

$$\frac{\partial n}{\partial t} = D_n \nabla^2 n - \chi \nabla \cdot (n \nabla f)$$

# Integrative Cancer Biology Program (ICBP) Update

National Cancer Advisory Board (NCAB)

June 14, 2006

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DCB

<http://icbp.nci.nih.gov>



# The ICBP Approach

Data and Information- Clinical, Biological, Epidemiological

Systems Biology

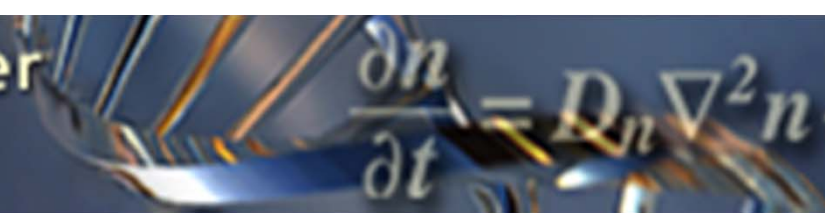
Integrative  
Cancer  
Biology  
(ICBP)

Computational  
Modeling

Education

Outreach

Discovery and Knowledge- Basic and translational


$$\frac{\partial n}{\partial t} = D_n \nabla^2 n - \chi \nabla \cdot (n \nabla f)$$

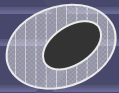
# Expectations

- Develop and implement integrative cancer biology within and among centers
- Create an organizational and scientific focus for the broader integrative cancer biology community
- Serve a leadership role for this research community, providing advice and guidance to NCI on gaps and opportunities in developing the field
- Establish Education and Outreach programs

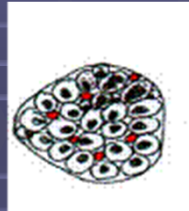


# Integrative Cancer Biology Program

## Cancer Cell



## Initiation



## Progression



## Metastasis



**Huang** (OSU) - epigenetics, gene silencing

**Golub** (DFCI) - kinase, signaling, high throughput biology

**Kinsella** (CWRU)- Mismatch repair, drug/radiation effects, therapy

**Hynes** (MIT) – signaling, mouse models, mitogenesis, DNA repair, progression

**Nevins** (Duke) - signaling, cell fate, proliferation mouse models

**Plevritis** (Stanford) – progression, lymphoma, gene expression, clinical data

**Gray** (LBNL)– signaling, progression, microenvironment, targeted therapies

**Quaranta** (Vanderbilt) - invasion, metastasis angiogenesis, microenvironment

**Deisboeck** (MGH) - angiogenesis, invasion 3D tumor modeling, repository



# Current ICBP Activities

- Development of validated siRNA library of cancer genes
- Molecular characterization of the Sanger 800 cell line set.
- Summer training program in integrative cancer biology
- Piloting a “digital Model” repository
- Interdisciplinary team building and interaction