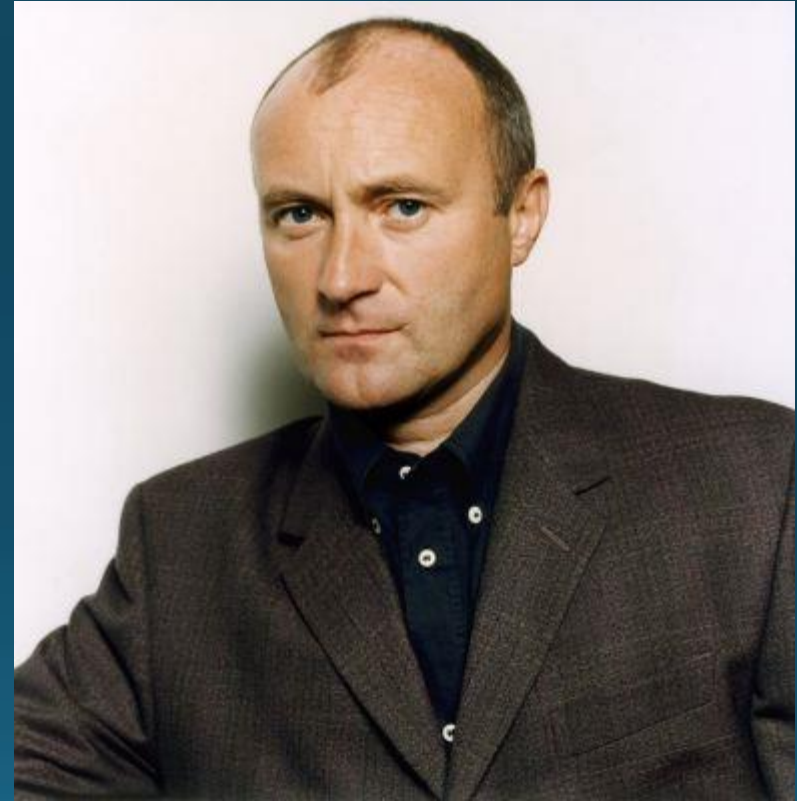
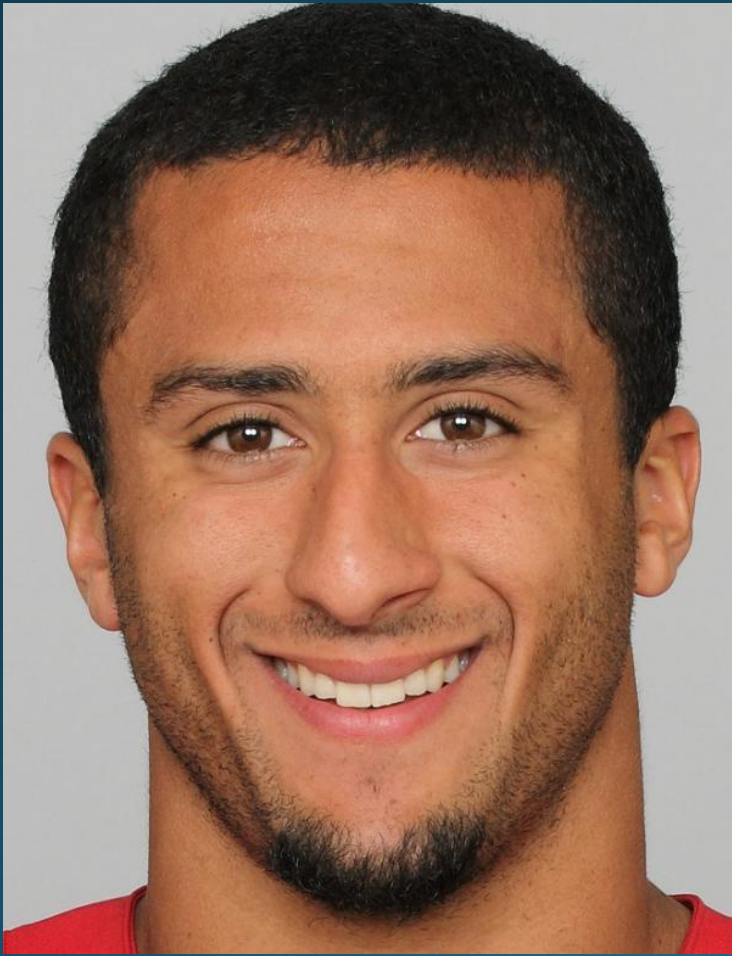


Tips on Career Development Grants

Presented by: Anthony Harris, M.D., M.P. H.

Slides adapted from: Mary-Claire Roghmann, M.D., M.S.
And Miriam Laufer, M.D., M.P.H.

There is unfortunately no magic formulas



Hot/cold/hot



Overview of lecture

- Tips on getting a K grant
- Tips on making the most of things once you have received your K grant

Background

- K23 obtained in 2000
- First R01 obtained in 2005
- First last author publication in 2000
- First set of mentees 2003
- Mentor for PhD students and infectious disease fellows
- Mentor for junior faculty
- K24 (mentoring grant) 2009
- AHRQ, CDC, NIH funding at present

- I HAVE STRUCK OUT AT LEAST ONCE AT EACH OF THE PRIOR FUNDING AGENCIES

What I do every day

- Clinical
 - ID consults
 - General medicine
- Teaching
 - Medical students, epidemiology students
- Research
- Infection control

What is a Career Development Grant?

- Great way to give you the protected time to launch your research career

What is a Career Development Grant?

- Faculty level, individual award
- Goal: Develop into an independent investigator
- 75% protected research time
 - Further research training
 - Mentored research experience
 - Limited research \$\$\$
- 25% time for clinical service, administrative service and teaching

Sources of Career Development Grant

- K grants
 - NIH
 - Institute-specific
 - CDC
 - AHRQ
- VA Research and Development
- Foundations

K01 vs. K08 vs. K23 Eligibility

- K01
 - Any doctoral degree
 - Only certain institutes
- K08
 - Clinical doctoral degree
 - Degree leads to a license to see patients
 - If in doubt, ask Program Officer
 - All institutes
- K23
 - Clinical doctoral degree
 - Patient-oriented research
 - All institutes

What is patient-oriented research?

- Research conducted with human subjects (or on material of human origin such as tissues, specimens, and cognitive phenomena) for which an investigator directly interacts with human subjects
- This area of research includes:
 - mechanisms of human disease;
 - therapeutic interventions;
 - clinical trials, and;
 - the development of new technologies.

What makes for a successful K application?

- Strong mentor
- Strong candidate
- Strong career development plan
- Research

K awards: early tips and strategies

- Think of Aims
- Find a primary mentor
- Get successful K award applications from colleagues

Career Development (K) Grant Overview

- Candidate/Candidate Statement
- Career Development Plan
- Mentor and Mentoring Plan
- Institutional Support
- Research Plan
 - Not an R01, a “training vehicle” that will lead to preliminary data for an R01

Candidate's Statement

- Goal: Provide evidence to demonstrate your promise as a researcher
- Think of this component as your “scientific autobiography”
 - Education & Training
 - Research Experience
 - Research Accomplishments to date (awards)
 - Commitment to a Research Career
 - Previous collaborations
 - Academic Record
 - Write as a narrative, not as a list
 - It's okay to brag in this section

Candidate's Statement: Career Goals and Objectives

- Short & Long Term Career Goals
 - My long-term goal in seeking this Mentored Patient-Oriented Research Award is to become an independent translational investigator with a career focused on...
- What you've done towards attaining these goals
- Need for additional training
 - Training must include new skill; you won't be competitive if K appears to be a repetition of your post-doctoral fellowship
- **Your academic research goal – including how attaining this grant will help you reach this goal**

Long term (grand)

My overall, long term research goals are to:

- Conduct clinical and epidemiological studies of infectious diseases with a focus on potential interventions
- Apply molecular genetic techniques to address the health care needs of developing countries

Example

- I am seeking the support of a Ko8 award to foster my development into a successful, independent investigator in patient-oriented research and a leader in the study of infection control and patient safety. With the support of this award, I plan to gain the psychometric, biostatistical and epidemiological skills needed for a successful career in outcomes research and to acquire specific expertise in methods to study adverse events and psychiatric outcomes. This knowledge will be essential in the development of infection control interventions that seek to maximize the positive impact on overall patient safety. In the long-term, I hope to translate the knowledge gained from this research into future investigations of novel interventions aimed at improving infection control delivery and patient safety.
- I am committed to a career in academic medicine as an infectious disease epidemiologist. In particular, I have a long-term goal of being a leader in the area of patient safety and the optimal application of patient isolation. The proposed research and training will provide me with the necessary skills to advance towards this goal.

Example

- I am committed to a career in academic medicine as a clinical investigator. I believe that rigorous didactic training in epidemiology and biostatistics is important for clinical investigators and my belief prompted me to obtain a MPH from Harvard University. This career development grant will enable me to obtain additional training in epidemiology and biostatistics leading towards a Ph.D. in Epidemiology. The further coursework will allow me to gain additional skills in epidemiology and statistics, which will improve the quality of my clinical research. This career development grant (didactic coursework and research projects) will help me improve my research skills and gain experience in advanced methods and experimental approaches that will allow me to conduct patient-oriented research.
- I want to extend my research work on the epidemiology of emerging pathogens. I will be evaluating risk factors/interventions for emergence of resistant pathogens and looking at underlying methodologic issues in study design.

Example

- My ultimate goal is to become an independent clinician investigator in the field of rapid diagnostics for multidrug-resistant Gram-negative (MDRGN) bacteria.

Career Development Plan I

- Detail the knowledge, skills, training you need to become an independent investigator and to meet your stated long term goal
 - Formal coursework (charts, tables)
 - Specific skills and plan to attain these (new tools, collaborations)
 - Detailed plan to work with mentors – 2 hours a week “gold standard”
- Mentorship and Collaborators
 - Detailed description of what skills you’ll learn from each mentor; how this learning will occur; how often you’ll interact, etc.
 - Research Advisory Committee – members, how often you’ll meet, evaluation metrics

Career Development Plan II

- Training Activities
 - Coursework: course number, title, term, # credits, brief description of content (if needed), competencies
 - (Coursework should be completed by end of year 2)
 - Training in technical skills needed for project (lab, clinic)
- Career Development Timetable
 - Research activities (didactic coursework, technical training, manuscript preparation, preparation of R01 during year 3)
 - At Maryland, use the ORC as a resource for developing this plan

Career Development Plan III/Icing on the cake

- Your plan to become a knowledgeable, productive scientist
 - Team management training
 - Hiring and supervising staff, managing projects, mentoring, time management
 - Scientific Communication
 - Experience presenting at meetings
 - Scientific Writing
 - Manuscripts
 - Grants
- Conflict resolution

How do I choose career development degree versus courses?



- What's your background?
 - How much prior research training have you had?
- What skills do you need?
 - How much course work is needed to develop these skills?
- What has study section wanted for prior recipients?

Focused Coursework

- Best for those with a prior research degree
- Base the courses on the knowledge, skills, training you need to become an independent investigator
- Always include:
 - Lab and Project Management
 - Scientific Communication
 - Oral presentations
 - Papers and Grants

Example

- The goals of this coursework are to prepare me for the advanced data collection, implementation, and analyses included in the proposed research plan, and to provide a foundation for future investigations as an independent investigator. I already have a Masters' degree in Epidemiology but advanced coursework will greatly enhance the quality of my work and to provide a foundation for future investigations as an independent investigator. I already have a Masters' degree in Epidemiology but advanced coursework will greatly enhance the quality of my work.

Example continued

- **A. Developing and Validating Diagnostic Assays (340.754.12; 5 hours/week):** This course will improve my understanding of the fundamentals of developing diagnostic assays and utilizing sophisticated approaches for testing their validity, including determining positive and negative predictive values of candidate assays by developing receiving operator curves.
- **B. Advanced Database Management for Clinical Research (340.728.01; 4 hours/week):** Aim 1 of my proposal would require creation of a large database following primary data collection including detailed laboratory and clinical data from 8 institutions. I would benefit from training in database management due to the quantity and complexity of the data being collected. The development of these advanced skills, including methods for rigorous data cleaning and coding, will be critical for conduct of the proposed research.
- **C. Clinical Trials (140.885.81; 2 hours/week):** I have not had previous training in the design and analysis of interventional studies. By completing this course, I will develop the skills necessary to successfully design and implement intervention studies which will be useful for evaluation of any future rapid diagnostic assay.
- **D. Grant Writing (330.632.11; 3 hours/week):** This advanced-level course provides comprehensive guidance on writing and submitting NIH R01 grants, with the creation of a full proposal as the final project. I will utilize the skills acquired by participating in this course to substantially strengthen an R01 application which I plan to submit no later than the third year of the award period.

Example

- Obtaining a *Masters in Clinical Research* will provide me with the skills in epidemiology, survey design and biostatistics that will enable me to conduct the analysis and interpretation of the proposed research and will serve as a solid base for future research. Furthermore, as this degree is oriented towards junior clinician scientists, it will focus on grantsmanship and practical aspects of research completion which is ideal for my position as junior faculty. Completing a Masters will help me become an independent clinical and epidemiological researcher. Within the Masters in Clinical Research, I will be pursuing the *Outcomes/Health Services Research focus* to become more facile with methods to measure healthcare outcomes and to provide a basis for research within the emerging field of patient safety.

Training in Responsible Conduct of Research

- Do NOT simply state you'll "take required course"
- Detail subject matter, format, frequency, duration of instruction
 - Read the instructions!
- Go the extra mile if you are working in a controversial (or not) area
 - Vulnerable subjects
 - Children, prisoners, employees
 - Stem cells
 - Conflict of interest

Who is a good mentor?

- DOES THE MENTOR HAVE FUNDING
- HAS THE MENTOR SUCCESSFULLY MENTORED MENTEES TO ACADEMIC CAREERS

Mentor & Mentoring Plan I

- Research qualifications in the area of the project
 - History of publications and support
- Extent and quality of his/her proposed role in guiding and advising the applicant
 - Quality of Research Plan is a reflection of this process
 - Past history with the mentee is a plus
 - How often are you going to meet, what are you going to do during the meeting

Mentor & Mentoring Plan II

- Previous experience in training researchers
 - Table or list of past trainees
 - Level of training, project, publications, current position, current funding
- Protection of at least 75% of candidate's time to proposed research

Institutional Commitment

- Strong level of commitment to the candidate's development into an independent investigator
 - "Faculty position not contingent on receipt of the award"
 - Evidence that the candidate's time has been protected
 - Resources given to the candidate
- A minimum of 75% of full-time effort will be protected for the program
 - Consistency
 - Details of what the 25% time will consist of

Sources of K Grant Information

- Research Training and Career Development
 - <http://grants1.nih.gov/training/extramural.htm>
 - K Kiosk:
<http://grants.nih.gov/training/careerdevelopmentawards.htm>
- National Institutes of Health, National Heart, Lung and Blood Institute (NIH/NHLBI) Resources
 - <http://www.nhlbi.nih.gov/training/index.htm>
- Program Officer (PO) & Study Section Scientific Review Officer (SRO)

Sources of VA Career Development Grant Information

- VA R&D Central Office Website
 - CD grants service-specific
 - <http://www.research.va.gov/funding/cdp.cfm>
- VA R&D Service Baltimore VA MC
 - Miriam Smyth, Ph.D.
 - Phone 5-6510
 - E-mail Miriam.Smyth@va.gov
 - Baltimore VAMC 3A-125

Foundations

- American Heart Association

- http://my.americanheart.org/professional/Councils/AwardsandLectures/EarlyCareer/Early-Career-Council-Awards_UCM_322102_Article.jsp

- American Cancer Society

- <http://www.cancer.org/research/researchprograms/funding/fundingopportunities/indexofgrants/mentoredtrainingandcareerdevelopmentgrants/>

- American Diabetes Association

- http://professional.diabetes.org/Diabetes_Research.aspx?typ=18&cid=89693

- March of Dimes (*birth defects*)

- <http://www.marchofdimes.com/research/research-grants.aspx>

- Paul B. Beeson Career Development Award (*Aging*)

- <http://www.beeson.org/>

- Call prior grant recipients and administrative contacts

Other options

- University of Maryland awards
 - Doris Duke Charitable Foundation
 - Thrasher Research Foundation
 - Robert Wood Johnson
 - Your favorite scientific organizations
-
- Goal: Compete with others who are like you.

Now I have a K

What to do in later years of a K

- Write multiple R01s, R21s etc...
- Figure out where you are going to come up with 75% of your salary
 - This can be tricky
 - Find rainmaker collaborators
 - Develop a skill set where you can be valuable collaborator

What to do in early years of K

- Credit your K grant on every publication
- Use your protected time to actually follow your career development plan to gain skills
- Publish, publish, publish
 - Build your CV so you are attractive for an RO₁

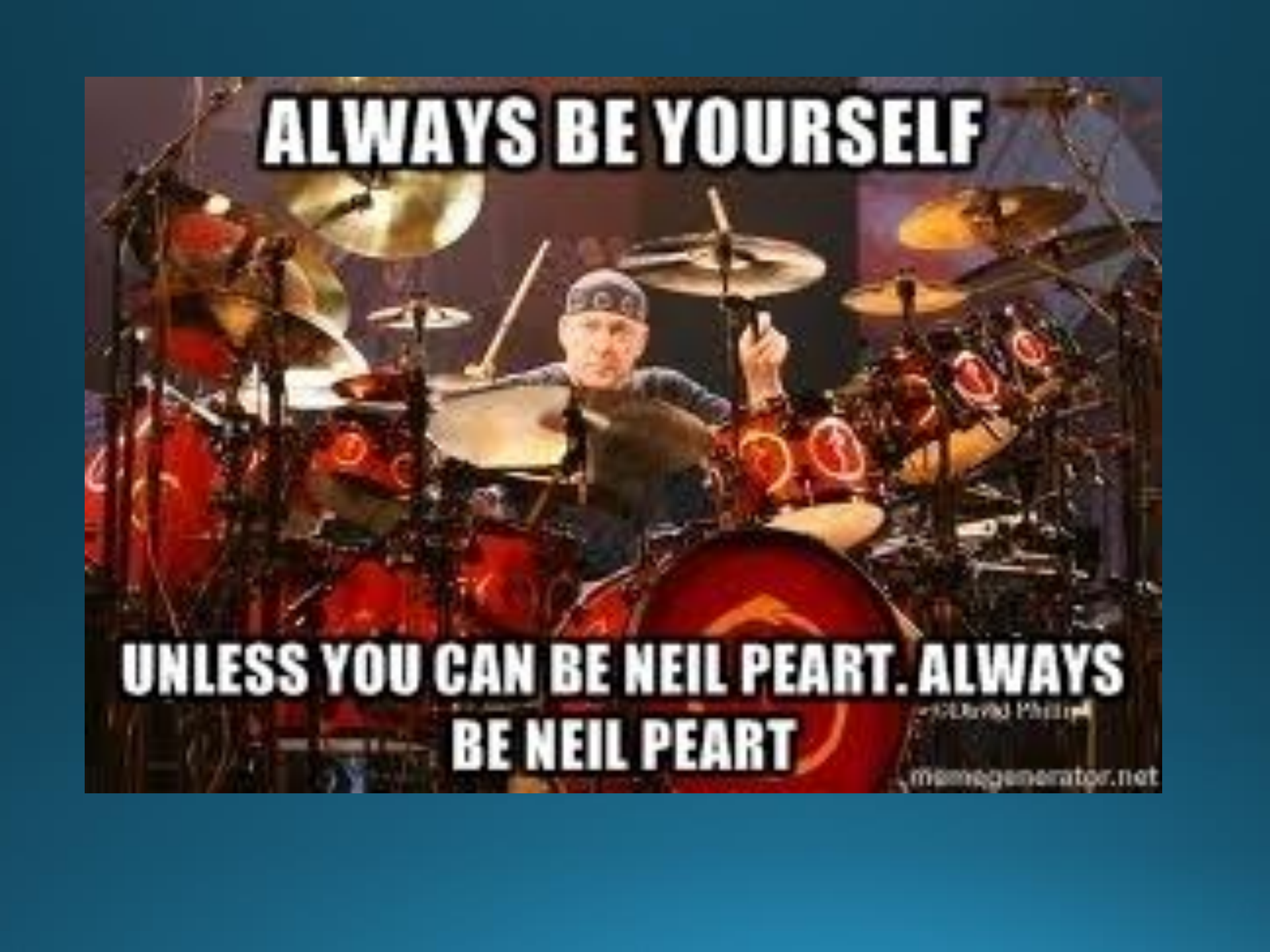
Where are you now with a K award

Advantages

- You have defined your key post-training research question
- You have secured a faculty position
- You have gotten a vote of confidence from your institution and the NIH

Disadvantages

- Heavily dependent on your mentor's research
- Some funding restrictions (until last 2 years)
- Hardest transition from mentored to independent
 - Now you are in the "big league"

A photograph of Neil Peart, the drummer of Rush, performing at a drum set. He is wearing a dark long-sleeved shirt and a dark beanie with a white logo. He is looking directly at the camera with a serious expression. The drum set is red and black, with several cymbals and drums visible. The background is dark and out of focus.

ALWAYS BE YOURSELF

**UNLESS YOU CAN BE NEIL PEART. ALWAYS
BE NEIL PEART**

memegenerator.net

FROM THE DIRECTOR OF "OLD SCHOOL"

HANGOVER THE OVER



YOU MESS WITH THE WRONG GUY.

© 2009

REUNION

FEEL IT JUNE 5

www.thegoodfellas.com

© 2009