

Why a Career Development Award?

- To provide protected time for individuals to further develop their research expertise
- Because the odds of funding are higher
- About 75-80 at OHSU; 25 awarded last year
- K awards most common but don't forget VA CDA, NSF, AHA, ACS

Basic Advice for Mapping Your Career

- Learn about NIH IC priorities and goals
- Identify the grant programs offered by each IC. Institutes are not harmonized.
- Identify the priorities of the IC. These can change!
- 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

Common Features of K awards

- **75% protected time for research**
- **Other 25% for clinical, teaching, admin**
- **Must have faculty appointment with exceptions**
- **US Citizen or non-citizen US nationals (except K99)**
- **Must have mentor team**
- **3 to 5 years duration**
- **Most commonly \$100K salary and \$25K research funds annually but this varies by program, IC**
- **Career development plus research goals**
- **Cannot have had NIH RPG except R03, R21**

Common Features: Appointment & Effort

- **Appointment:**
 - For K eligibility purposes, individual must have a **full-time** appointment at applicant organization at the time of application
- **Level of Effort:**
 - Mentored awards require full-time effort (defined as at least 9 person months (i.e.75%) on research and the rest on other career development related activities)
 - Note, some K programs permit 50% effort for clinical specialties

Mentored K Awards

- **K01: Mentored Research Scientist Development Award**
- **K07: Cancer Prevention, Control, Behavioral Sciences, and Population Sciences Career Development Award**
- **K08: Mentored Clinical Scientist Development Award for Laboratory Research**
- **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 Award**
- **K12: *Institutional* Mentored Research Scientist Development Program**

Three sites to know

https://report.nih.gov/success_rates/

Go here to find success rates for every type of K award submitted (or any other grant) by institute by year

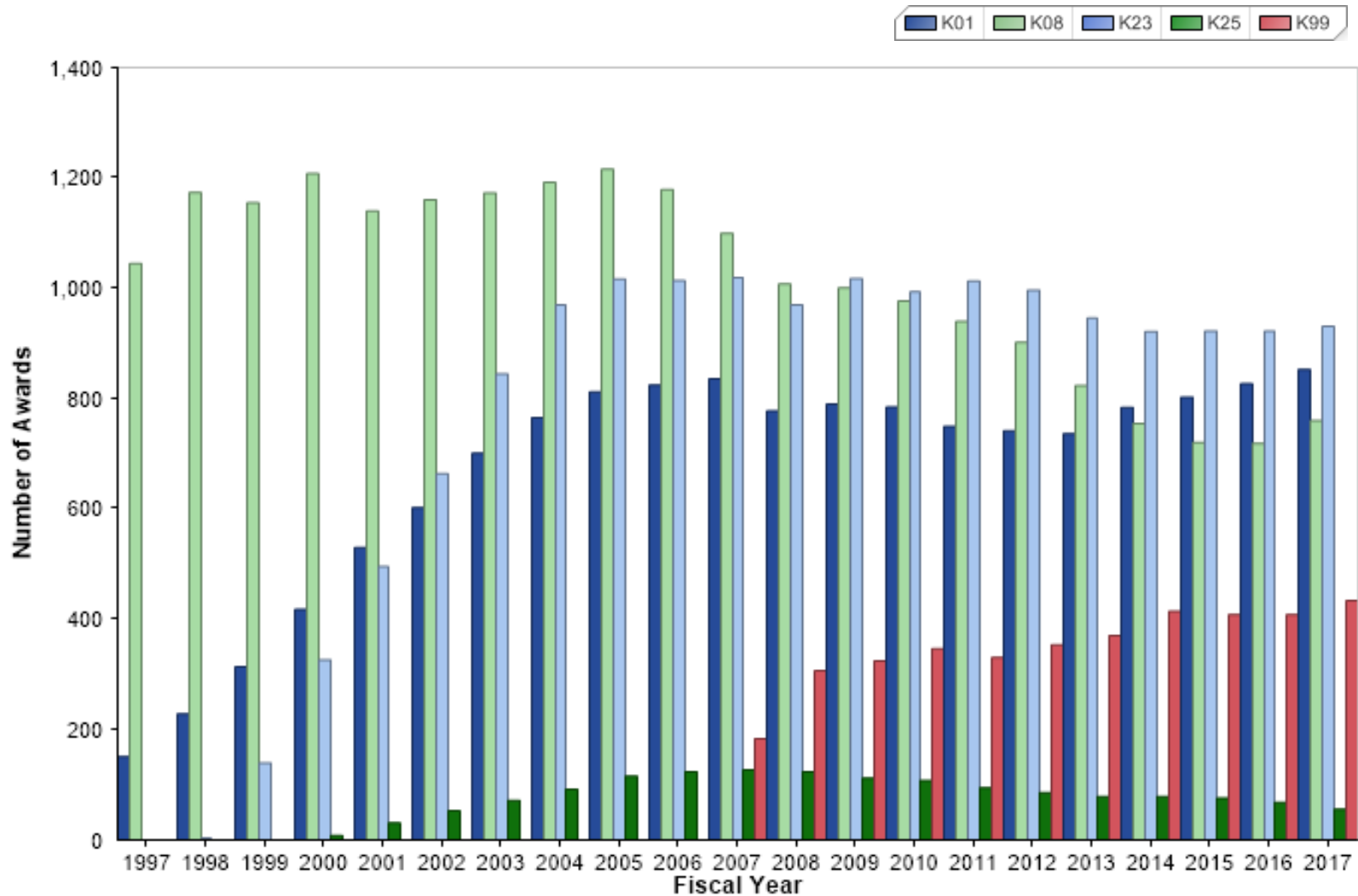
<https://projectreporter.nih.gov/>

Go here to browse through all funded federal awards by type, location, scientific focus, etc.

<https://researchtraining.nih.gov/programs/career-development>

Go here to see an app that may help you determine which K award to apply for

Research Career Development Awards Number of entry-level awards



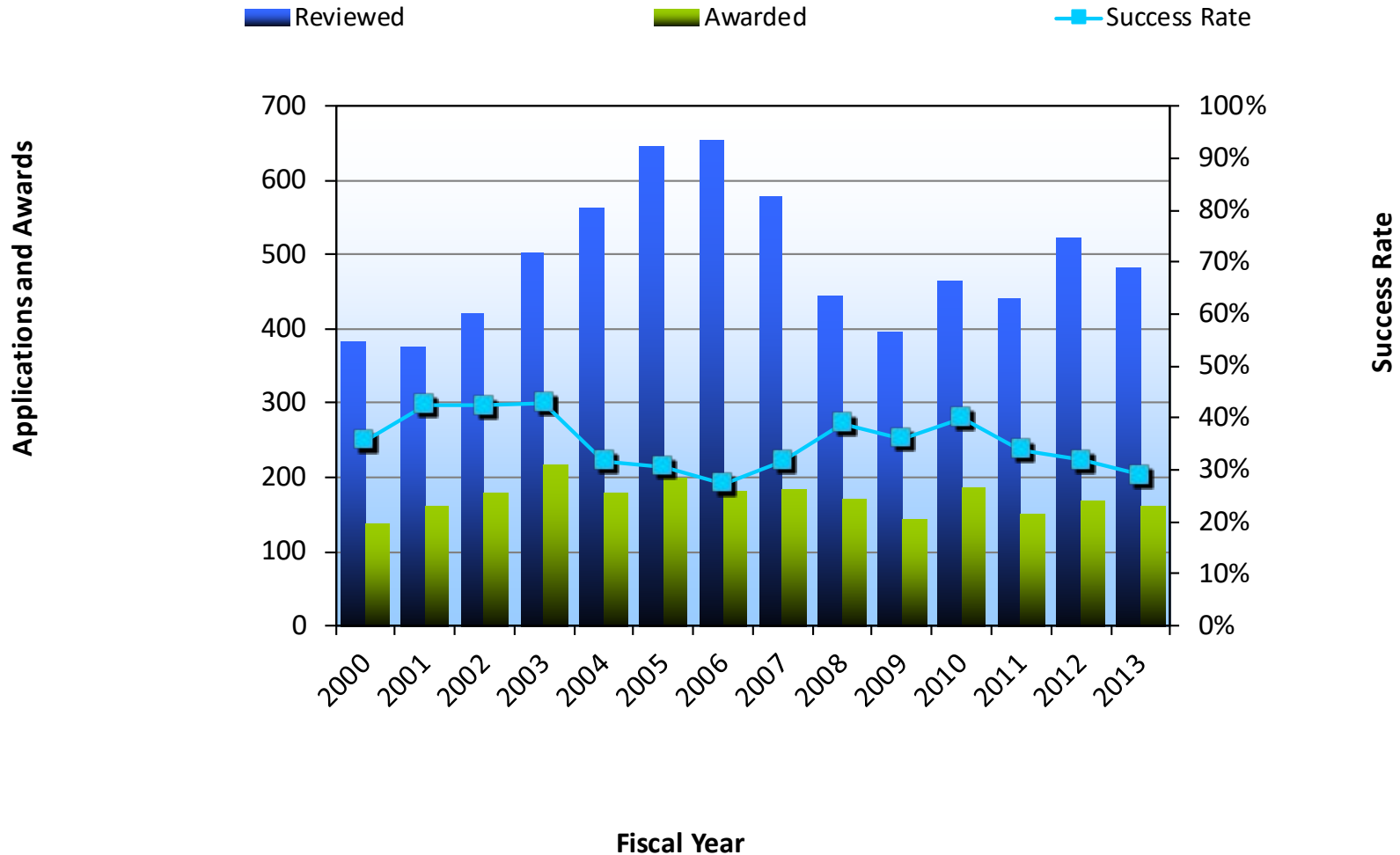
K01- Mentored Research Scientist Development Award

- Support for intensive, supervised career development in biomedical, behavioral, or clinical sciences leading to research independence.
- 75% FT effort, usually fixed salary
- 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
- Specific focus, under-represented in research, disabled, disadvantaged background, interruption of research career

K01s vary by IC

NIDDK	2 to 7 years postdoc req	\$90K, \$25K res
NHLBI	Diversity, disadvantaged, or disability OR epidemiology, biostats, outcomes, implementation	\$75K, \$30K res
NHGRI	Ethical and social issues in genome science, some genome science res	No \$ limit for salary, \$40K res
NIA	Parent FOA	\$75K, \$20K res
NIAMS	Parent FOA	\$75K, \$25K res
NICHD	1. Medical rehabilitation 2. Child abuse and neglect 3. Population research, demography 4. Change in discipline	\$75K, \$25K res
NIDA	Parent FOA	\$90K, \$50K res
NIMH	<6 yrs postdoc, 4 years support only	\$90K, \$50K res

Success Rate of K01 Awards



2016	FY Total		3,208	998	31.1%	\$172,826,147
2017	K01	NCI	22	7	31.8%	\$984,001
2017	K01	NHLBI	63	22	34.9%	\$3,547,254
2017	K01	NIDCR	3	2	66.7%	\$286,703
2017	K01	NIDDK	111	32	28.8%	\$4,318,658
2017	K01	NINDS	15	6	40.0%	\$1,288,578
2017	K01	NIAID	29	4	13.8%	\$492,377
2017	K01	NICHD	15	5	33.3%	\$658,683
2017	K01	NIEHS	28	0	0.0%	\$0
2017	K01	NIA	65	26	40.0%	\$3,307,125
2017	K01	NIAMS	39	12	30.8%	\$1,516,248
2017	K01	NIDCD	6	1	16.7%	\$138,670
2017	K01	NIMH	81	29	35.8%	\$4,539,449
2017	K01	NIDA	68	19	27.9%	\$3,050,056
2017	K01	NIAAA	29	14	48.3%	\$2,245,960
2017	K01	NINR	9	4	44.4%	\$356,328
2017	K01	NHGRI	3	0	0.0%	\$0
2017	K01	NIBIB	4	2	50.0%	\$335,329
2017	K01	NCCIH****	7	2	28.6%	\$243,833
2017	K01	FIC	18	5	27.8%	\$653,295
2017	K01	NLM	14	3	21.4%	\$502,487
2017	K01	OD Common Fund	3	3	100.0%	\$500,967
2017	K01	OD ORIP-SEPA†	13	5	38.5%	\$1,326,371
2017	K01	Activity Total	645	203	31.5%	\$30,292,372

NIH Pathway to Independence (PI) Award: K99 / R00

- **Eligibility:**
 - Intramural or extramural postdocs with 1-4 years of experience
 - US Citizens and non-US Citizens
 - Cannot have held a faculty position
 - No more than 4 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**

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.**

K08-Mentored Clinical Scientist Development Award

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

K25- Mentored Quantitative Research Development Award

- **For statisticians, chemists, engineers, physicists, computer scientists**
- **May be faculty-level scientists with little training in biology, medicine**
- **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)**
- **3-5 years of study, seminars, observation, mentored research**
- **NHLBI, NIA, NIAA, NIAID, NIGMS, NIDA, NIEHS, NIDCD, NIDDK, NICHD**

What has been achieved?

- **Reduced time to R01? Sadly, no**
- **Gender equity. Yes, differentiated by application rates**
- **Increased odds of subsequent NIH funding? Yes (~45% for K01, K23, K08)**
- **Publication? Yes, K awardees have more pubs than non-awardees at same stage**
- **More involved in the scientific community? Yes, K awardees are highly engaged in scientific enterprise.**

Other K awards

- **K07 Academic Career Development Award.**

May be curriculum development, development of teacher scientist. Also related to research ethics. NIA only.

- **K22 Career Transition Award.**

Often intramural, but includes NIAID, NCI. Usually 2-3 years.

- **K76 Paul Beeson Emerging Leaders Career Development Award in Aging**

Like a K23 but better!

- **R50 NCI Research Specialist.**

Support to non-PI; stable research specialist, essential to lab operation such as core director, data scientist.

Institutional K12

- **Scholars selected by institution, program leadership**
- **Awards 2, 3, or 5 years of research training**
- **Could be considered a pre-K award**
- **Otherwise, fairly typical compared to individual K awards**
- **What follows a K12? Usually another K award (K01, K23, K08) but could be RPG**
- **Irregular application cycles. Watch blogs or talk with program directors or OCTRI**

K12 awards at OHSU

- **OCTRI KL2**
- **BIRCWH K12 (Building interdisciplinary research careers in women's health)**
- **Learning health systems K12 (New!)**
- **Emergency medicine K12**
- **Women's reproductive health research K12**
- **Ophthalmology K12**

Other CDA to consider

- **VA CDA1 and CDA2**
 - Somewhat more generous research costs
 - Helps one to get established within VA
- **NSF**
 - Faculty Early Career Development Program (CAREER)
 - Must be Asst Prof
 - No citizenship requirements
 - Minimum \$400K over 5 years; \$500K for biology, engineering, or polar research

Foundations, professional organizations

American Heart Association

- Up to Asst Professor (inclusive)
- ≤ 4 years since doctoral degree
- Can submit as a postdoc
- Citizenship includes many different visas

American Cancer Society

- Phasing out research scholar grants, now emphasizing clinical scientist development

American Diabetes Association

- Junior Faculty Development
- \$138K total, \$75K PI salary
- Up to Assistant Professor (inclusive)
- ≤ 10 years after terminal degree

Local Foundations

Medical Research Foundation of Oregon

- **These are often the first grants for new faculty**
- **Funding begets funding.....**

New Investigator Awards

- \$40K, can include some salary
- Should be at the beginning of an independent career

Early Career Investigator

- \$20K, can include some salary
- Postdoc or clinical fellows are eligible
- Must be clinical or translational research

And one more thing

Early Stage Investigator

- **This is for RPGs and not K awards**
- **NIH gives a score bonus on payline for early stage investigators who qualify**
- **Must have received the terminal research degree or have finished postdoc clinical training within 10 years**
- **Not every IC uses this policy**

Steven Katz Early Stage Investigator Award (NEW!)

Loan Repayment Program (LRP)

General Tips for Writing a Mentored K Award

- To help promising new investigators achieve research independence (i.e., to compete successfully for R01 funding).
- Preparing for the R01 grant application you will submit at the end of the K award should be the organizing principle of the K grant application.
- Think about your short-term goals and long-term goals.

Mentored K Awards: Review

- **Overall Impact Score**
- **Scored Review Criteria**
 - **Candidate**
 - **Career Development Plan**
 - **Research Plan**
 - **Mentor(s), Consultant(s), and Collaborator(s)**
 - **Environment and Institutional Commitment to the Candidate**

The Candidate: Review Criteria

- **Quality of the candidate's academic and clinical record**
- **Potential to develop as an outstanding independent researcher**
- **Commitment to a career in scientific research**
- **Likelihood that the career development plan will contribute substantially to the scientific development of the candidate.**

Candidate's Background

- Suggested length: About 1 page.
- Personal narrative of your professional career.
- OK to use 1st person (“I”)
- Make this a narrative, not a strict chronological statement.
- Doing this well may be the most difficult task in writing a K proposal

Candidate's Background

- Give examples of the opportunities you've had to engage in research (basic or clinical) as evidence of your long-standing commitment to research.
- Highlight early evidence of productivity (e.g., pursuing a specific question, analyzing data, presenting or publishing your results).
- This must be compelling

Review of training plan

- Appropriateness of the content, the phasing, and the proposed duration of the career development plan for achieving scientific independence
- Consistency of the career development plan with the candidate's career goals
- Likelihood that the plan will contribute substantially to the achievement of scientific independence
- Timeline – When are you planning to submit manuscripts? How about the next phase of funding?

Career Development Plan

- **Start with career goals and objectives**
- **List the specific training areas you will pursue to acquire the new set of skills you need.**
- **Explain why gaining additional training and mentored research experience in these areas will be critical to achieving your short-term and long-term career development goals**
- **Describe in detail how you will gain this training, such as through specific courses, individualized tutorials, or practical experience gained in someone's research lab**

Mentors, Co-Mentors, and Collaborators: Review

- **Evaluation criteria for primary mentor:**
 - Appropriateness of mentor's research qualifications in the area of this application.
 - Quality and extent of mentor's role in providing guidance and advice to candidate.
 - Previous experience in fostering the development of more junior researchers.
 - History of productivity and support.
 - (Adequacy of support for the research project.)

Mentors, Co-Mentors, and Collaborators

- Choose a primary mentor who is a senior investigator with a track-record of NIH funding; your primary mentor should be at OHSU. Include co-mentors who will complement the primary mentor's strengths.
- Each member of your “team” must play a role in your training or research plan. Introduce each with a short paragraph.
- If you need to add additional members, call them scientific or technical advisors/collaborators, who have a relatively narrow area of responsibility and focus.
- Include an evaluation component that describes how your mentors will assess your progress (e.g., quarterly meetings); include specific milestones during the K award. Include timeline, frequency of mentoring

Primary Mentor's Statement

- The letter from the primary mentor is very important. It should cover the following areas:
 - His or her qualifications in the research area proposed by the candidate.
 - Previous experience as a research supervisor.
 - The nature and extent of supervision that will occur during the award period.
 - What resources, if any, they will make available to you in support of your training and/or research.
 - This **MUST** agree with what you say in the body of the grant

Primary mentor's statement (2)

- The primary mentor's letter can also “re-frame” any potential weaknesses in the application.
 - **Examples:**
 - Productivity of candidate (e.g., few publications).
 - Feasibility of conducting research plan with resources of K award.
 - Limited mentoring experience of primary mentor.
 - Limited resources of primary mentor (e.g., no current R01 funding).
 - Co-mentor(s) not at OHSU.
 - Scientific overlap with primary mentor.

Institutional Commitment to Candidate's Research Career Development

- **Applicant institution's commitment to the scientific development of the candidate and assurances that the institution intends the candidate to be "an integral part of its research program."**
- **Applicant institution's commitment to protect at least 75% of the candidate's effort for proposed career development activities.**
- **Describe the research facilities and educational opportunities of the sponsoring institution (OHSU) that are related to the candidate's career development training and research plans.**
- **Do NOT include a comment that "If funded, then the applicant will be appointed to faculty...." No contingencies.**

Institutional Commitment to Candidate's Research Career Development (Cont'd)

- **These assurances are stated in a letter from your department chair or division chief**
- **Note: For fellows, this letter must state that you will be promoted from your current position to a “higher” position (full-time faculty position, assistant professor) during the review period or at the very least, K award period.**

Training in the Responsible Conduct of Research

- **This is important but is more like a checkbox for the reviewer**
- **See boilerplate**

Plan 6 mos in advance

Work with your mentors on specific aims

Talk with a program officer

Have a draft of the overall 3 mos in advance

Plan to have time to work on this in the 6 weeks before submission

Give your mentors and letter writers time to complete their submissions

Don't forget about OCTRI! We can help.

Design Studio? Optimally 2-3 mos ahead of time