Customizing Your 'Candidate Information' Section for Successful Career Development Award Grant Funding

Grantsmanship tips and strategies to create a winning career development plan

April 9, 2018

Georgia CTSA
Georgia Clinical & Translational Science Alliance

CFAR
Emory Center for AIDS Research

EMORY UNIVERSITY SCHOOL OF MEDICINE
Department of Medicine

Children's Healthcare of Atlanta

EMORY UNIVERSITY SCHOOL OF MEDICINE
Department of Pediatrics

Survey Drawing

Today's K-Club Presenters

Background Material Presented by:

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MSCR 594 Scientific and Grant Writing Course Director

Grants Specialist Consultant

Today's Presentation Outline – **Candidate Section**

1. Definition, instructions
2. Overarching goals, high level strategies
3. Specific sections and strategies to address
4. Review criteria
5. Examples

Disclaimer

- The instructions and recommended formats presented today will follow the NIH Mentored K grant instructions
- Many other non-NIH career development award (CDA) applications will follow this same format
- Be sure to carefully read your specific funding opportunity announcement for call-specific details and instructions

http://grants.nih.gov/grants/how-to-apply-application-guide.htm

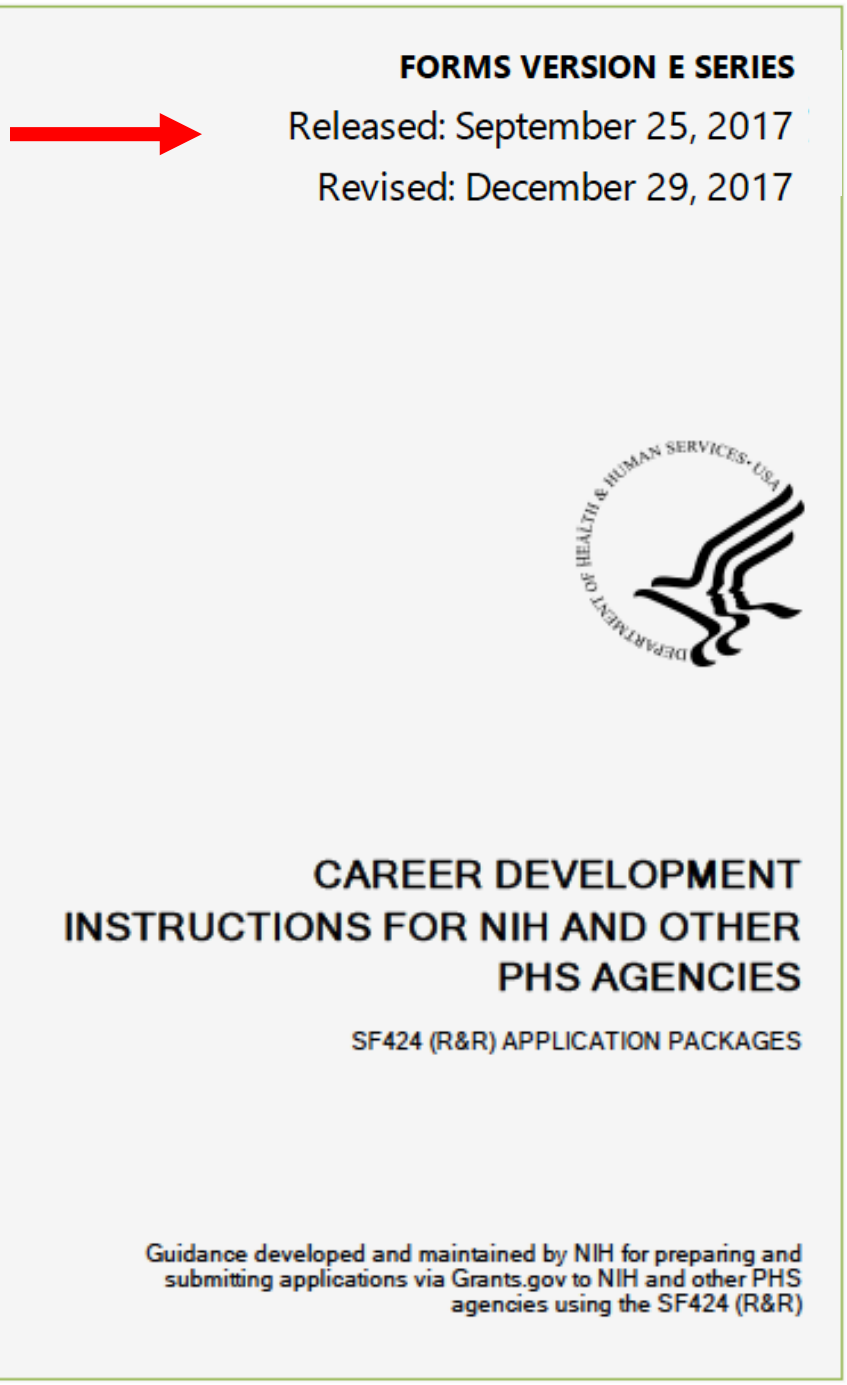
Application Form Instructions

Need help selecting the right instructions?

Application Instructions	Description	SF424 (R&R) - Version E
G General Instructions	Comprehensive guidance for research, training, fellowship, career development, multi-project, and small business applications	HTML / PDF
Filtered Application Instructions		
R Research Instructions	Guidance for research only	PDF
K Career Development Instructions	Guidance for career development only	PDF
T Training Instructions	Guidance for training only	PDF
F Fellowship Instructions	Guidance for fellowship only	PDF
M Multi-Project Instructions	Guidance for multi-project only	PDF
B SBIR/STTR Instructions	Guidance for small business only	PDF

How to Apply:
http://grants.nih.gov/grants/how-to-apply-application-guide.htm

Step-by-step directions for completing an NIH grant proposal – just K awards



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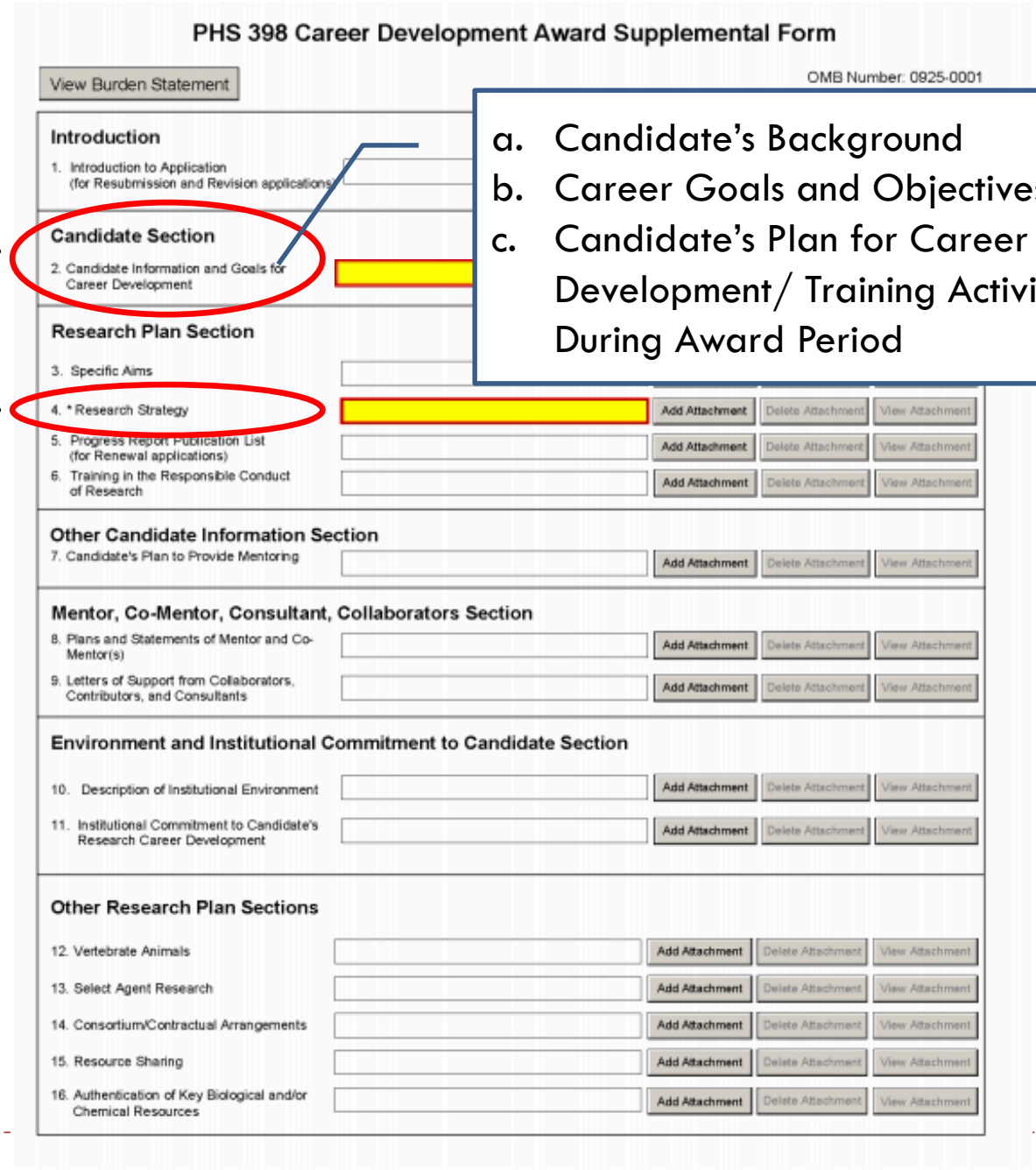

Within 12 page limit

Also within the same 12 page limit!

a. Candidate's Background
b. Career Goals and Objectives
c. Candidate's Plan for Career Development/ Training Activities During Award Period

Page Recommendations

Candidate Information Section: ~2-4 pages

a. Candidate's Background: < 1 page
b. Career Goals and Objectives: 1-2 paragraphs; 1 page max
c. Candidate's Plan for Career Development/Training Activities During Award Period : 1-2 pages

Research Strategy: ~8-10 pages

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Overarching Goal & Recommended Strategy

The **Consistent Mindset** when Applying for a Mentored K Awards

Understand the *intent* of the mentored K award.

- To help promising new investigators achieve scientific research <u>independence</u>

i.e., to become competitive for *R01 funding as the PI*

- Preparing for the R01 grant application you will submit at the end of the K award should be the <u>organizing principle</u> of the K grant application

Goal –
Show you need a K

Make a compelling argument ***why <u>you</u> need a K award***

- Explain <u>exactly</u> how additional training and mentored research experience will enable you to compete successfully for R01 funding
- <u>Be realistic:</u> ensure the content, scope and duration of the career development plan are appropriate for achieving research independence
- <u>Be specific</u>: give concrete examples of areas where you need additional training or experience ("the hook") to conduct the proposed research or areas where you are deficient that are directly related to your research career goals

Your "Hook"

How will further training and mentored research experience fulfill your need towards achieving research independence?

- Include some specific "challenges," for which you need additional training and/or experience to accomplish your research aims
- These "deficits" in your training/experience then become the focus of your career development training plan
- Describe in detail how you will gain additional training, such as through specific courses, individualized tutorials, or practical experience gained from conducting the research

Goal –
Show you are a good investment

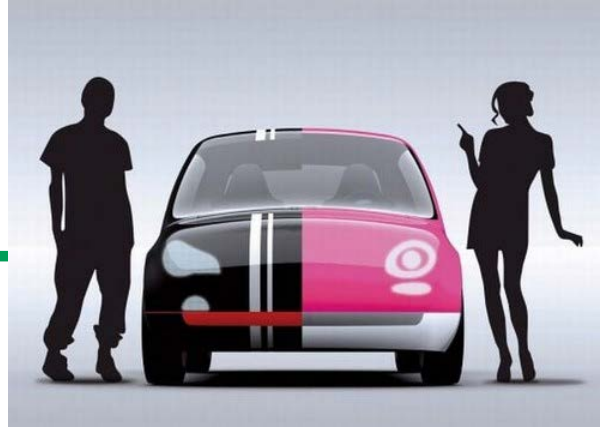
- Show your commitment to research by citing examples of the opportunities you've had to engage in research
- Including evidence of your creativity and productivity
  - Specific research questions/projects already pursued
  - Experience proposing questions and analyzing data
  - Opportunities where you have already presented and published your results
  - Publishing your results as first author is the gold standard

Goal –
Create a customized plan

Develop a plan that is *uniquely* suited to you.

- Given your previous training and research experience, and your short- and long-term career goals, propose a mix of didactic training and "hands- on" research experience that make perfect sense for you (and only you)
- Reviewers expect you to fully exploit the training resources available to you through both your mentor(s) and institutional environment

Plan Customization



Customizing Your Plan

- For candidates with substantial previous formal training in research, a plan that emphasizes "hands-on" research experience is appropriate
- Degree-granting programs (e.g., MPH, MSCR) are appropriate for candidates with little or no previous formal training in research, but even these programs should be "customized" whenever possible

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PHS Career Development Award Supplemental Form

2. Candidate Information and Goals for Career Development

Organize your attachment into three sections, following the headings and specified order below, and discuss each of the points listed below. Start each section with the appropriate section heading – Candidate's Background, Career Goals and Objectives, and Candidate's Plan for Career Development/Training Activities During Award Period. Also include any additional information requested in the FOA.

Candidate Section

2. Candidate Information and Goals for Career Development
    a. Candidate's Background
    b. Career Goals and Objectives
    c. Candidate's Plan for Career Development/ Training Activities During Award Period

Candidate's Background

NIH Instructions

- Describe your past scientific history, indicating how the award fits into past and future research career development.
- If there are consistent themes or issues that have guided previous work, these should be made clear. Alternatively, if your work has changed direction, indicate the reasons for the change.

This section should complement the biosketch

It's okay if there is some overlap

Candidate's Background

Expert Input

- Suggested length: Less than 1 page
- Be brief and to the point
- Explain why you made key career choices (e.g., to pursue specific kinds of training opportunities or research projects)
- Using your NIH Biosketch as your guide, provide a personal narrative of your professional career
- Okay to be conversational – i.e. preferable to use 1st person ("I")

Candidate's Background

Expert Input Cont.

- 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)
- Describe any formal research training already completed (e.g. MPH, MSCR)

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Career Goals and Objectives

NIH Instructions

- Describe your short-term and long-term career goals.
- Justify the need for the award by describing how the career development award will enable you to develop and/or expand your research career.
- You are encouraged to include a timeline, including plans to apply for subsequent grant support.

Career Goals and Objectives

Expert Input

- Suggested length: 1 - 2 paragraphs; 1 page max
- Substantiate that this is not simply $$ to continue business as usual, but that this award will enable you to develop/expand your research career
- THE HOOK: Highlight "challenges" and "deficits" for which you need additional training and experience

(This will then become the focus of your career development training plan in the next section)

Career Goals and Objectives

Expert Input

- Describe the specific areas where you have deficiencies (e.g., primary data collection, biostatistics, qualitative research methods, sophisticated laboratory technique)
- Tell how the K will help you develop and advance your career - where will you go with this award
- Include timeline and plans for applying for R01 funding

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Candidate's Plan for Career Development/Training Activities During Award Period

NIH Instructions

- Describe the new or enhanced research skills and knowledge you will acquire as a result of the proposed award.
- Describe any structured activities that are part of the developmental plan, such as coursework or workshops that will help you learn new techniques or develop needed professional skills.
- If coursework is included, provide course numbers and descriptive titles.
- Briefly discuss each of the activities, other than research, in which you expect to participate.
- For each activity, other than research, explain how it relates to the proposed research and to the career development plan. Indicate the percentage of time to be dedicated to each activity by year, expressed in person months.

Candidate's Plan for Career Development/Training Activities During Award Period

Expert Input

- Suggested length: 1 - 2 pages
- List the specific training areas you will pursue to acquire the new set of skills you need.
- Stress the new, enhanced research skills and knowledge you will acquire
    - What hands-on research experience will actually be provided?
    - What NEW skills will you have at the end of this CDA?
    - Where along the research timeline will you acquire these NEW skills and WHO will teach them to you?
- Explain <u>why</u> gaining additional training and mentored research experience in these areas will be critical to achieving your short-term and long-term career development goals.

Candidate's Plan for Career Development/Training Activities During Award Period

Expert Input Cont.

- Describe *in detail* how you will gain this training which should all be geared towards <u>preparation for independent research</u>:
  - individualized tutorials
  - supervision/mentoring (including frequency of interactions),
  - coursework (specific course number and descriptive title – no elaborate discussion)
  - seminars & lab meetings
  - professional meetings and presentation of data
  - practical experience gained from conducting the research
- Document a clear training and career path – create a timeline and reflect person months involved in activity by year

Career Development Activities

A Cautionary Tale:

Beware…If you have considerable research experience in the same areas as the proposed research, reviewers may determine that the application lacks potential to enhance your research career.

Candidate's Plan for Career Development/Training Activities During Award Period

Some notes about coursework for your consideration

- Be careful as too much coursework may limit the amount of time available to spend on your research project
  - >2 courses/yr could be too much
  - No formal coursework may also be questioned
- Coursework must be rational
- Courses away from campus should be well-justified and represent a new or expanded discipline
- Be careful in justifying proposed coursework if you already have multiple post graduate degrees (MPH, etc.)
- Seek PO guidance in proposing a degree program such as MPH, MSCR
- Describe how coursework relates to the proposed plan and to the ultimate long-term career goals

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NIH Review Criteria

K - Career Development	Standard Grants
Candidate	Significance
Career Development Plan / Career Goals	Investigator
Research Plan	Innovation
Mentors, etc.	Approach
Environment Commitment to Candidate	Environment

Candidate Information Section Review Criteria

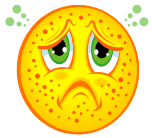
- Quality of the candidate's academic and clinical record
- Potential to develop as an outstanding independent researcher
- Evidence of the candidate's commitment to meeting the program objectives & likelihood of becoming an independent investigator
- Appropriate goals and scope of the plan when considered in the context of prior training/research experience
- Likelihood that the career development plan will contribute substantially to the scientific development of the candidate and that plan will contribute to the field
- Assessment of plans for evaluating candidate's research and career development progress

Example Reviewer Comments

Regarding Scientific Independence

There is a high likelihood that the plan will contribute substantially to the scientific development of the candidate leading to scientific independence.

versus



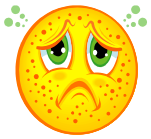
No sketch of what the R01 emerging from this career development award will look like, and how the proposed work builds toward an R01.

Example Reviewer Comments

Regarding Career Development Activities

Supplementary didactic courses will focus on molecular biology which is a gap in her skill set that remains after completing the MSCR.

versus



Lacks concrete plans for how courses taken will build a skill set that will be put to practical use in the research plan, and in the future. The career goals and objectives are not specifically designed in a way that it would be tailored to the candidate needs.

Example Reviewer Comments

Productivity Issues (i.e., publications):

This candidate's productivity is rather modest.

The candidate's publications have been largely restricted to book chapters and review articles.

- Authorship in peer reviewed journals (and at least one 1 first authorship in science related to your field) demonstrates your dedication to an academic career in research and your track record to date.
- You will be compared to others competing for your same K – i.e., K23 compared to K23; K99 compared to K99

The Ultimate Review

The applicant's passion for and dedication to research has been consistent throughout her short career. The strong career development plan will position this candidate for success in completing the impressive research plan that addresses an important gap in knowledge.

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Examples of a NIH "K" Candidate Section

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EMORY UNIVERSITY

NIH Review Criteria

K - Career Development	Standard Grants
Candidate	Significance
Career Development Plan / Career Goals	Investigator
Research Plan	Innovation
Mentors, etc.	Approach
Environment Commitment to Candidate	Environment

Suggestions and Tips

- The **Candidate Information** section is what distinguishes a K grant or CDA from all other grant proposals
- To remind reviewers that this is a CDA use career development grant writing language in lots of different sections:
  - Name names (your mentoring team; grants you've received; parent grant you are leveraging, etc.)
  - Talk about the new, hands-on training opportunities
  - Talk about the intellectual and technical resources at your disposal
- Use subheaders to make transitions and organize your presentation
- Create a compelling career development story that permeates the entire package – *be aspirational*

Examples for 'setting the stage' in writing Candidate Background

1. You are a KL2 or K12 Scholar
2. Changed labs or research directions
3. You desire advanced training in WHAT, WHY?
4. You are a clinician and you need 'enough' basic science training to do xxxxx
5. Do you need a master's degree? MSCR, MPH, etc.

→ temptation is to rehash Biosketch – no need to do this. Reviewers will closely scrutinize your Biosketch

Example 1: KL2 experience

a) Candidate's Background

Previous Research Background: My formal research training began during my freshman year of college with a research project where we examined neurotransmitter pathways in the rat model. I spent the first two summers of college in this laboratory and my work was presented at the Ohio Academy of Science meetings. This experience cemented my desire to become a scientist, which was eventually coupled with a desire to become a physician.

Current Research Environment: I have the fortune of working in collaboration with the Emory Genome Center (EGC) and the Department of Biology at Georgia Institute of Technology (GaTech). Dr. Smith has a Roche 454 GS-FLX instrument which allows long read genomic sequencing, which is ideal for bacteria. ……. By the beginning of the K23 funding, as a KL2 Scholar in the Emory CTSA, I will have completed a Master of Science in Clinical Research (MSc) with 2 years training in epidemiology and biostatistics, which will be directly related to the proposed aims.

Example #2 – K23 MD PhD Engineer; KL2 Scholar

Candidate Information and Goals for Career Development

a) CANDIDATE'S BACKGROUND

I propose a multidisciplinary training program in translational research from a diverse, carefully selected mentorship/advisory committee that includes faculty from Georgia Institute of Technology's (GA Tech) Electrical and Computer Engineering (ECE) and Biomedical Engineering (BME) Departments and Emory University's Radiology and Cardiology Departments. This committee will mentor me toward my patient-oriented research career goals. Didactic knowledge will be gained via clinical research courses at Emory and the Radiological Society of North America (RSNA), and ECE/BME courses at GA Tech.

I am currently funded by a KL2 grant through the Atlanta Clinical and Translational Sciences Institute (ACTSI) for the 2010-11 academic year. This grant allows me to complete the didactic portion of the coursework required for Emory's Master of Science in Clinical Research (MSCR) program. However, this KL2 funding has a limited time-frame (one year) and will only allow me to initiate Aim #1 and will not allow me to complete the proposed training or to address Aims #2 and #3. This will critically limit my ability to acquire preliminary data to support my transition to an independent, R01-funded, clinical investigator. If successful at obtaining the proposed 3-year K23 prior to completion of my KL2, I will relinquish the remaining support on it.

Before I entered medicine …….

However, I felt that while my work as an engineer was very interesting, I wished to apply my expertise to practical problems involving patient care. Thus, I made an unconventional transition into medical school and residency in radiology, followed by ……

NB: In some engineering disciplines, such as computer architecture and computer networking, publication in conference proceedings is considered equivalent to journal publications. Acceptance ratios in certain Institution of Electrical and Electronic Engineers conferences can be as low as 10% and these papers are reviewed by up to 5 reviewers.

→ This essay 'makes a compelling case' at several levels – 1) an unusual career path requires more training to do R01-level work, 2) why this grant (K23) will be critical to R01-level success

b) Career Goals and Objectives

- Be very concrete – read the directions several times
- Limit fluff and hyperbole
- A table might be a good idea – will force you to clearly explain near and long term goals
- Career Goals
  - promotion, professional activities
- Scientific Goals
  - what will you discover, implement, achieve
  - what will be the topic of your R01 grant
  - how will the K grant lead to this

Example of Table to convey K01 Career Goals

Table 3. Area of focus, prior training, K01 objectives, future goals

Areas of Focus	Prior Training	K01 Award Objectives	Future Goals
Epidemiology of obesity and diabetes	Master's and doctoral training in ….	Gain in-depth knowledge of the ….. (Aim 1)	Establish an independently funded laboratory to …. Develop an R01 on the …. Join the NIDDK Network Initiative to examine ….
Cohort study methodology	Limited experience with postdoctoral advisor in ….	Develop expertise in the design, implementation and analysis of large, multi-site cohort studies. (Aims 2 & 3)	
Mixed methods statistical approaches	No prior training in …	Develop new skills in …….. (Aim 3b)	

b) Career Goals and Objectives: (K23)

My long-term goal is to become a successful investigator and global leader in infectious diseases, focusing on **1)** understanding the causes, transmission, and virulence of drug-resistant TB; and **2)** translating these findings into public health interventions that improve the management and prevention of drug-resistance TB. Because MDR-TB is a multifaceted problem, I aim to become a productive multi-disciplinary scientist with expertise in the areas of clinical research, pharmacology, genetics, and bioinformatics.

My short-term goal via this K23 award is to determine the genetic evolution of MTB in a cavitary environment and if poor drug penetration into TB cavitary lesions leads to further acquired drug resistance among MDR-TB patients. My prior research experience with MDR-TB has highlighted the difficulties in managing MDR-TB and challenged me to develop novel strategies to combat this increasing epidemic.

To foster my career development, I have constructed a career development program with the following short-term objectives: 1) assemble an expert mentoring team to …..; 2) to expand my …….; 3) to learn new research skills in pharmacology, genomics, and bioinformatics which will give me a unique niche as a TB researcher; 4) to further develop skills in interpretation and presentation of scientific results; and 5) to participate in national and international meetings that serve as a network and forum for the discussion of scientific advances in my area of expertise.

Completion of these short-term objectives during the K23 award period will result in new preliminary data that will lead to publications in the area of TB pharmacokinetics, genomics, and drug resistance. Study results from this proposal will form the basis of a future R01 application that will investigate the dose optimization of TB drugs, and mechanisms of drug resistance. Additionally, the TB cavitary research model developed in this proposal can subsequently be leveraged to study host and bacterial immunological response inside a TB cavity, research that will be part of future grant applications. To help achieve academic independence, I will apply for extramural funding, including an NIH R01 and R21 awards by the end of the fourth year of this proposal.

Career Goals and Objectives (K99 / R00)

I have dedicated my professional life entirely to research in the academic setting. The main objective of my career is to identify and validate new molecular targets and tools for drug discovery relevant to the treatment of mental disorders, especially depression and anxiety. Depression and accompanying anxiety are the most prevalent psychiatric diseases in the U.S. and the pathogenesis of both is still unknown. Although pharmacotherapy of depression has been revolutionized since the 1950's, approximately 30% of patients with major depressive disorder do not respond to currently available pharmacotherapy. In this K99/R00 proposal, **I seek to elucidate how stress and affect interact with each other, and what are their respective roles in the etiology of mental disorders like depression and anxiety throughout the lifespan. To achieve this goal I have been utilizing behavioral, cellular and neuroanatomical methods, and with the K99 Award training plan I will be also able to explore this interaction at the functional level by utilizing neurophysiological and microdialysis studies.**

……. 1 more paragraph discussion of science here…….

(continued K99 / R00)

In the aims of this K99/R00 proposal, I intend to explore CRF-oxytocin systems interaction at the functional level, which will be critical for our understanding of stress-drive affective disorders including major depression disorder. This work will lead to a novel integrative approach to the research on the neuroendocrine regulation of the affective disorders. At the end of mentored (K99) award phase, I will be a highly competitive applicant for faculty positions for the R00 phase. I aim to pursue academic faculty positions in the neurobiology of affective disorders, a rich and interdisciplinary academic field. I aim to attain a position at school with cutting-edge resources in neuroendocrinology and behavioral sciences in relevance to psychiatric disorders. The ultimate goal of my professional academic career is to develop better interventions that incorporate the diverse needs of people with depression and anxiety disorders.

→ ***Very detailed, highly aspirational and confident in her plan***

Writing Tips……

- This is the most important part of the Candidate Section in terms of meeting the requirements for a career development award
- Show mentored activity/hands-on training for all years of the proposal (e.g., 2 years for K99, 5 years for K23, K08, less time if you are proposing it, etc.)
- Name names of who will train you to do what
- Your job is to help the reviewer make the connection between this career development plan, the likely success of your proposed research, and the likely attainment of future independent funding and academic success

Writing tips……

- The activities proposed must represent a ***NEW*** training opportunity for you. If you are already expert in what you propose to train in, this CDA is not for you.
- Training plan must be highly feasible, mentors must be available and the plan must be crystal clear
  - dates, times, face-to-face, hands-on laboratory training, workshops, seminars, on-site, off-site, etc.
- Statements by Mentor section (sections 8 & 9) will **complement** this section

c) Career Development / Training Activities During Award Period (K99 / R00)

Need for new and enhanced research training:

The research proposed in this application is designed to investigate new and exciting mechanisms associated with xenobiotic interactions pertaining to environmental exposures including those involved in epigenomic regulation of gene expression. Specifically, training in the study of DNA methylation and histone methylation and acetylation are integral to my research and career goals and require new, laboratory-based, hands-on training and didactics. The methylation of cytosine bases of CpG islands localized in the promoter regions of genes is a gene silencing mechanism that does not involve mutation. …… Chromatin immunoprecipitation (ChIP) and sequencing of the immunoprecipitated DNA fragments has been planned to evaluate the genes that are affected by specific histone modifications like acetyl lysine 27 of histone H3. Learning these new epigenomic techniques will provide a necessary training opportunity and will expand my understanding of how epigenomics are involved in mechanisms of toxicity.

Training in these techniques and assays will be conducted under the direction of Dr. Paula M. Vertino, Professor at Emory University and Director of the Cancer Genetics and Epigenetics Program of the Winship Cancer Institute. Dr. Vertino is an expert in DNA methylation, chromatin modifications and how these mechanisms are involved in carcinogenesis. I will take full advantage of her expertise in these topics and become skilled in epigenomic approaches. Dr. Michael Rossi, Director of the Winship Cancer Genomics Shared Resource at Emory University, will also provide valuable assistance in the planning, application and interpretation of epigenomic and sequencing experiments.

….followed by a brief presentation of all mentors that will complement Section 8, Statement by Mentors…..

Mentoring team: For the mentored phase of this application (K99), I have proposed a mentoring team consisting of three experts in mechanistic toxicology **Dr. Dean P. Jones (primary mentor),** neurotoxicology **Dr. Gary W. Miller (co-mentor),** and epigenomics **Dr. Paula M. Vertino (co-mentor).** I will schedule regular meetings with each member of my mentoring team and will also schedule quarterly meetings that involve all team members in order to discuss training progress and career development.

Dr. Jones, an internationally recognized expert in the fields of mechanistic toxicology and redox signaling, will assume a primary mentor role. Dr. Jones will provide lab space, office space and required materials and reagents, which will be supported by his research funds, ….. We will meet formally every other week for 1 hour. I will also see Dr. Jones regularly in the lab.

Dr. Miller, an expert in the field of neurotoxicology and neurodegenerative disease will provide training in …….

Dr. Vertino, an expert in DNA methylation and chromatin modification, will assist in the design of epigenomic experiments and will provide the necessary training required to become skilled in the investigation of epigenomic gene regulation……..

(continued K99)

National Workshops and Conferences: ……

Local Seminars and Workshops: ……

Pathway to independence: ……

→ *here is where you present an indication of future grants (R01/R03/R21) you will write*

Timeline

- A single place to sum up everything that will happen in the next 5 years
- If you are a clinician and will be doing 25% clinical work during your K (typical for K23 and K08), this is a good place to show what the next 5 years will look like with both research, training (coursework, lab, etc.) and clinical work

K23 or K08 example

Tasks	KL2 Year 2	K23 Year 1	K23 Year 2	K23 Year 3	K23 Year 4	K23 Year 5
Aim 1						
Repository of primary samples (1.1)		X	X	X	X	X
Design/troubleshoot novel genetic assay (1.2)		X	X	X	X	X
Compare the two sample types (1.3)			X	X	X	
Aim 2						
Medical chart abstraction (2.1)			X	X		
Prediction tool creation and validation (2.2)		X	X	X	X	X
Aim 3					X	X
Clinical laboratory implementation (3.1)					X	X
Validate platform for clinical use (3.2)					X	X
Training/Coursework						
Prokaryotic Genetics (IBS 504)		X				
Intro to Computational Biol/Bioinformatics (IBS574)		X				
Genomics/Applied Informatics (BIOL 4150)			X			
Computational Genomics (BIOL 8803A)			X			
Ethical, Legal, and Social Issues of Responsible Clinical Research (EPI 593)	X					
Abstract submission						
ASM		X	X	X	X	X
ICAAC		X	X	X	X	X
Int'l Conference on Gram-Positive Microorganisms		X	X	X	X	X
Grant submission						
RO1 to NIAID or NHGRI						X

K23 example

Table 1. Seminars and Conferences for Career Development

Monday	Tues	Wednesday	Thurs	Friday
- Pediatric rheumatology research meetings (bimonthly) - Radiology rounds (monthly) - K club (monthly)	Lab AM	- Pediatric grand rounds (weekly) - Rheumatology journal club (weekly) - Rheumatology research meetings (4x/yr)	Clinic	- Ophthalmology lectures (weekly) - Genetics research in pediatrics (monthly) - Epidemiology grand rounds (2x/mo)

TABLE 2. Proposed Training and Research Plan

		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
TRAINING PLAN						
Formal Course Work	1) Genetic Epidemiology (IBS 736) - Aim (A) 1b	XXX				
	2) Analysis Longitudinal Data Epidemiological Research (EPI750)-A2				XXX	
	3) Population Based Outcomes Research (HCO535D) – A2			XXX		
	4) Evidence Based Medicine Concepts (HCO538D) – All Aims			XXX		
	5) Epidemiological modeling (EPI 740) – A2				XXX	
	6) Health Outcomes (HPM 564) – A2		XXX			
	7) Rasch Measurement Theory (EDS 774) – A3	XXX	XXX			
Meet with Mentors		XXX	XXX	XXX	XXX	XXX
Seminars (Table 1)	Grand rounds, research meetings, lectures and conferences	XXX	XXX	XXX	XXX	XXX
Ophthalmology	Emory Eye Center clinics and operating rooms		XX	XX	XX	X
Lab Time	Genotyping and genetic analysis in Dr. Prahalad's lab – Aims A1b, 2	XXX	XXX	XX		
National Conferences	American College of Rheumatology	XXX	XXX	XXX	XXX	XXX
	Childhood Arthritis Rheumatology Research Alliance	XXX	XXX	XXX	XXX	XXX
	Association for Research in Vision & Ophthalmology	XXX	XXX	XXX	XXX	XXX
	Pacific Rim Objective Measurement Seminar				XXX	
	International Meeting of the Psychometric Society					XXX
RESEARCH PLAN						
Proposal	Aim 1 Enrollment, medical record review and questionnaires	XXX				
	Aim 1B and 2 HLA	XX	XXXX	XX		
	Data Analysis	XX	XXX	XX		
	Aim 2 Enrollment and Data collection	XX	XXX	XXX	XXX	XX
	Data Analysis		XXX	XXX	XXX	XXX
Abstracts	1) Demographics of JIA-U in Georgia	XXX				
	2) Preliminary risk markers for JIA-U in a cross-sectional study		XXX			
	3) Validity and Reliability of the EYE-Q for JIA-U			XXX		
	4) HLA risk alleles in JIA-U				XXX	XXX
Manuscript Preparation and Publication	1) Validity and reliability of the EYE-Q in all children	XXX				
	2) Risk markers for JIA-U	XXX			XXX	XXX
	3) Validity and reliability of the EYE-Q in JIA-U & parent proxy		XXX	XXX		XXX
	4) Risk markers for JIA-U in an African American population		XXX		XXX	XXX
	5) Modification of AAP guidelines for uveitis					XXX
	6) Visual outcomes of children with JIA-U			XXX		XXX
	7) HLA Risk alleles in JIA-U				XXX	XXX
RO1 Proposal				XX	XXX	XXX

K99 / R00 example

Activity	K99 Yr 1	K99 Yr 2	R00 Yr 3	R00 Yr 4	R00 Yr 5
New Methods Training	*In vitro* patch-clamp electrophysiology (SA2)				
	Single cell RT-PCR (SA2)	OT microdialysis (SA3)			
Professional Development Activities	Responsible Conduct of Research Course Emory OPE	Animal Care certification, Biohazards certification	Grant writing workshop		
Coursework	Cellular, Molecular, and Developmental Neuroscience, **IBS 514,** Emory	Behavioral Neuroendocrinology **IBS 535**, Emory			
	Biology of Prosocial Behavior CTSN Workshop	Statistics for Experimental Biology **Bios 505,** Emory			
Hands-on training with Mentors	Weekly consultation with Mentor Monthly consultation with Co-Mentor Bi-weekly Lab seminars BNPD Journal Club CTSN Journal Club				
Research	**SA1**				
		SA2			
			SA3		
				SA4	
			Collecting data for RO1		
Communication of results	SFN & SBN	SFN & Stress	SFN & SBN	SFN & Stress	SFN & SBN
	Write paper 1		Write paper 4		
	Write paper 2			Write paper 5	
		Write paper 3			Write paper 6
					Write paper 7
Development of Independent Research Program			Prepare RO1	Submit RO1	Revise RO1 / Resubmit RO1
Job Seeking	Career Development Workshop, Emory	Submit job applications / Interviews for faculty positions	Set up Lab, hire postdoc		
Additional academic activities	Mentoring – undergraduate and graduate				

K08 example

Fig x; Proposed time line for activities during 5 years of the award period

		Year1	Year 2	Year 3	Year 4	Year 5
Research	Sp Aim 1	XXXX				
	Sp Aim 2		XXXX	XXX		
	Sp Aim 3			X	XXXX	XXXX
Courses	AAI Introductory[1]	X				
	Biostatisics	X				
	AAI Advanced [2]		X			
	Immunology IBIS [3]		X	X		
	Values and Ethics	X				
	Immunology seminars	XXXX	XXXX	XXXX	XXXX	XXXX
Meetings	AASLD	X	X	X	X	X
	ATC	X	X	X	X	X
	IPTA		X		X	
	NASPGHAN	X	X	X	X	X
	Lab meetings	XXXX	XXXX	XXXX	XXXX	XXXX
Writing	Manuscripts	XXXX	XXXX	XXXX	XXXX	XXXX
	R03			XXXX		
	R01			X	XXXX	XXXX

[1]Introductory immunology course, [2] Advanced immunology course, [3] Emory University course; AASLD: American Association of the Study of Liver Diseases; ATC: American Transplant Congress; IPTA: International Pediatric Transplant Association; NASPGHAN ; North American Society of Pediatric Gastroenterology Hepatology and Nutrition

K99 / R00 example

TRAINING OR PROJECT COMPONENT	*K99 – Mentored*		*R00 - Independent*		
	Year 1	Year 2	Year 3	Year 4	Year 5
ORIGINAL RESEARCH					
Specific Aim 1: Activatable nanoparticles	XXXX	XX			
Specific Aim 2: Miniaturized and flexible spectral device	XX	XXXX	XX		
Specific Aim 3: Spectral device integration with endoscopy			XXXX	XXXX	XX
Specific Aim 4: Endoscopy in large animals				XX	XXXX
MENTORING PLAN					
Group and Individual Meetings: Nie, S. Singhal, S.	XXXX	XXXX			
Surgical Shadowing and Consultation: S. Singhal	XX	XX			
Nanotechnology Training: S. Nie, L. Yang	XXXX	XXXX			
Photonics, Instrumentation Training: S. Nie, K. Carron, M. Russell	XX	XXXX			
PROFESSIONAL MEETINGS					
NCI Alliance in Nanotechnology	XXXX	XXXX	XXXX	XXXX	XXXX
American College of Surgeons	XXXX	XXXX	XXXX	XXXX	XXXX
American Association for Cancer Research	XXXX	XXXX	XXXX	XXXX	XXXX
MANUSCRIPT PREPARATION					
Anal. Chem., PNAS, JACS	XXXX	XXXX	XXXX	XXXX	XXXX
GRANT PROPOSAL PREPARATION					
Foundation – ACS, Komen, Avon		XX	XXXX	XX	
R21 – Pilot grants; expand cancer types			XXXX	XX	
RO1 – New probes, grants with collaborators				XXXX	XXXX

Good Luck!!