Director: Susan K. Fried, Ph.D.
Professor
(Section of Endocrinology, Diabetes and Nutrition, DOM

Co-Director: Lynn L Moore, D.Sc.
Associate Professor
Section of Preventative Medicine and Epidemiology

- INTERDISCIPLINARY TRAINING
  - BASIC, CLINICAL and TRANSLATIONAL SCIENCES
  - FACULTY from DOM, Biochemistry, Pathology, Physiology, and others
- Research Focus on Nutrition and Metabolism in Health and Chronic Disease, including:
  - Adipocyte Biology
  - Obesity and Diabetes
  - Bone Health
  - Cardiovascular Disease
  - Cancer
  - others
What is ‘Nutrition and Metabolism’?

- All aspects of an organism's interaction with food/nutrients
- Beyond classic ‘deficiency’ to prevention of chronic disease
- Molecular, Biochemical, Physiologic, Organismic, and Population levels (i.e. basic, clinical, translational levels)

Topics include:
- Mechanisms regulating cellular nutrient transport
- Cellular mechanisms of lipotoxicity and glucotoxicity
- Nutrient and hormonal regulation of adipokine production
- Nutritional influences on developmental programing
- Consequences of dietary protein level on blood pressure
- Fat distribution and risk for cancer other chronic disease
The Nutrition and Metabolism PhD Program participates in the GMS **Program in Biomedical Sciences (PiBS)**

Required:
**Foundations in Biomedical Sciences Curriculum (FiBS)**
Nutrition and Metabolism PROGRAM-SPECIFIC COURSEWORK:

- **Foundations of Biomedical Science Curriculum**
  - Biochemistry, genetics, cell biology, cell communication, molecular metabolism
  - Research Rotations (3)

- **Nutrition and Metabolism specific courses**
  - *(required of all students regardless of whether they focus on Epidemiological or basic aspects of nutrition for their thesis work and advanced courses)*
  
  - Molecular, Biochemical and Physiological Bases of Nutrition: I and II
    - (Energy and micronutrient metabolism (4); Macronutrient Metabolism(4)
  - Clinical Nutrition Research
  - Nutrition Seminar
  - Biostatistics
  - Epidemiology
  - Advanced Electives (depending on interests) – at least 36 course credits for those that enter with a Bachelor’s degree) plus research
A MASTER’S degree in Nutrition and Metabolism provides students with a broad background in nutrition and metabolism, from molecule to population.

- Can be completed in one calendar year
- Required courses:
  - Biochemistry (if not previously taken)
  - Molecular, Biochemical and Physiological Bases of Nutrition (4,4)
  - Clinical Nutrition Research (3)
  - Epidemiology (3-4)
  - Biostatistics (3+)
  - Nutrition Seminar
  - Electives
  - Total 28 course credits, 4 research credits
- Research thesis under direction of a faculty member (defended)

Prepares students for:
- Medical, dental or other pre-professional studies
- Further graduate work
- Jobs in study/clinical coordinators
- Careers as lab managers, data analysts, research assistants in academic or biotech/pharma settings