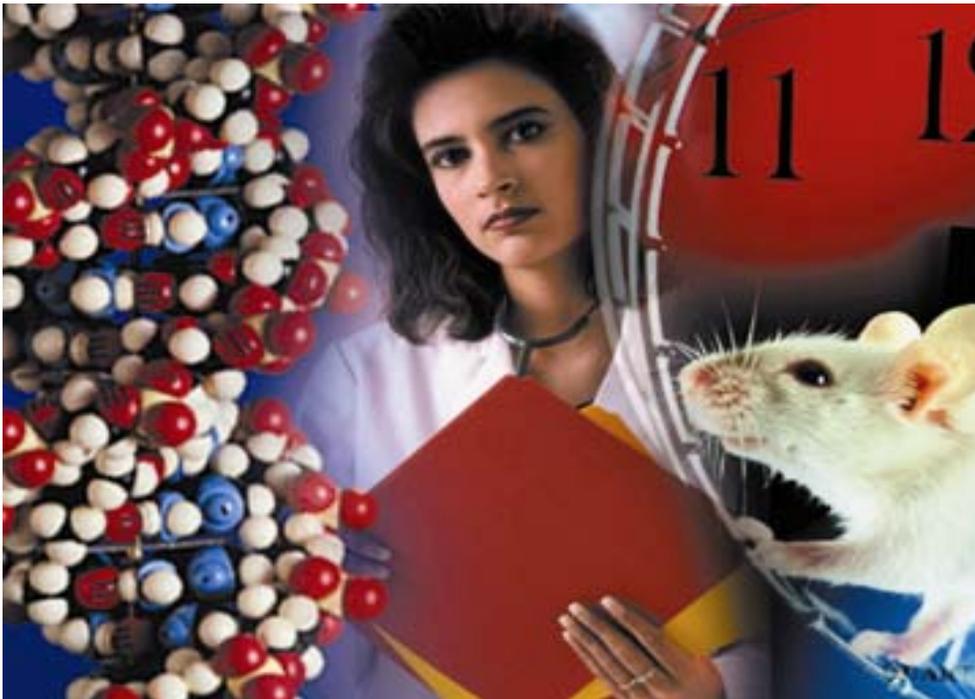


# Research Training and Career Development

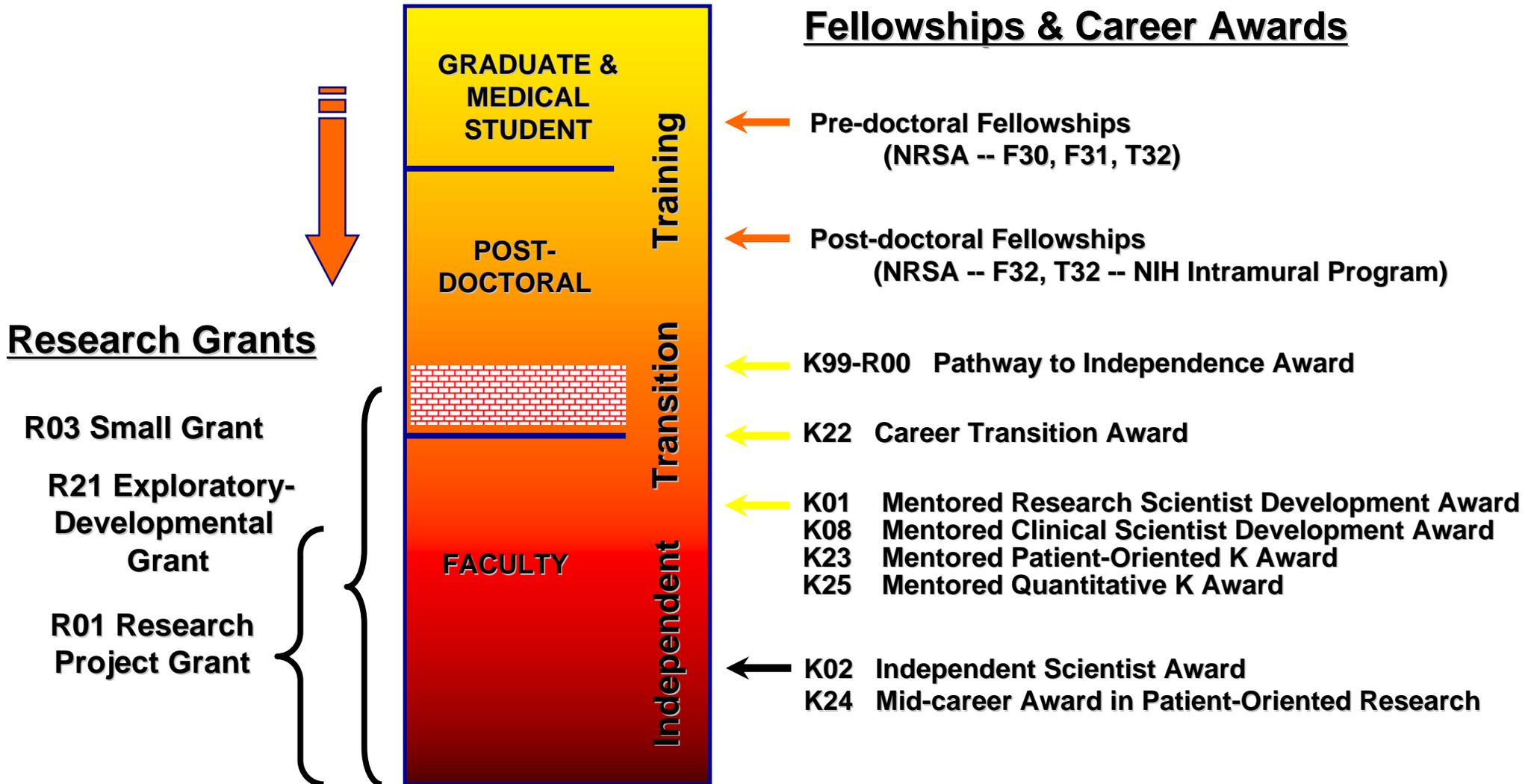


**Dennis A. Twombly, Ph.D.**  
**Deputy Director**  
**Office of Extramural Policy**

*Eunice Kennedy Shriver*  
National Institute of Child Health  
& Human Development (NICHD)

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# Research Training and Career Development



# Career Development (K) Awards

<b><u>Purpose:</u></b>	<b>Develop new research skills, free up time for research and training activities</b>
<b><u>Eligibility:</u></b>	<b>Doctoral degree (MD, PhD, MD/PhD, PhD, DDS, etc.) US Citizens or permanent residents (except K99)</b>
<b><u>Duration:</u></b>	<b>3 - 5 years</b>
<b><u>Commitment:</u></b>	<b>Minimum 75% effort for mentored awards</b>
<b><u>Support:</u></b>	<b>Salary \$75,000 + fringe (typical; IC dependent)</b>
<b><u>Research support:</u></b>	<b>\$25,000 to \$50,000</b>

***Research must be related to Institute mission!!***

# Career Development Awards (K-awards)

## Basic Scientists:

- K01      Mentored Research Scientist Development Award
- K02      Independent Scientist Award (for funded scientist)
- K22      Career Transition Award
- K25      Mentored Quantitative Career Development Award
- K99      Pathway to Independence Award

## Clinician-scientists:

- K02      Independent Scientist Award (for funded scientist)
- K08      Mentored Clinical Scientist Development Award
- K22      Career Transition Award
- K23      Mentored Patient-oriented Career Development Award
- K99      Pathway to Independence Award

# Mentored Research Scientist Development Award (K01)

**Purpose:** *...to provide support and “protected time” for a supervised career development experience in the biomedical, behavioral, or clinical sciences leading to research independence.*

**NICHD supports K01 awards in 3 areas only:**

- **Medical rehabilitation medicine**
- **Child abuse & neglect**
- **Population research**

***[ Check Program Announcement & Institute Tables !! ]***

# **Mentored Clinical Scientist Development Award (K08)**

- **Encourage clinical scientists to pursue a research career**
- **Must have a MD, MD/PhD, PhD, DDS, or other clinical doctoral degree**
- **Health professionals who already have the PhD degree may use the award for postdoctoral research training**
- **Does not support specialty training**
  - **May also be eligible for K01, K23, K99**

## **Mentored Patient-Oriented Research Career Development Award (K23)**

- **Similar to K08, but for training in patient-oriented research**
  - **Three to five years of supervised study**
  - **Must have a DDS/DMD, MD or other clinical doctoral degree**
  - **Patient-oriented research = *an investigator directly interacts with human subjects***
  - **Does not support clinical specialty training**
- May also be eligible for K01, K08, K99 !!

# Ineligible K-Award applicants

**A candidate for a K23 award may not simultaneously submit, have an application pending for, or be a current or former PI, on the following:**

- **NIH research project grant (R01)**
- **Sub-project of program project (P01) or center (P50/P60) grants**
- **Equivalent non-PHS peer-reviewed research grants over \$100,000 direct costs per year**
- **Comparable individual career development awards (e.g., K01, K07, K08, K23, K25)**
- **Any other PHS grant that duplicates provisions of the K23 award.**

**\*\* Former Principal Investigators of NIH Small Grants (R03) or Exploratory/Developmental Grants (R21) remain eligible**

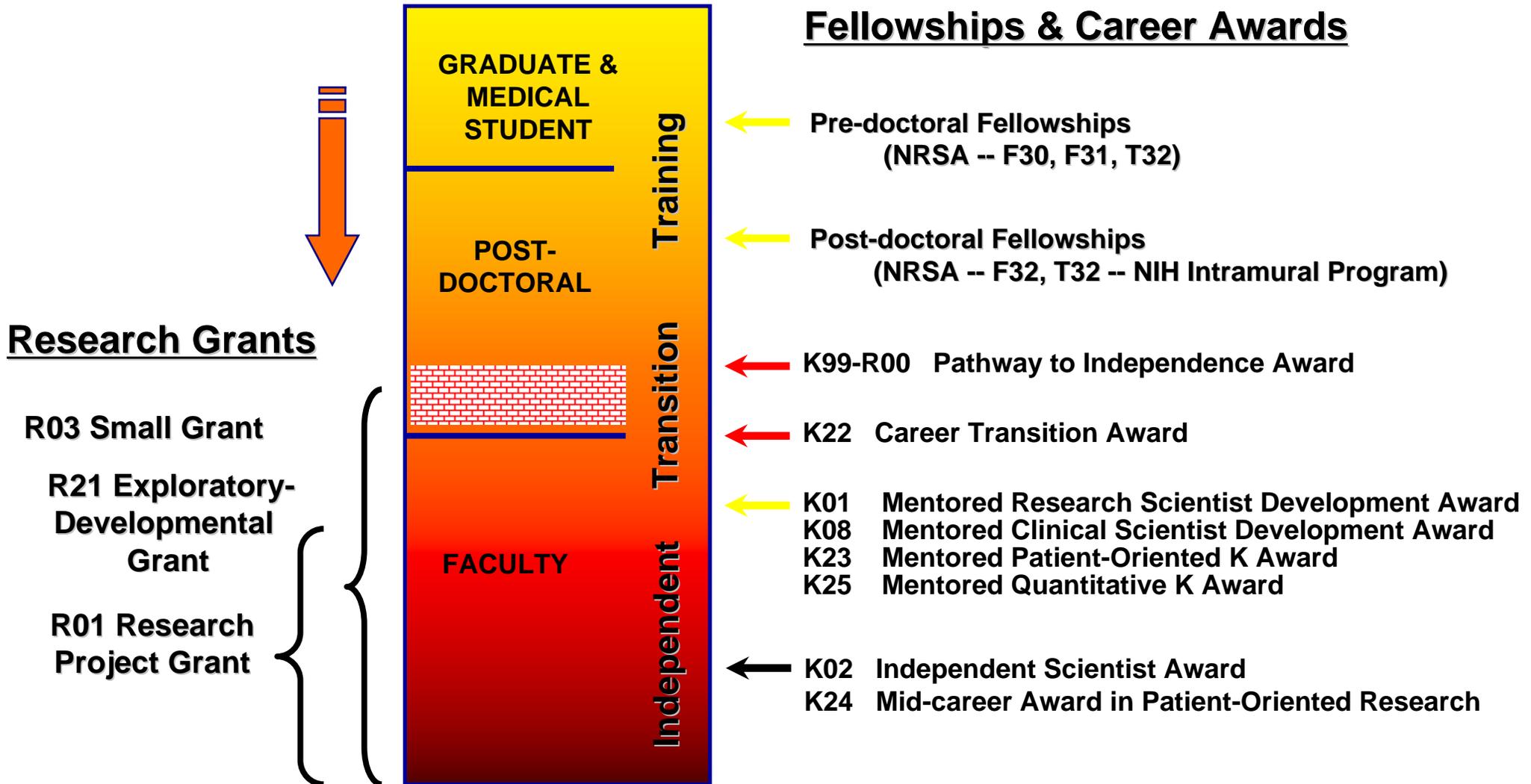
# Mentored Quantitative Research Development Award (K25)

- **Purpose:** Encourage quantitative scientists (mathematics, statistics, economics, computer science, imaging science, informatics, physics, chemistry) to participate in biomedical research
- **Eligibility:** Individuals who seek to integrate quantitative and engineering backgrounds with NIH-relevant research
- **No prior experience in biomedical research required !!**

# **Mentored K-award Application Components**

- **Candidate information**
- **Career development/training activities**
- **Research Plan**
- **Statements of support from mentor(s), consultant(s), collaborator(s)**
- **Environment & institutional commitment**
- **Institutional salary and aggregate budget (3-5 yrs)**
- **3-5 Letters of reference**

# Research Training and Career Development



# Career Transition Awards (K22)

- **Intramural Mentored + Faculty Transition**
  - **Intramural Fellows**
  - **NIMH, NHLBI, NIDDK, NINR**
- **Faculty Transition Only**
  - **Intramural or Extramural Postdocs**
  - **NIAAA, NCI, NIEHS, NIAID**
- **Mentored + Faculty Transition**
  - **Intramural or Extramural Postdocs**
  - **NIDCR [expired; transitioned to K99-R00]**

# Career Transition Awards (K22)

**Award Type:** Faculty Transition Award (non-mentored)

**Applicants:** Current Extramural Fellows (NRSA)

Current Intramural Fellows

**Transition:** Letter of Intent to Commit Funds

Up to 18 mo to find Faculty Position

**Duration:** 3 year award (after faculty appointment)

**Support:** Salary (up to IC cap) + fringe benefits

Research support (\$25,000 to \$75,000/yr)



## Pathway to Independence Award (K99/R00)

- **Purpose:** *To help new researchers secure a tenure-track position and launch an independent research career.*
- **Eligibility:**
  - Basic or clinical doctoral degree (ie, postdoctoral fellow or equivalent)
  - Domestic extramural or intramural institutions
  - US citizens or non-citizens
  - No more than 5 years postdoctoral research experience (-01 or -A1)
    - Clinical time does not count against 5-yr clock
  - Cannot have held independent faculty-level position
  - Cannot have been independent Principal Investigator on:
    - Career Development Awards (K01, K08, K23, K25)
    - Research project grants (R01, R03, R21, program/center component)
    - Other peer-reviewed NIH or non-NIH grants >\$100,000 /yr direct costs



## Pathway to Independence Award (K99/R00)

- K99 mentored phase (1-2 years):
  - Supports late-stage postdoctoral research training
  - Provides salary + research expenses (varies; see IC Tables)
  - 8% indirect costs
  - Intramural program provides the funding
- R00 Phase (up to 3 years):
  - Requires tenure track or equivalent faculty position
  - Launch independent research program
  - \$249,000 total costs per year (direct costs + full indirect costs)



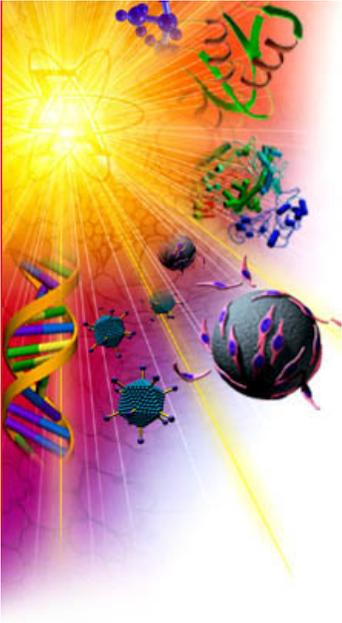
## Pathway to Independence Award (K99/R00)

### Eligibility window for Clinicians:

**(M.D., D.D.S, D.V.M. and other licensed professionals)**

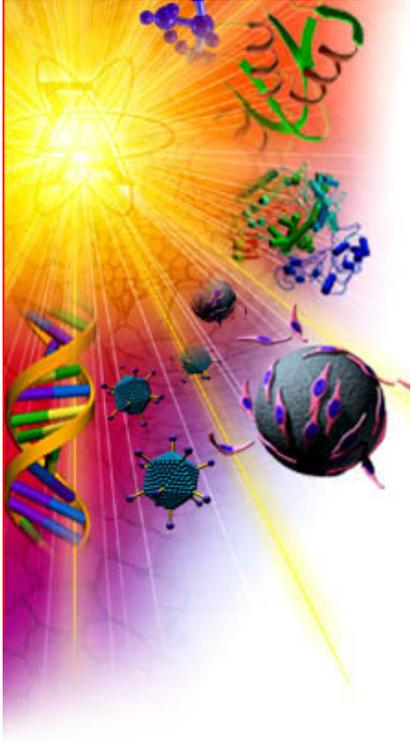
*“Following clinical training or fellowship training periods, clinicians often obtain a clinical faculty position that denotes independence in clinical responsibilities but not in research. A clinical faculty member who does not hold an independent research faculty position may be eligible for the K99/R00 award, and should contact a Program Director at the relevant NIH Institute for guidance.”*

# NIH Small Grants Program (R03)



- **Small, self-contained projects**
- **Duration: 2 years**
- **Budget: up to \$50,000 per year**
- **Little or no preliminary data**
- **6-page application (SF-424)**
- **Must have faculty status at most institutions**
- **Better success rate?**

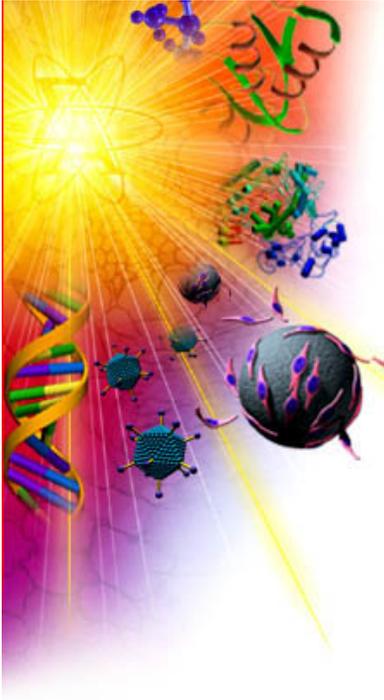
# Exploratory / Developmental Grants (R21)



- **Novel, high-risk projects**
- **2 years, \$ 275,000 total direct costs**
- **Preliminary data may be included**
- **6-page application (SF-424)**
- **Lays groundwork for full R01 project**
- **Must have faculty status at most institutions**
- **Better success rate?**

# NIH Research Project Grant (R01)

- Full-scale research grant (“Gold Standard”)
- Individual vs multi-Principal Investigator
- PI must have faculty status
- Up to 5 years in duration
- Up to \$250,000 or more
- Preliminary data is essential
- 12-page application (SF-424)
- Special program for New Investigators (or ESI) !!



# New and Early Stage Investigators

## Definition of New Investigator:

- Not previously competed successfully as PD/PI for a significant NIH independent research award (R01)

## Definition of Early Stage Investigator:

- Within 10 years of completing terminal research degree or within 10 years of completing medical residency (or the equivalent)
- *Applies only to R01 applications*
- *New Investigators/Early Stage Investigators will be clustered together for review*

# Funding for New Investigators and Early Stage Career Investigators

- The NIH policy is to fund R01s of New Investigators and ESIs at more favorable paylines !!
- Paylines and relative advantage differ by NIH Institute; 3%-10% more generous paylines
- Advice for New and Early Stage Investigators
  - Apply NOW!!!
  - Apply for R01!!!!!!

# ***Application Receipt Dates***

<b><u>Grant Mechanism</u></b>	<b><u>Cycle I</u></b>	<b><u>Cycle II</u></b>	<b><u>Cycle III</u></b>
R01, U01 (new) (Renewal/resubmission)	Feb 5 Mar 5	Jun 5 Jul 5	Oct 5 Nov 5
R03, R21 (new) (resubmission)	Feb 16 Mar 16	Jun 16 Jul 16	Oct 16 Nov 16
K series (new) (resubmission)	Feb 12 Mar 12	Jun12 Jul 12	Oct 12 Nov 12
F series (new, resubmission) Diversity F31(new, resubmission)	Apr 8 Apr 13	Aug 8 Aug 13	Dec 8 Dec 13
T32 (new, resubmission)	May 25 (most ICs, including NICHD)		

\*\*\*\*\*

Review Date	Jun-Jul	Oct-Nov	Feb-Mar
Advisory Council	Sept-Oct	Jan-Feb	May-Jun
Earliest start date	Dec	Apr	Jul

# Reduced Application Page Limits

	<u>Pages</u>
● <b>Research Strategy</b>	
○ R01, U01, R15, R42, R44	12
○ Career Development Awards (Ks) (candidate information + research strategy)	12
○ Fellowships (F), R03, R21, R41, R43	6
○ Institutional training Program Plan (T32, K12):	25
● <b>Introduction to resubmission (revised)</b>	
○ All mechanisms except T, K12, R25	1
○ Training programs (T, K12, R25)	3
● <b>Specific Aims (where req'd)</b>	1
● <b>Biographical Sketch (all mechanisms)</b>	4

# Sources of Guidance

- NIH Program Announcements (PAs, RFAs)
  - Purpose, eligibility, allowable costs, review criteria
  - Tables of Institute/Center contacts & provisions
- [www.nih.gov](http://www.nih.gov) (follow links to “training” or “peer review”)
  - Office of Extramural Research (“OER” grant programs, forms)
  - Center for Scientific Review (“CSR” review policy, procedures)
  - Institute web sites: [www.nichd.nih.gov](http://www.nichd.nih.gov) (program interests)
- Mentor (current and/or proposed)
- Department Chair or Administrator
- University/School Sponsored Programs Office
- Other colleagues & faculty
- NIH Program Staff (before applying and after review) !!