

## Division of Nutritional Sciences

### Facilities & Resources

The Division of Nutritional Sciences (DNS) at Cornell University is among the largest academic units in the United States devoted to human nutrition. The DNS mission and scholarly activities integrate knowledge from the physical, biological and social sciences in the areas of molecular, human, international and community nutrition. The program is supported by state-of-the-art facilities for both transgenic animal and human metabolic research. Multidisciplinary research, graduate training (funded by NIH and USDA) and outreach programs include Maternal & Child Nutrition, Nutritional Genomics, Food Systems, Global Health & International Nutrition and Obesity & Chronic Disease.

**Laboratory:** Faculty to complete specific to their lab

**Computer:** All DNS key personnel have individual offices with Microcomputers equipped with software for data collection and analyses. All computers can access university networks permitting use of nucleic acid and protein databases, electronic journals and other university-licensed software. Extensive computing facilities devoted to molecular and structural biology are available at the Biotechnology Building and the Cornell Theory Center.

**Office Space:** The PI has an office space of (# of square feet). Discuss what are nearby resources, i.e., Located in the Biotechnology Bldg, adjacent to PI's lab, or near other collaborators or resources.

**DNS Shared Equipment:** (Choose items that apply from the list below)

| <u>Manufacturer</u> | <u>Model Number</u> | <u>Serial or System Number</u> | <u>Room and Building</u>               | <u>Brief Description</u> |
|---------------------|---------------------|--------------------------------|----------------------------------------|--------------------------|
| Misonix             | S3000               | R1890                          | 134<br>Kinzelberg                      | Sonicator with probes    |
| Consolidated        | Autoclave           | CU#69496                       | 136<br>Kinzelberg                      | Autoclave                |
| Consolidated        | Autoclave           | CU#69496                       | 136<br>Kinzelberg                      | Autoclave                |
| Amsco               | Hoplab 1021         |                                | 136<br>Kinzelberg                      | Glassware washer         |
| Amsco               | Hoplab 1024         |                                | 136<br>Kinzelberg                      | Glassware dryer          |
| Estate              | Heavy Duty          |                                | 136<br>Kinzelberg                      | Clothes washer           |
| Whirlpool           | Heavy Duty          |                                | 136<br>Kinzelberg                      | Clothes dryer            |
| Barnstead           | Nanopure Diamond    |                                | 136<br>Kinzelberg                      | Water purifier           |
| Thermo Scientific   | Cryoplus 2, 7402    | 507018-1671                    | 237<br>Kinzelberg                      | Liquid Nitrogen Freezer  |
| VWR Cryopro         | BR-4 ("part #")     | B2009G0936-0908                | 237<br>Kinzelberg<br>335<br>Kinzelberg | Liquid Nitrogen Dewar    |

|                                 |                             |                                                |     |            |                                        |
|---------------------------------|-----------------------------|------------------------------------------------|-----|------------|----------------------------------------|
|                                 |                             |                                                | 345 | Kinzelberg |                                        |
|                                 |                             |                                                | 237 | Kinzelberg |                                        |
| Taylor-Wharton                  | XL-180                      | 420-001-H2                                     | 345 | Kinzelberg | Liquid Nitrogen Tank                   |
| Sonics&Materials                | Vibracell VC250B            | 7436                                           | 237 | Kinzelberg | Sonicator with probe                   |
| Beckman - Coulter               | LS-6500                     | System #465732                                 | 237 | Kinzelberg | Multi-Purpose Scintillation counter    |
| Beckman - Coulter               | Avanti J-E JA-20,JLA-10.500 | System# 269536 Ser# JSE04B18                   | 237 | Kinzelberg | Floor model Centrifuge with rotors     |
| Rotors for the above centrifuge | 9.1000, JS-5.3              |                                                | 237 | Kinzelberg | Rotors                                 |
| Harris Freezer                  | SLT-25V-85S1D36             | U150-270425-UO                                 | 237 | Kinzelberg | Freezer, -80                           |
| Harris Freezer                  | SLT-25V-85S1D36             | U150-270425-UO                                 | 239 | Kinzelberg | Freezer, -80                           |
| Beckman                         | L5-50                       | 501546                                         | 237 | Kinzelberg | Old Floor model Centrifuge with rotors |
| Tecan                           | SpectrafluorPlus            | 12900500044                                    | 239 | Kinzelberg | Fluorescence/ Absorbance Plate reader  |
| LiCor                           | Odyssey 9120                | ODY:2114                                       | 239 | Kinzelberg | Infrared Imager                        |
| Alpha Innotech                  | Chemi Imager                | Camera 200174 Encloser 500412 Sys #419340 Ser# | 239 | Kinzelberg | Imaging System                         |
| Konica Minolta                  | SRX-101A                    | 105233164                                      | 243 | Kinzelberg | Film Developer                         |
| Roche                           | Lightcycler 48011/96        | 26184                                          | 244 | Kinzelberg | Quantitative RT-PCR Instrument         |
| Hoshizaki                       |                             |                                                | 237 | Kinzelberg | Ice Maker                              |
| Beckman - Coulter               | LS-6500                     | System# 442483 CU# 75646                       | 335 | Kinzelberg | Multi-Purpose Scintillation counter    |
| Packard                         | Cyclone 4431200             | Ser# 422996 CU# 67593 Ser # 9100-002 CU#       | 335 | Kinzelberg | Phosphor Imager for Radioisotopes      |
| Turner Biosystems               | 9100-002                    | 78236                                          | 335 | Kinzelberg | Microplate luminometer                 |
| Biacore                         | Biosensor                   | 33-7957-5111                                   | 338 | Kinzelberg | Protein Interaction detector           |
| Lonza/Amaza                     | Nucleofactor II             | 20900011                                       | 338 | Kinzelberg | DNA transfection apparatus             |

|                               |                             |             |                            |                                |
|-------------------------------|-----------------------------|-------------|----------------------------|--------------------------------|
| <b>Barnstead</b>              | <b>Nanaopure<br/>D11931</b> |             | <b>218A Weill<br/>Hall</b> | <b>Water purifier</b>          |
| <b>Thermo Scientific</b>      | <b>Nanodrop 1000</b>        | <b>J168</b> | <b>212A Weill<br/>Hall</b> | <b>RNA/DNA analysis</b>        |
| <b>Fotodyne</b>               | <b>60-2105</b>              |             | <b>212A Weill<br/>Hall</b> | <b>Gel Imaging System</b>      |
| <b>VWR</b>                    | <b>5706</b>                 |             | <b>220 Weill<br/>Hall</b>  | <b>Freezer, -80</b>            |
| <b>Applied<br/>Biosystems</b> | <b>7500</b>                 |             | <b>220 Weill<br/>Hall</b>  | <b>Quatitative RT-<br/>PCR</b> |
| <b>Brother</b>                | <b>MFC-9440CN</b>           |             | <b>212A Weill<br/>Hall</b> | <b>Fax/Scanner/Copier</b>      |

**Animal:** DNS has dedicated space for transgenic mice available at the Cornell Core Transgenic Facility in the College of Veterinary Medicine. The requisite cages are available as well as shared surgical facilities with a fume hood. All mice are maintained in micro-isolator cages under virus/pathogen-free conditions. Our animal facilities are AAALAC-certified and therefore adhere to the highest standards.

**Animal Care and Use:** Cornell University operates its Animal Care and Use program under the Animal Welfare Assurance A3347-01 on file with the Office of Laboratory Animal Welfare (OLAW). This assurance applies to all the associated campuses, except Weill Medical College. Cornell University gives assurance that it will comply with the Public Health Service Policy on Humane Care and Use of Laboratory Animals. As part of that assurance, institutions using vertebrate animals in research have an Institutional Animal Care and Use Committee (IACUC) to review all animal proposals and procedures.

**Veterinary Facilities:** Veterinary care is provided by the veterinary staff at the Center for Research Animal Resources at the College of Veterinary Medicine. The facilities and operations are maintained in compliance with the Animal Welfare Act regulations of the U.S. Department of Agriculture, and Public Health Service Guidelines. The animal facilities are AAALAC accredited and thus, exceed NIH standards for environmental conditions and quality of veterinary care. **Faculty: include specific core facilities that pertain to your use: See <http://www.vet.cornell.edu/research/facilities/overview.htm>**

**Institutional Biosafety Committee:** Cornell University's Institutional Biosafety Committee (IBC) reviews and approves all research involving the use of biohazardous agents. The IBC works to ensure that all research involving biohazardous materials and the facilities used to conduct the research, are in compliance with the National Institute of Health's Guidelines for Research Involving Recombinant DNA Molecules (NIH Guidelines), The Centers For Disease Control and Prevention (CDC) guidelines, United States Department of Agriculture (USDA) regulations, and Occupational Health and Safety Administration (OSHA) regulations.

**Clinical:**

**Human Metabolic Research Unit (HMRU):**

The HMRU is a 4,000 square foot research facility with specialized laboratories and facilities to support comprehensive nutrition and metabolism research on human subjects. The HMRU supports many facets of research in the nutritional sciences, including human metabolism, dietetics, and clinical chemistry, as well as studies involving human performance and assessment of body composition and bone mass. Facilities include a **Metabolic Kitchen and Dining Room** for controlled feeding studies of up to 24 research participants, a

**Consultation Room** for interviews and counseling, a **Ward** that can accommodate overnight studies for up to 4 research participants, an **Examination and Changing Room**, the **Nell I. Mondy Laboratory for Human Performance** with facilities to test energy expenditure and oxygen consumption by indirect calorimetry, a **Body Composition Laboratory** which includes a Dual Energy X-ray Absorptiometer (DXA), Bod-Pod and a water displacement tank, and a **Clinical Chemistry Laboratory** which includes an IMMULITE 2000 Immunoassay system, Dimension Xpand Plus Integrated Chemistry System, and Biotech Precision XF Robotics Pipetting System, Synergy II Plate Reader and Plate Washer. Hematology equipment includes a Coulter hematology analyzer and a ZPP Hematofluorometer. A Perkin Elmer graphite furnace atomic absorption spectrophotometer is also available for assessment of trace mineral concentrations in biological samples.

**Human Subject Protection:** Cornell University operates its Human Research Protection Program under the Federal Wide Assurance (FWA 00004513) filed with the U. S. Department of Health and Human Services (HHS). University policy requires that all research that involves human participants, regardless of the source of financial support, must be reviewed and approved by the Institutional Review Board (IRB) before it can be initiated.

**Other:**

**The Cornell Statistical Consulting Unit (CSCU)** is a professional service supported by the Division of Nutritional Sciences, Dept. of Statistical Sciences. Extensive statistical analysis consulting, including data analysis on large complex data sets, are provided to undergraduate and graduate students, faculty and the entire research community.

**The Cornell Institute for Social and Economic Research (CISER)** provides statistical computing services, access to data archiving consultants, and training to all faculty and project personnel.

**The Cornell University Life Sciences Core Laboratories Center (CLC)** provides an array of genomics, proteomics, imaging, IT and informatics shared research resources and services to the full University community. The Center provides a concentration of advanced life sciences instrumentation and expertise in their applications. The CLC is part of the Cornell University [New Life Sciences Initiative](#). The mission of the CLC is to promote research in the life sciences with advanced technologies in a shared resource environment.

**Faculty: include specific core facilities that pertain to your use: See <http://cores.lifesciences.cornell.edu/brcinfo/>**

**The Institute for Biotechnology and Life Science Technologies** serves as a focal point for bringing together university scientists conducting research in the biological and physical sciences. **Faculty: include specific core facilities that pertain to your use: See <http://cores.lifesciences.cornell.edu/brcinfo/?p=otherfac>**