Harrington Discovery Institute

January 2019
About Us

• Harrington Discovery Institute (HDI) is a $150 million philanthropic initiative centered at University Hospitals in Cleveland, Ohio

• HDI provides critical support to academic drug discovery projects across the nation

• HDI’s efforts accelerate development from discovery to the clinic and beyond to commercialization
What We Support

HDI supports the development of novel and repurposed therapeutics:

• across all therapeutic indications and modalities

• addressing areas of high unmet medical need

• that have advanced beyond the basic science phase
How We Support

- Grant Funding
- Hands-on Development Expertise
- CRO & Service Provider Network
- Business Strategy & Commercialization Support
- Company Formation & Investment
How We Fund

Award and Follow-on Grants

Annual RFPs
Multi-year support
Additional milestone-based grant funding available

Harrington Startup Fund

Co-investments in early-stage companies derived from academia
Initial and follow-on funding available as company progresses
# Funding Opportunities

<table>
<thead>
<tr>
<th>Program</th>
<th>Partner</th>
<th>Award</th>
<th>Focus</th>
<th>Eligibility</th>
<th>RFP</th>
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<tbody>
<tr>
<td>Harrington Scholar-Innovator Award</td>
<td>-</td>
<td>Up to $700K over two years</td>
<td>Disease Agnostic</td>
<td>MD and MD/PhD faculty at US-based institutions</td>
<td>Next RFP opens March 2019</td>
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<tr>
<td>ADDF-Harrington Scholar Award</td>
<td>Alzheimer’s Drug Discovery Foundation (ADDF)</td>
<td>Up to $600K over two years</td>
<td>Alzheimer’s Disease &amp; Dementia</td>
<td>PhD or MD at US-based institutions</td>
<td>Next RFP opens March 2019</td>
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<td>Gund-Harrington Scholar Award</td>
<td>Foundation Fighting Blindness</td>
<td>Up to $900K over three years</td>
<td>Retinal Degenerative Diseases</td>
<td>PhD or MD at US- and Canada-based institutions</td>
<td>Next RFP opens July 2019</td>
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Applicants, Scholars & Institutions

>2,000 Applications from 214 Institutions

109 Funded with 36 Active Projects
2019 Network of Innovators

Albert Einstein College of Medicine (2)
Boston Children's Hospital† (3)
Boston University (1)
Brigham & Women's Hospital (1)
Brown University
Case Western Reserve University (8)
Cleveland Clinic (1)
Columbia University (2)
Dana-Farber Cancer Institute† (1)
Dartmouth University (1)
Duke University (4)
Emory University (1)
Icahn School of Medicine at Mount Sinai (1)
Indiana University (1)
Johns Hopkins University (4)
La Jolla Institute for Allergy & Immunology (1)
Louisiana State University
Massachusetts General Hospital† (3)
Mayo Clinic (1)
MD Anderson Cancer Center (1)
Memorial Sloan Kettering (2)
New York University (1)
NHLBI/NIH (1)
Northwestern University (1)
Rockefeller University (1)
Rutgers University (1)
Stanford University (8)
The Ohio State University (3)
University Hospitals – Cleveland (5)
University of Arizona (2)
University of Auckland – NZ††
University of California (Berkeley, San Diego, San Francisco) (6)
University of Colorado (1)
University of Florida (1)
University of Kentucky (1)
University of Maryland-Baltimore (1)
University of Michigan (1)
University of North Carolina (1)
University of Oklahoma (1)
University of Oxford – UK (4)
University of Pennsylvania (5)
University of Pittsburgh (1)
University of Southern California (1)
University of Texas at Austin (1)
University of Washington (4)
University of Wisconsin (2)
UT Southwestern (4)
Vanderbilt University (2)
Washington University St. Louis (1)
Yale University (1)

109 Discoveries
50 Institutions
3 Countries
27 States

† Scholar affiliated with Harvard University
†† Not included in institution count
HDI has supported 34 projects in rare diseases across multiple therapeutic areas.
Bridging the Translation Gap

GREATEST POTENTIAL FOR IMPACT
INNOVATION SUPPORT CENTER (ISC)

Areas of Expertise:
- Medicinal Chemistry
- PK/PD & Toxicology
- Commercial/Portfolio
- Preclinical/Clinical Planning
- Structural Biology & Biophysics
- Regulatory & Translational
- Discovery and Development Area Specialists
- Business Dev.
Technical Development

Medicinal Chemistry

Formulation

Pharmacokinetics, Pharmacodynamics & Toxicology

Regulatory Strategy

Structural Biology & Biophysics

Preclinical & Clinical Planning

Project Planning

Training & Education
Business Development

- Market Analysis
- Intellectual Property Management
- Commercialization Strategy
- Fundraising and Investor Network
- Grant Writing
- Pitch Preparation & Coaching
- Deal Negotiation
- Company Formation
Scholar Term

1. **KICKOFF**
   - IDENTIFY PROJECT PRIORITIES
   - STRATEGIZE

2. **ACTIVE PROJECT MANAGEMENT**
   - MEETINGS & MONTHLY CALLS
   - SPECIALIZED CONSULTING

3. OPPORTUNITIES FOR FOLLOW-ON FUNDING

4. **BUSINESS DEVELOPMENT**
   - IDENTIFY FUNDING-SOURCES
   - PARTNERING ACTIVITIES
   - EXIT PREPARATION
   - NEWCO FORMATION
## Case Study: Xianxin Hua, MD, PhD
University of Pennsylvania

*Type I Diabetes: A drug that regenerates pancreatic beta cells to treat diabetes*

ISC expertise applied: formulation, medicinal chemistry, molecular modeling, study design, commercial analysis, IP strategy

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<tr>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<td>Q1-Q2</td>
<td>Q3-Q4</td>
<td>Q1-Q2</td>
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<tr>
<td>2015 HDI Scholar-Innovator Initial Grant</td>
<td>HDI Acceleration Grant</td>
<td>ISC managed CRO chemistry synthesis campaign</td>
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<tr>
<td>ISC analysis of IP – need novel chemical matter</td>
<td>Animal model studies</td>
<td>New IP</td>
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<td>Large Pharma Collaboration</td>
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Success To-Date

109
New drugs in the making

5
Novel medicines in clinical trials

20
New companies

5
Programs licensed to large pharma
“Nothing in academia prepares you for the drug commercialization process, but the ISC fill this void by providing physician-scientists expert advice on bringing their drug to market. In fact, they’ve already changed the way we work. With HDI’s support, our research team is fast becoming a drug development group.”
Key Differentiators – the Harrington Advantage

- Research institution and disease agnostic
- International reach and growing network
- Dedicated pharma and business development teams
- Partnered with mission-aligned industry and foundation leaders
- Non-profit mission allows scholars to retain control of intellectual property and commercial destiny
- Business and financing strategy support continues post-award through “alumni” program
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