Illuminating the Druggable Genome (IDG)

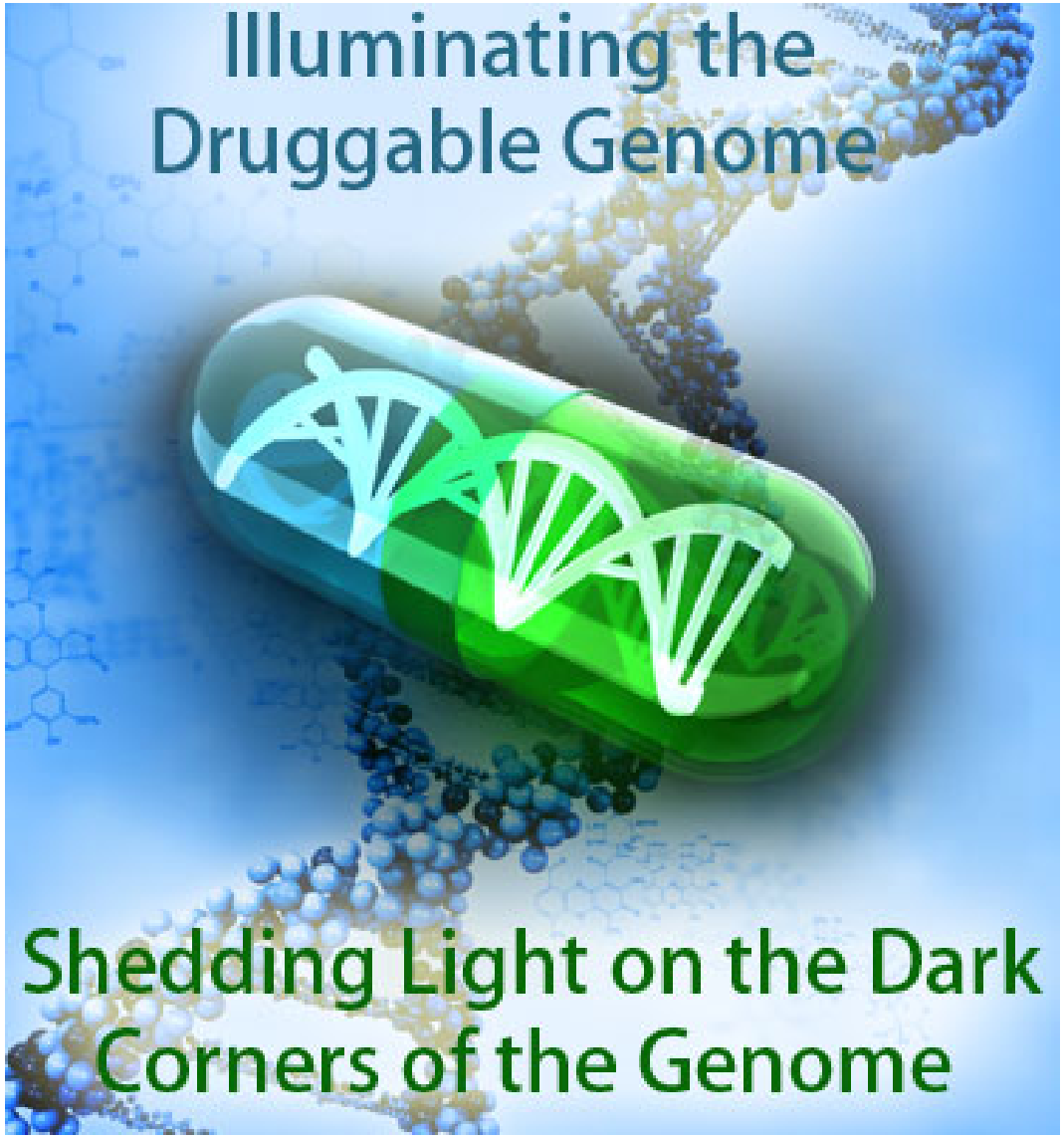
NCATS Advisory Council and
CAN Review Board Meeting

September 15, 2016

Christine Colvis, Ph.D.

Director, New Therapeutics Program, NCATS

NCATS


Illuminating the
Druggable Genome
Shedding Light on the Dark
Corners of the Genome

IDG Team

Chairs
- Christopher Austin, NCATS
- Griffin Rodgers, NIDDK

Coordinators
- Aaron Pawlyk, NIDDK
- Christine Colvis, NCATS

Project Team Leaders
- Yong Yao, NIMH (Tech Dev)
- Jean C. Zenklusen, NCI (KMC)

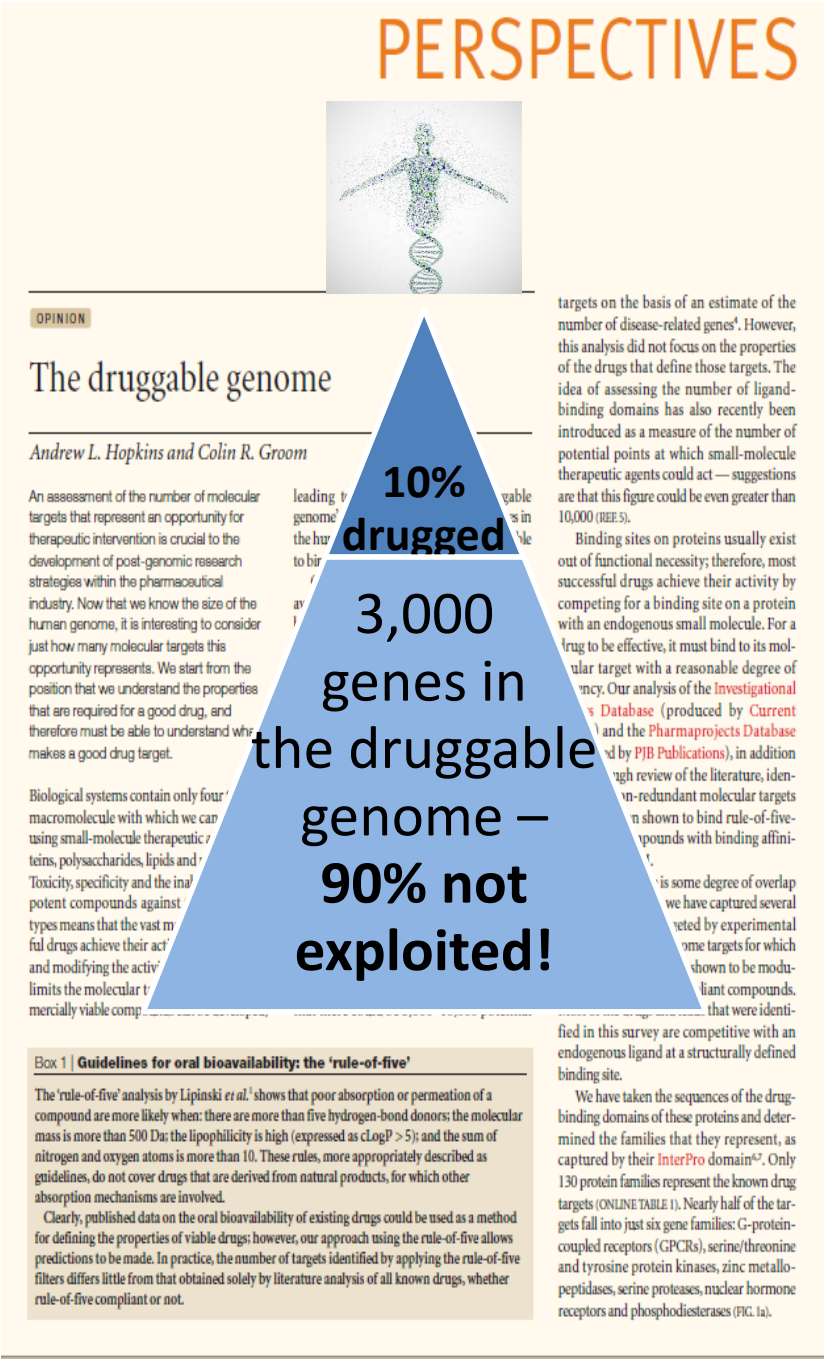
Project Scientists
- Ajay Pillai, NHGRI
- Margaret Sutherland, NINDS

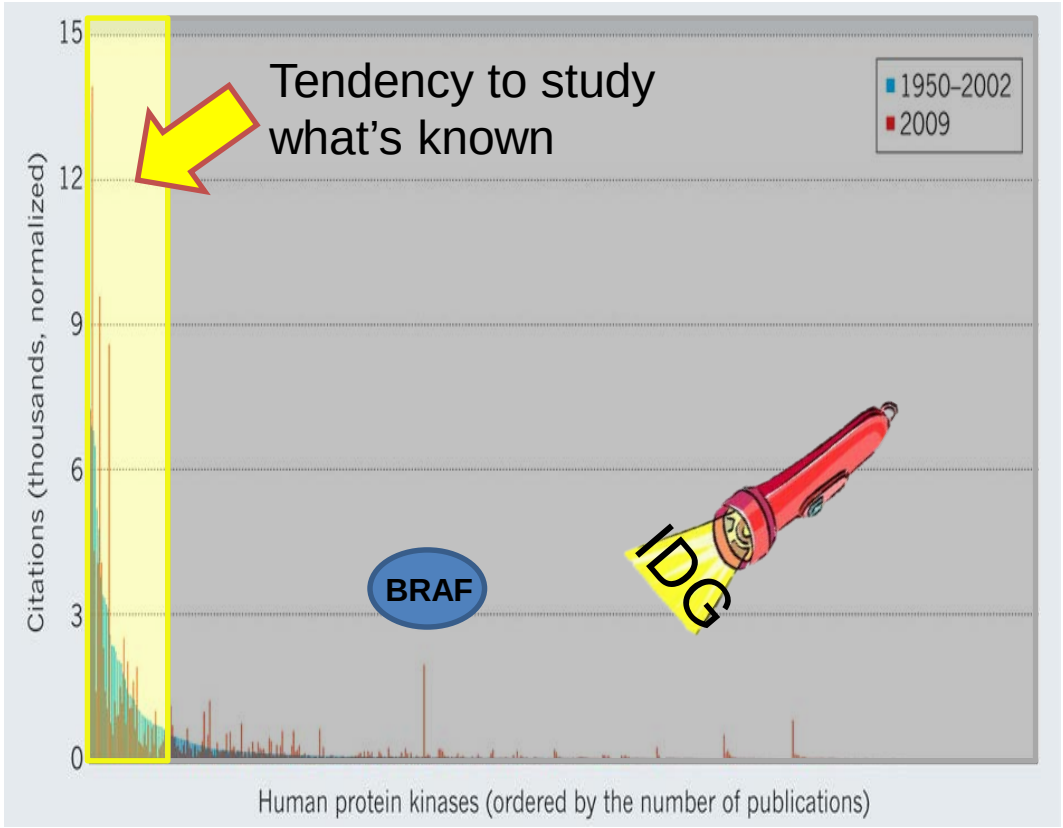
External Scientific Panel
- Rommie Amaro, UCSD
- Andrew Hopkins, Univ. Dundee
- Peter Sorger, Harvard
- Dwight Towler, UT Southwestern

OSC
- Mary Perry
- Marishka Brown
- Aron Marquitz

Working Group Members
- Mehdi Mesri, NCI
- Ravi Ravichandran, NCI
- Matt Reilly, NIAAA
- Antonio Noronha, NIAAA
- Dwayne Lunsford, NIDCR
- Kris Bough, NIDA
- Iddil Bekirov, NIDDK
- Colin Fletcher, NHGRI
- Zorina Galis, NHLBI
- Anne Zajicek, NICHD
- Miles Fabian, NIGMS
- J. Randy Knowlton, NCI
- Enrique Michelotti, NIMH
- Corinne Silva, NIDDK
- Gurusingham Sittampalam, NCATS
- Bobbi Gardner, NCATS
- Margaret Sutherland, NINDS
- Katerina Tsilou, NICHD
- Xin (Jean) Yuan, OPA

The IDG Challenge





Nature Reviews Drug Discovery, 2002

IDG - Pilot Phase (August 2014-August 2017)

IDG Pilot Phase Goals:

- Develop ability to identify, classify, and **prioritize understudied proteins (G-protein coupled receptors, ion channels, protein kinases, & nuclear receptors)**
- Demonstrate **scalability of technologies** needed for large-scale illumination

Knowledge Management Center (FY14-16)

- Integrate existing data and make it searchable through a single portal
- Define current state of knowledge/ignorance
- Prioritize proteins for illumination

Scalable Technology Adaptation (FY14-16)

- Medium- to high-throughput, scalable assays to explore function of protein families
- New tools to facilitate experiments at needed scale

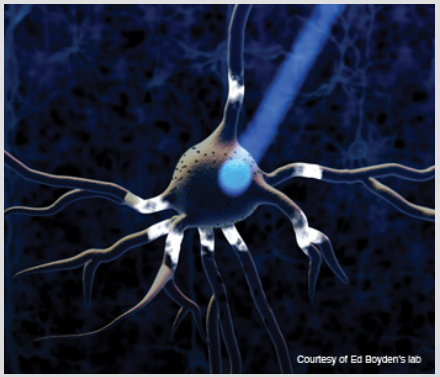
Strong interest from pharma. Seven pharmaceutical companies attended our consortium meeting in March 2016

NIH National Center for Advancing Translational Sciences

IDG - Implementation Phase Funding Opportunity Announcements

Coming this fall

1) Expand the informatics tools developed in the pilot phase to include additional data and allow users to access a wide range of information on sets of proteins;



2) Elucidate the function of understudied proteins from key druggable protein families; and

3) Disseminate the IDG-generated resources and data to the greater scientific community.