in Nutritional Sciences
Nutraceuticals; Epigenomics; Fatty Liver Disease; Immunometabolism

Oh Sung Kwon, Assistant Professor in Kinesiology
Mitochondria; Bioenergetics; Cardiovascular Physiology

UCONN
COLLEGE OF AGRICULTURE, HEALTH AND NATURAL RESOURCES

OUR EXPERTISE: GENOME-BASED THERAPEUTICS

Raman Bahal, Assistant Professor in Pharmaceutical Sciences
Targeted novel delivery of synthetic nucleic acid analogues for genetic diseases and cancer

Jose Manautou, Professor and Head in Pharmaceutical Sciences
Target organ toxicity; Liver Toxicology

Theodore Rasmussen, Associate Professor in Pharmaceutical Sciences
Stem cells; Epigenetics; Cell-based Therapeutics

Xiaobo Zhong, Professor in Pharmaceutical Sciences
Phamacogenetics; Pharmacogenomics; Epigenomics

Youngmok Lee, Assistant Professor in Pediatrics, UCH
Glycogen Storage Diseases; Gene therapy

UCONN
SCHOOL OF PHARMACY

UCONN
SCHOOL OF MEDICINE

WE ARE LIVER-CENTRIC!

Study the functions of liver in nutrient and drug metabolism, tissue injury/regeneration, and metabolic disease pathology to prevent and treat liver diseases

OUR RESEARCH ACCOMPLISHMENTS

- We are well-funded.

- We publish ~40 articles per year.

OUR HISTORY

- Members of Nutritional Sciences and Pharmaceutical Sciences have collaborated for years on an individual basis.
- Started to meet regularly as a group twice every semester from fall 2019.
- Named ourselves “Genomic and Mechanistic Metabolism Group (GMMG)” in fall 2021.
- Launched the GMMG website in February 2022.
- Held our first mini-symposium in March 2022.

THE FIRST MINI-SYMPOSIUM TO SHARE IDEAS TO ESTABLISH POTENTIAL COLLABORATIVE PROJECTS

- Identify 2-3 projects that will be developed as multi-PI R01 grant applications.
- Seek support from internal sources to conduct pilot studies for the generation of preliminary data for grant applications with a submission goal within 2 years.

- Submit and secure 2-3 multi-PI NIH R01 grants in 2-3 years.
- Demonstrate successful multi-discipline approaches for the prevention and therapy of diseases interest to the NIH National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).
- Submit program project/center and training grants to NIH NIDDK in 5 years.
- Ultimately, build a center focusing on liver health and disease at UConn.

GMMG

Genomic & Mechanistic
Metabolism Group
at the University of Connecticut

UConn-TIP Innovation Fellows Program

Caroline Dealy, PhD

Program founder and director
Assoc Professor, UConn Health
Depts. of Craniofacial Sciences, Orthopaedic Surgery, Biomedical Engineering, and Cell Biology
dealy@uchc.edu; carolinedealy.org
UConn alumnus, scientist, educator, inventor and faculty entrepreneur

the **TIP Innovation Fellows program**

…is an academia-industry collaboration that immerses UConn students in technology innovation and entrepreneurship,

by pairing them with startup companies

in UConn's TIP (Technology Incubation Program)

for mentored summer research experiences.

Why this program?

- Innovators are needed to solve the problems of the 21st Century
- Entrepreneurs are needed to make these solutions available for society

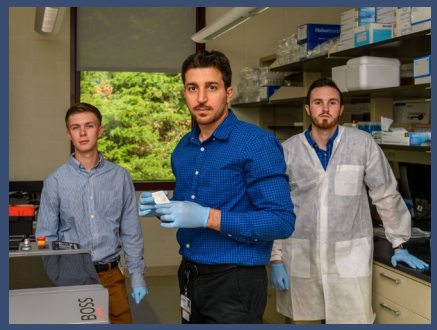
- Innovation is not taught in the standard classroom
- Hands-on experience is the best way to learn

- Innovation "culture" inspires creativity, leadership, and teamwork
- Hypothesis-driven commercialization = traditional scientific research
  - I & E training is an excellent way to develop a student's critical-thinking and problem-solving skills

- Startups, especially early-stage, are resource-limited
- Talent is hard to find
- The energy and enthusiasm of an engaged learner is unmatched
  - College students can make meaningful contributions to a startup's R & D goals

TIP fellowships are educational learning experiences – not a job or internship

TIP company hosts provide **training and mentorship** – often by the company CEOs



Academic enrichments include seminars and workshops on technology commercialization, innovation & entrepreneurship, and professional development

TIP Research Day
July 29, 2022

~20% of fellows use their summer TIP project to fill an academic requirement or convert their TIP project into 1-3 years of academic credit-bearing research

Participants by the numbers…

188 UConn students to date

There are 32 UConn students (fellows) in the summer 2022 cohort
Mix of undergraduates and Masters students (60/40)
Male/female (55/45)

- Business ~30%
- Engineering ~30%
- Life Sciences and Health ~40%

3/4 from Storrs campus, rest from Hartford, Stamford or Waterbury campus
80% of students have CT hometowns

25% are first in their family to go to college
35% self-identify as underrepresented (racial, ethnic, gender, economic)

60 different TIP companies to date

- About 1/3 of TIP companies volunteer to host fellows in any given year
- Half of those host more than 1 fellow and/or repeat from year to year

Program operations

As an educational learning experience, the TIP Innovation Fellows program models student research programs that are supported financially by UConn

Summer fellowship stipends

- $4,000 - $5,000
- Annual solicitation of pledges from UConn Deans and directors to support their students' participation in the program
  (total raised since 2012: $710,000)
- Dedicated pledge from Technology Commercialization Services
  ($50,000 in 2021 and 2022)

Leadership:

- Dr. Dealy expends ~40% faculty effort to run the program and provide academic oversight

Benefits to students

- Students benefit from the I&E training they receive and the ability to apply critical thinking to real world problems.

"Understanding the value proposition behind what I study makes for more compelling research, which will help my own innovation ideas go further".

"What I liked best about the program was being able to work closely with the visionaries of the company, learning in a fast-paced environment and being encouraged to try new things"

"Coming into this program I did not think I would ever be in an innovation role. But now I think it would be amazing to put my clinical knowledge together with my business interest."

"My summer spent with my startup host was a great learning experience to see real world applications of theory learned in the classroom"

Benefits to TIP companies

- Companies benefit through exchange of novel ideas with the students and the infusion of energy they bring to their companies, and the satisfaction of giving back to the UConn ecosystem that is helping them succeed.

"Every year, we have had the privilege to work with UConn's most talented students. I truly enjoyed how our fellows brought their knowledge and expertise, and contributed to our product development significantly."

"A model that has worked well for us is to bring our top fellows into the company after the summer. They grow alongside us"

" Thank you for the opportunity to participate in the TIP Fellowship program. The real-world, resume-worthy experience gained by our fellow, coupled with the research he did with us, makes the Fellowship program a mutually rewarding program"

Benefits to UConn and the State

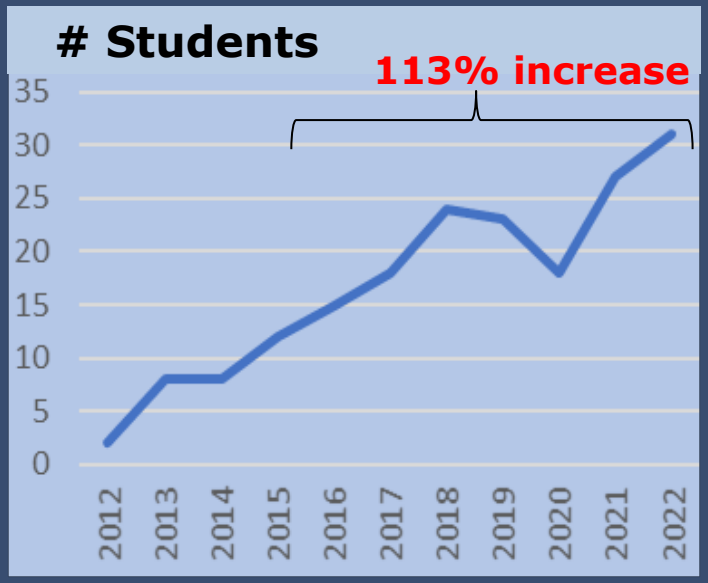
UConn benefits through alignment of the TIP Fellows program with University strategic initiatives:

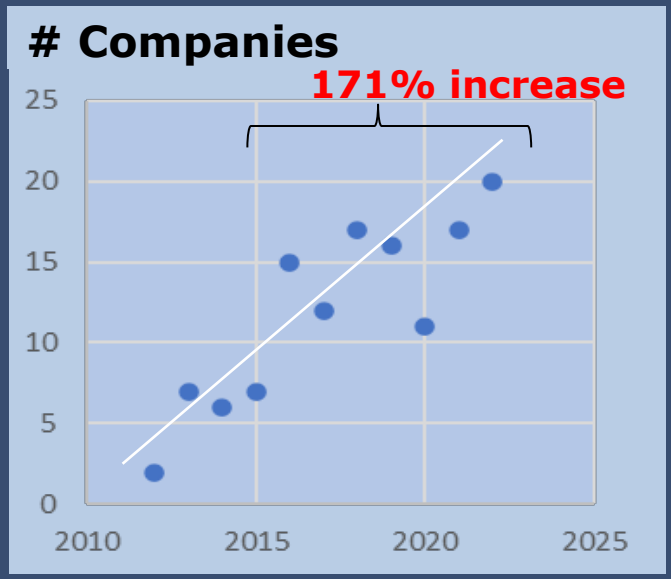
- to foster a culture of innovation and entrepreneurship on campus
- to build an entrepreneurial ecosystem to support existing and new faculty engaged in innovation including startup ventures
- To intersect and cross-leverage with other innovation programming (CCEI, Accelerate UConn, new NSF - funding initiatives, etc)

The State benefits through workforce and tech sector development

- ~20% of TIP fellows convert to full time hires with their host TIP company for an average job duration of 1.5 years (range 7 mo – 5 yrs)
- Former TIP fellows have gone on to PhD, Medical, Dental, Nursing, and MBA programs, contributing to the State's professional workforce
- Many TIP fellows are now employed in the State tech sector

Demand for the TIP Fellows program





In 2022 there were 220 student applicants, and 50 requests for fellows from TIP companies

- 32 fellows were placed in 26 companies.

➢ *For long-term sustainability, the program needs dedicated financial and administrative support that grows with the program needs*

CONNECTICUT CENTER FOR ENTREPRENEURSHIP AND INNOVATION

ENTREPRENEURSHIP.

STARTS. HERE.

CCEI INSPIRES A CULTURE OF *entrepreneurship & innovation* THROUGHOUT UCONN, TO ENTREPRENEURS AND BUSINESSES ACROSS CONNECTICUT AND TO OUR ALUMNI WORLDWIDE.

We support students, faculty, and alumni as they are innovating and creating solutions to some of the world's greatest problems. We connect students with opportunities to learn and engage in entrepreneurship and know that these transformative experiences will be a catalyst to building the future they dreamed of. For alumni, we are here to continue to support their passions and goals no matter where their journey has taken them. While **Entrepreneurship. Starts. Here.** we certainly know it is just one step.

VENTURE SUPPORT

EXPERIENCE ENTREPRENEURSHIP

CONNECTIVITY

ENTREPRENEURSHIP TEACHING & RESEARCH

ENTREPRENEURSHIP.
STARTS. HERE.

CCEI 15TH ANNIVERSARY Est. 2007

VENTURE SUPPORT

GET SEEDED

GET SEEDED DEMO DAY

Teams pitch to an audience of their peers to be selected to receive up to **$1,000** each in seed funding to help move their business idea forward. At the end of each year, five teams are selected to participate in Get Seeded Demo Day at the chance to earn an additional $5,000, $2,500, and $1,000 in funding.

TRACTION

Teams are selected to receive hands-on training from experts to develop their **Business Model Canvas** (BMC) and understand their market through **customer discovery.**

ACCELERATE UCONN

10 teams participate in this **NSF I-Corps** program to determine the commercial potential for new ideas, technology, and products and develop strategies for bringing their innovations to the marketplace. Each team can **earn up to $4,000** in funds for their idea.

CCEI SUMMER FELLOWSHIP

The **top 10** startups from across the University come together to spend **8 weeks** developing skills needed to bring new products and technologies to market and receiving one-on-one coaching from industry experts. Each team receives **$15,000** of non-diluted funding.

WOLFF NEW VENTURE COMPETITION

The **top 5** teams are selected from the Summer Fellowship Program to advance their business by pitching for additional funding. The **winning team takes home the $25,000** Wolff New Venture Prize.

EBV

EBV is designed to give focused, practical training in the tools and skills of **new venture creation** and growth and the establishment of a support structure for graduates of the program. The program has graduated 218 Veterans who have launched 187 businesses, producing more than $150 million in gross revenues, and creating 430 jobs.

ENTREPRENEURSHIP.
STARTS. HERE.

CCEI 15TH ANNIVERSARY Est. 2007

EXPERIENCE ENTREPRENEURSHIP

VERGE CONSULTING

Graduate students work with the CT Small Business Development Center for **10 weeks** to provide advising to UConn affiliated startups and small businesses.

INSURTECH FELLOWS

Undergraduate and graduate students are selected to participate in a semester long program focusing on the **insurance and insurance technology** industry.

BUILD HARTFORD

Students will work to understand opportunities in the Hartford Innovation Ecosystem, **build connections** to community organizations/stakeholders, and **ideate solutions** with attainable milestones within a specified timeline and budget.

BUSINESS CONSULTING ACCELERATOR

Designed to provide entrepreneurial-minded students with the support and knowledge needed to successfully **launch** their own business consulting firms.

ENTREPRENEURSHIP INTERNSHIP PROGRAM

CCEI connects students to **internship opportunities** with startups.

ENTREPRENEURSHIP.
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CCEI 15TH ANNIVERSARY Est. 2007

CONNECTIVITY

FAMILY BUSINESS PROGRAM
UCONN

TIMELY TOPICS

XCITE

CCEI STUDENT AMBASSADORS
Leading the next generation of innovators

MENTOR NETWORK
Connecting Entrepreneurs

LAUNCH

ENTREPRENEURSHIP.
STARTS. HERE.

CCEI 15TH ANNIVERSARY
Est. 2007

LOCATIONS

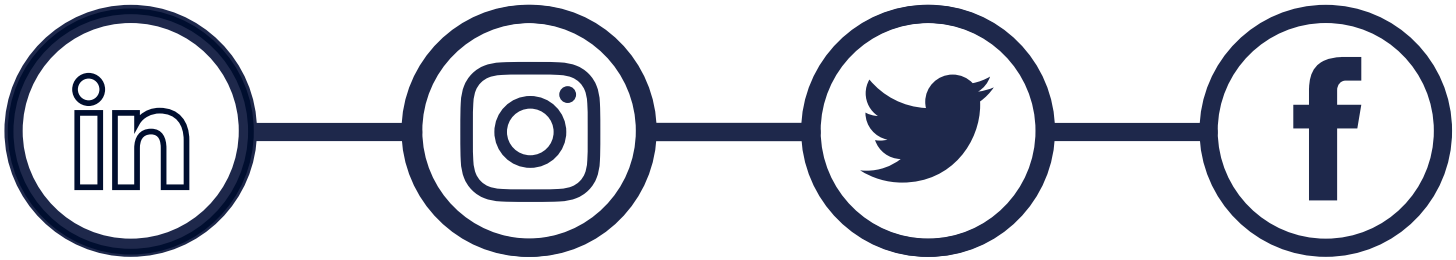
GRADUATE BUSINESS LEARNING CENTER
100 CONSTITUTION PLAZA, SUITE 301
HARTFORD

SCHOOL OF BUSINESS
2100 HILLSIDE ROAD, SUITE 121
STORRS

ENTREPRENEURSHIP.
STARTS. HERE.

CCEI 15TH ANNIVERSARY Est. 2007

CONNECT WITH US



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