Mapping Your Career with NIH

November 6, 2013

HIP Buffet
Understanding the Dual Nature of NIH

NIH is an institution
(Intramural Research)
~Approx. 6,000 scientists
~Approx. 10% of NIH budget

NIH supports institutions & people
(Extramural Research)
>4,000 institutions
>300,000 scientists & research personnel
~Approx. 80% of the NIH budget
Basic Advice for Mapping Your Career with NIH

- Understand the NIH application and review process
- Learn about IC priorities and goals
  - Not all ICs support all grant programs
  - Each IC has a research training and career development program
- Identify the grant programs offered by each IC
- Make early contact with program officers
- Find good mentors and collaborators
- Study successful grant applications
- Only propose your best and most creative ideas
- You won’t get a grant if you don’t apply
Career Path for a Ph.D.

T32- Institutional training grant (NRSA)-has pre- & postdoc slots
F30 and F31- Individual predoc fellowship (NRSA) (some ICs only support Diversity F30/31s)
F32- Individual postdoc fellowship (NRSA)
F33- Sr. postdoc fellowship (NRSA)
R03- Small Grant
R21- Exploratory/Developmental Research Grant
R01- Research grant
K02- Independent Scientist Award
K22- Research Scholar Development Award
K99/R00- Pathway to Independence Award
R37- Merit award
P01- Program Project Grant
U01- Cooperative Agreement
Career Path for an MD

T35- Short-term Training Grant for Health Professional Students
F33- Sr. Postdoctoral Fellowship (NRSA)
K08- Mentored Clinical Scientist Development Award
K23- Mentored Patient-Oriented Research Career Development Award
K24- Mid-Career Investigator in Patient-Oriented Research
K07, K12- IC specific
Plus all mechanisms from Ph.D. track

Medical Student → M.D. → Clinical Training → Faculty Position → Independent PI

Diversity Supplements
Specifics

Training Grants

Fellowships

K Awards
Training Grants (Ts)

- NRSA- National Research Service Award
- Program began in 1974
- Multi-slot awards
- Domestic institutions only
- Fund training programs for pre- and postdocs in any scientific area within NIH scientific mission
- Can be basic or clinical
- Trainees work within a mentor’s research program
- MDs, PhDs, DVMs, DMDs
- Awards go the best training programs in the nation
- Approximately 28 at OHSU
Training Grants

- Some all predoc/some all postdoc, most a mixture
- Funds are mostly for tuition and trainees
- Training Related Expenses may be used to defray costs such as staff salaries, equipment, research supplies, and other expenses directly related to the training program
- Costs:
  - Tuition- 60% of requested tuition, capped at $16,000
  - Stipends- $20,772 pre/ postdoc $36,996 (level 0)-$51,036 (level 7)
  - Training Related Expenses- $4,200 pre/$7,850 (post); mostly for health insurance
  - Travel- $400-$1000
Fellowships (Fs)

- NRSA- National Research Service Award
- *Individual* awards under a mentor
- Fund pre- and postdoc trainees in any scientific area within our scientific mission
- Can be basic or clinical - most are basic
- Most awards go to Ph.D.s *but not all*
- F Kiosk: [http://grants.nih.gov/training/F_files_nrsa.htm](http://grants.nih.gov/training/F_files_nrsa.htm)
F30s and F31s Predoc Fellowships

- Individual awards
- Predoctoral NRSA awards limited to 5 years total
- Tuition: 60% of requested tuition, capped at $16,000 ($21K for MD-PhD programs)
- Stipends: $20,772 pre
- Training Related Expenses: $4,200 includes health insurance
- Travel: $400-$1000
- Cannot change the scope, move fellowship, or change mentor without prior NIH approval
F32s Postdoc NRSA Fellowships

- Postdoc only
- Individual award
- Cannot change the scope, move fellowship, or change mentor without prior NIH approval
- NRSA support for up to 3 years total
- Stipends- $36,996 (level 0)-$51,036 (level 7)
  - Training Related Expenses- $7,850; includes health insurance
  - Travel- $400-$1000

Stipends:

- Level 0: $36,996
- Level 1: $38,047
- Level 2: $39,998
- Level 3: $41,949
- Level 4: $43,890
- Level 5: $45,841
- Level 6: $47,792
- Level 7: $51,036
Purpose of NIH Career Development Programs:

To provide protected time for individuals to further develop their research expertise.
Mentored K Awards

- K01: Mentored Research Scientist Development Award
- K08: Mentored Clinical Scientist Development Award
- K22: Research Career Award for Transition to Independence
- K23: Mentored Patient-Oriented Research Development Award
- K25: Mentored Quantitative Research Development Award
- K99/R00: NIH Pathway to Independence (PI) Award
- K12: Institutional Mentored Research Scientist Development Program
Career Development Awards (Ks)

- Individual awards
- Mechanisms for basic and clinical Investigators
- Some mentored others not
- Some designed as awards for faculty investigators
- Newer programs (K22 and K99/R00) are transition awards- these are for MDs and PhDs
Research Career Development Awards: Entry-level awards
### Career Applications, Awards Success Rates

#### 2011

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# Trends in Career Award Applications

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## Success Rates for Career Awards

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NUMBER OF INDIVIDUAL RESEARCH CAREER AWARDS BY INSTITUTES AND CENTERS

NIH Institutes and Centers

Fiscal Year

Number of Awards

0 100 200 300 400 500 600
K Awards – Common Themes

- Most demand 75% FT commitment x 3-5 yrs
- Buys protected time, formal research training and mentored research experience
- Pay $75K, $90K, or 75% of true salary up to cap
- Usually $25K for research support but up to $50K
- For most, prior R03, R21 OK; others are not OK
- Cannot pay the other 25% from federal money
- MOST IMPORTANTLY, each institute may apply each PA differently
- Deadlines in Feb, June, Oct
K01- Mentored Research Scientist Development Award

- Support for intensive, supervised career development in biomedical, behavioral, or clinical sciences leading to research independence.
- 5 year, 75% FT effort, can be up to salary cap
- Define the need for 3-5 years of additional supervised research, can be in new area for applicant or one that substantially adds to research capability of applicant
- Ideal candidate varies by institute
- Career hiatus, under-represented in research, disabled, disadvantaged background, interruption of research career
K01-International Research Scientist Development Award

- Only awarded thru Fogarty International Center and a few institutes – **about to be reissued**
- ID, nutrition, chronic dz, trauma, mental health
- Goal is to provide training in health issues of developing countries, build collaboration
- $75K to PI, $20K for travel, research; 3-4yr
- Must have US and foreign mentors
- Must spend significant time in foreign country
- Must build on but not overlap existing research
- Requirements about years postdoc (<=7)
NIH Pathway to Independence (PI) Award: K99 / R00

- **Eligibility:**
  - Intramural or extramural postdocs with 1-5 years of experience
  - US Citizens and non-US Citizens
  - Cannot have held a faculty position
  - No more than 5 years of postdoc research training when submitted
  - Cannot have been PI on R01, P01, etc (except R03, R21)

- **Mentored Phase (K99): 2 yrs or less**
  - Costs: Salary $50,000 + Fringe + $20,000 Research Expenses
  - Total Costs < $90,000 /yr
  - 0.75 FTE, Time to complete research, publish results

- **Independent Investigator Phase (R00): 3 yrs or less**
  - Costs: Salary + Fringe + $50,000 Research Expenses
  - Total Costs < $249,000 /yr
NIH Pathway to Independence (PI) Award K99 / R00

- Phase 1, 1-2 years of mentored support
- Phase 2, 3 years of independent support
- Phase 2 contingent on securing independent research position, evaluation of research plan, positive career development
- Initial application must have proposal for research project as independent investigator in Phase 2
K08-Mentored Clinical Scientist Development Award

- Goal is to support development of outstanding clinician research scientist
- This is the equivalent of K23; go for K23 if patient-oriented
- Limited to clinicians (MD/DO, clinical PhD, others with terminal doctorate)
- 75% FT, $25K for research
- Prospective candidate should propose study, research training for all years consonant with previous training and needs
K23- Mentored Patient-Oriented Research Career

- Clinical degree or equivalent.
- Must have completed clinical training, including specialty/subspecialty training, prior to receipt.
- Must be willing to spend minimum of 75% FT professional effort on research career development and clinical research.
- Must be citizen, noncitizen national, or permanent resident (no temp or student visas).
- No prior R01, R29, SBIR, P01 or P50 subproject, K08 or equivalent. R03 or R21 OK.
K23 Support

- Salary
  - $75,000 per year for 5 years
  - Varies by institute
  - Up to 75% of salary cap in “exceptional circumstances”
  - 75% FTE (50% for some specialties)
- Research funding
  - Up to $25,000 per year for research and training expenses (exceptions up to $50,000)
  - Allowable training expense examples
    - Tuition, books, travel
K22-Career Transition Award

- Goal is to support transition from fellow to faculty and research independence; can apply while fellow
- In many (most?) institutes, this is for intramural research; see PA
- NCI sponsors extramural research
- Doctorate must be clinical or prevention, population science
- 75% FTE for additional training, research
- Must currently be in a mentored postdoc
- Cannot have NIH support >$100K/yr
K25-Quantitative Research Career Development Award

- Goal is to encourage research-oriented quantitative scientists (postdoc to senior level) to make a commitment to basic or clinical research.
- Backgrounds appropriate include mathematics, statistics, economics, computer science, imaging science, informatics, physics, chemistry, engineering
- Up to 100% of salary, $40K/yr research support
- Must have clear evidence of productivity and research excellence in field of their training, and would like to expand their research capability
There are 6 K12s at OHSU

- Oregon Child Health Research Center
- Building Interdisciplinary Research Careers in Women’s Health (BIRCWH)
- Emergency Medicine K12
- NIH Roadmap K12: Oregon Scholars in Clinical Research
- AHRQ Comparative Effectiveness K12
- NIH Comparative Effectiveness KM1
Loan Repayment Program

- Clinical research LRP
- Clinical research LRP for disadvantaged
- Contraception/infertility
- Health disparities
- Pediatric research
- For a 2-year commitment to clinical research, you get $35K/yr for qualified educational debt reduction
- 74% had educational debt > $50K
- 39% of new LRPs funded, 67% of renewals
- Judged on candidate, institution, sponsor, somewhat less on research
- You just missed it!
Early Stage Investigators

NIH created a new ‘Early Stage Investigator’ (ESI) category designed to accelerate the early transition of new scientists to research independence by receiving their first R01 earlier. [http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-121.html](http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-121.html)

A Program Director/Principal Investigator who qualifies as a New Investigator is considered an Early Stage Investigator (ESI) if he/she is within 10 years of completing his/her terminal research degree or is within 10 years of completing medical residency (or the equivalent).
NIH New Investigator Results

NIH First Time R01-Equivalent Awardees
FY 1985-2006

R01-Equivalent awards include R01, R23, R29, and R37 grants.
Training and Career Development Pathway

Fellowships & Career Awards

- Predoctoral Institutional Training Grant (T32)
- Predoctoral Individual NRSA (F31)
- Predoctoral Individual MD/PhD NRSA (F30)
- T32: Postdoctoral Institutional Training Grant
- F32: Postdoctoral Individual NRSA

- K01: Mentored Research Scientist Development Award
- K08: Mentored Clinical Scientist Development Award
- K23: Mentored Patient-Oriented RCDA
- K99/R00: NIH Pathway to Independence (PI) Award
- K22: NIAAA Career Transition Award
- K02: Independent Scientist Award
- K24: Midcareer Investigator Award in Patient-Oriented Research
- K05: Senior Scientist Award
New Investigator Definition

Significant independent NIH research grant: Any NIH research project grant other than the following small or early stage research grants:

- Pathway to Independence Award-Research Phase (R00)
- Small Grant (R03)
- Academic Research Enhancement Award (R15)
- Exploratory/Developmental Grant (R21)
- Research Education Grants (R25, R90, RL9, RL5)
- Clinical Trial Planning Grant (R34)
- Dissertation Award (R36)
- Small Business Technology Transfer Grant-Phase I (R41)
- Small Business Innovation Research Grant-Phase I (R43)
- Shannon Award (R55)
- NIH High Priority, Short-Term Project Award (R56)
- Competitive Research Pilot Projects (SC2, SC3)

Additionally, the PD/PI is not excluded from consideration as a “New Investigator” if he/she has been the PD/PI of, or received an award from, any of the following classes of awards:

**Training-Related and Mentored Career Awards**
- All Fellowships (F awards)
- All individual and institutional career awards (K awards)

**Instrumentation, Construction, Education, Health Disparity Endowment Grants, or Meeting Awards**
- G07, G08, G11, G13, G20 S10, S15, S21, S22 R13

**Loan repayment contracts (L30, L32, L40, L50, L60)**
- All training grants (T32, T34, T35, T90, D43)

**Note regarding grants with Multiple PD/PIs:** *In the case of a grant application that involves more than one PI, all PD/PIs must meet the definition of New Investigator to check “Yes” in the “New Investigator” box*
R01-Equivalent awards include R01, R23, R29, and R37 grants.
F33 Senior Postdoc Fellowships

- Not for postdocs who have been postdocs a long time
- Used for associate or full professors who want support for a sabbatical
- For MDs or PhDs
- Few applicants - too little money
- Stipend = $51,036
- Training Related Expenses - $7,850; includes health insurance
- Travel- $400-$1,000