



UNIVERSITY *of* MARYLAND  
SCHOOL OF MEDICINE

# Developing a Career in Clinical and Translational Research

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Division of Epidemiology and Prevention

Institute of Human Virology

Department of Epidemiology and Public Health

University of Maryland School of Medicine

# Overview

How to Take Over a Small ... x +

https://warontherocks.com/2015/05/how-to-take-over-a-small-country-in-10-easy-steps/

**WAR ON THE ROCKS**

SIGN IN SUBSCRIBE

in g+ f t r e

## HOW TO TAKE OVER A COUNTRY IN 39 EASY STEPS

SEAN MCFATE MAY 13, 2015

**BECOME A CLINICAL RESEARCHER**

Print Facebook Twitter Google+ LinkedIn



### Step 1...

BA in Psychology with a minor in Literature and Art

Step 37...landed a job with IHV to help build their new 8 country PEPFAR program



### Step 2 to 35

10 years of “we don’t eat well but we sleep well” jobs working with marginalized populations with HIV – developmentally disabled, chronically mentally ill, homebound/end-stage, adult incarcerated men, children with HIV, managing Ryan White funding

Oh crap, I don’t really want to do health policy

Program manager, technical program manager, Director of Outcomes and Evaluation. 6 ½ years, 50% overseas, supported 240 clinics and 700,000 people living with HIV



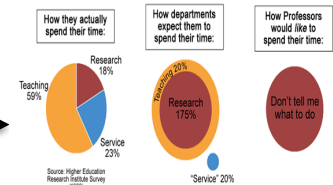
### Back to step 3 & onto 36...

MPH in Health Policy and Management

### Step 38...the PhD



#### HOW PROFESSORS SPEND THEIR TIME



Source: CUMM © 2006  
WWW.PHDCOMICS.COM

**Step 39 ½** - 2 year K award  
Did not convert to an R...not a 21, or a 34, or a 01...

**Step 39 ¾** –  
Took on the CR program

**Step 40 to 67** – found  
Collaborators, published  
with them a fair amount

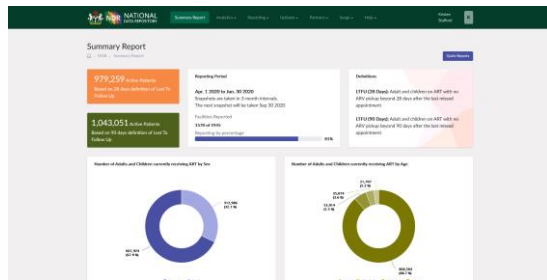
**Step 68** –  
went back to  
my roots

**Step 69** –  
Got PI  
funding

Took on administrative role –  
Deputy Director of ciheb



**ciheb**  
GLOBAL  
improving the human  
condition globally



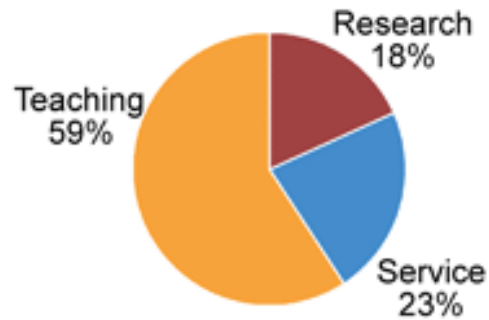
**Step 70** – Gave up  
some research  
dreams

**Step 71** –  
found a  
mentor and  
a sponsor

**Step 72** – got  
promoted and  
another PI grant

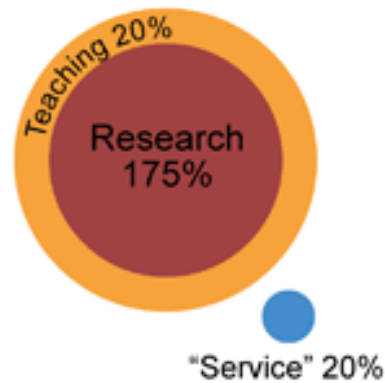
# HOW PROFESSORS SPEND THEIR TIME

How they actually spend their time:



Source: Higher Education Research Institute Survey (1999)

How departments expect them to spend their time:

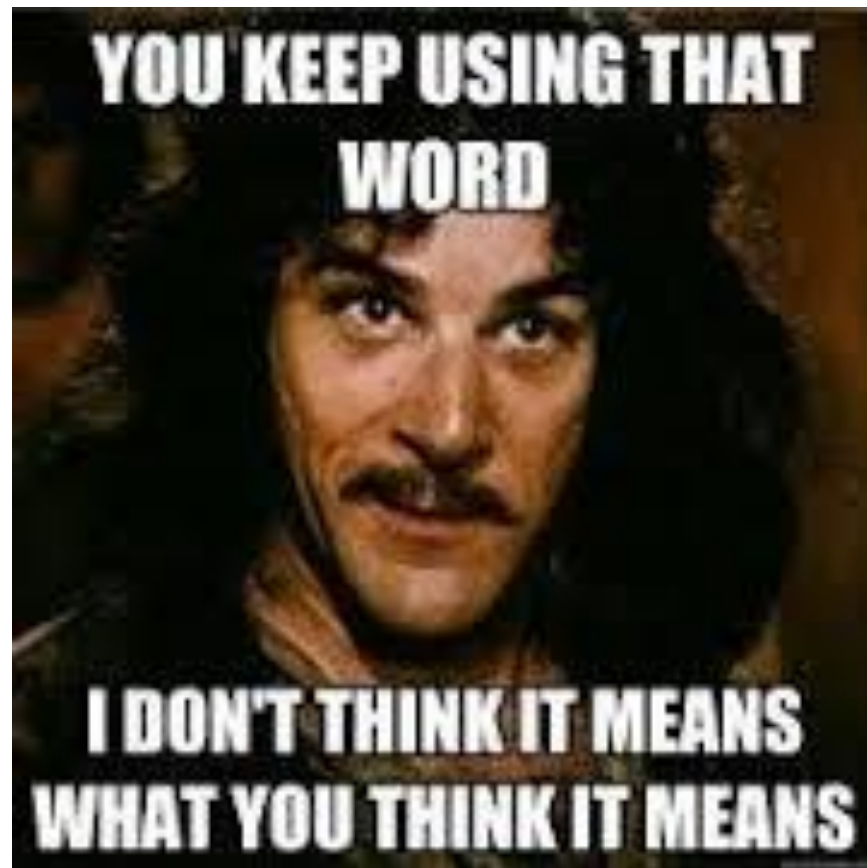


How Professors would like to spend their time:



WWW.PHDCOMICS.COM

# Multidisciplinary **vs** Interdisciplinary **vs** Transdisciplinary



# Team Science

- Multidisciplinary
  - Researchers from a variety of disciplines work together at some point during a project, but have separate questions, separate conclusions, and disseminate in different journals.
- Interdisciplinary
  - Researchers interact with the goal of transferring knowledge from one discipline to another. Allows researchers to inform each other's work and compare individual findings.
- Transdisciplinary
  - Collaboration in which exchanging information, altering discipline-specific approaches, sharing resources and integrating disciplines achieves a common scientific goal (Rosenfield 1992).

# Careers in Clinical Research

- Industry
  - Pharmaceutical, Biotechnology and Medical Device
- Government Service
  - Regulatory
  - Public Health
- Academic Research
  - Faculty and Staff



# Clinical Research Positions in Industry

## **Positions**

- Pharmaceutical development
- Manufacturing
- Medical writers
- Medical monitors, clinical research associates, project managers
- Data management, statisticians
- Regulatory

## **Backgrounds**

- Basic science
  - Chemistry
- Medicine and Nursing
- Engineering
- Pharmacy
- Statistics, computer science
- Patent law
- Business

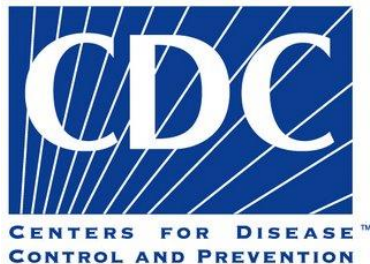
# Government: Department of Health & Human Services



- 27 Institutes and Centers
- Intramural research
- Scientific Review Officers, Program Officers



- Scientific Officers
- Medical Officers



- Public Health Officers
- Epidemic Intelligence Officers

**Environmental Protection Agency:** Epidemiologists, toxicologists, microbiologists

**Department of Energy:** Los Alamos, Sandria, Brookhaven, Lawrence Livermore, Argonne, Oakridge

# Government: Department of Defense



## Biological defense and infectious diseases research:

- **U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)** @Ft. Detrick- vaccine and antiviral drug development
- **Aberdeen Proving Ground (APG)**- critical reagents programs (biological detection assays and reagents)

*Additional info:* [www.jpeocbd.osd.mil/packs/Default2.aspx?pg=0](http://www.jpeocbd.osd.mil/packs/Default2.aspx?pg=0)



## Naval Medical Research Center (Silver Spring),

Research to develop solutions to combat issues (TBI, PTSD, biological agents, etc.)



**Allied Healthcare careers-** public health officers, pharmacists, clinical psychology, etc.

[www.airforce.com/opportunities/healthcare/careers/allied-health](http://www.airforce.com/opportunities/healthcare/careers/allied-health)

# Roles in Clinical Research

- Independent Investigator
- Co-investigator
- Collaborator
- Study management
- Study team
- Quality control
- Data manager
- Statistician
- Data analyst
- Regulatory specialist
- Administrative assistant
- Financial manager
- HR manager

RN MD  
PhD MPH MSW  
CNA BA Pharm-D  
MS BS JD

# My Collaborations

<b>Mentee</b>	<b>Mentor</b>	<b>Collaborator</b>
Epidemiologists	Epi PhD Students	ID Physicians
Division Directors	Gerontology Students	Transplant Physicians
ID Physicians	Medical Students	Nursing Faculty
Biostatisticians	MPH Students	IM Physicians
Mentors	CR Students	ID Pharmacists
Mentored Research Groups (K-club, SWAG, HAMR)		International Faculty and Staff

# Finding a Focus

Anything anyone asked for

Transplant outcomes  
HIV and HCV

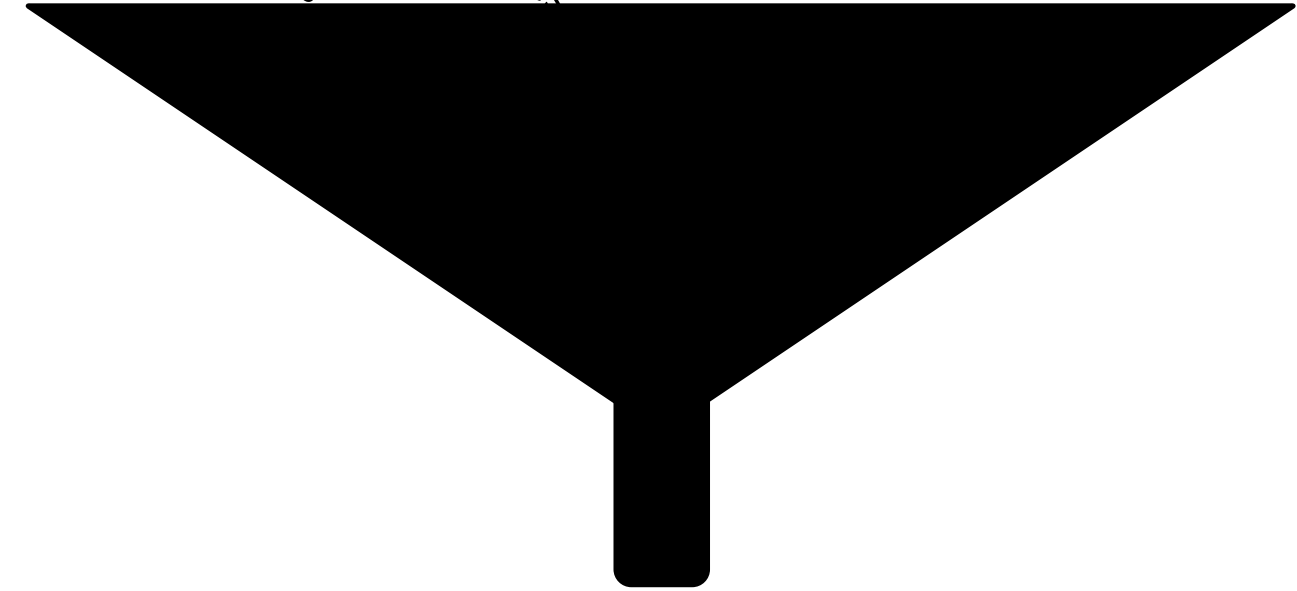
HIV treatment outcomes

Epidemiologic methods

HIV and Aging

Previous experience

Antimicrobial resistance



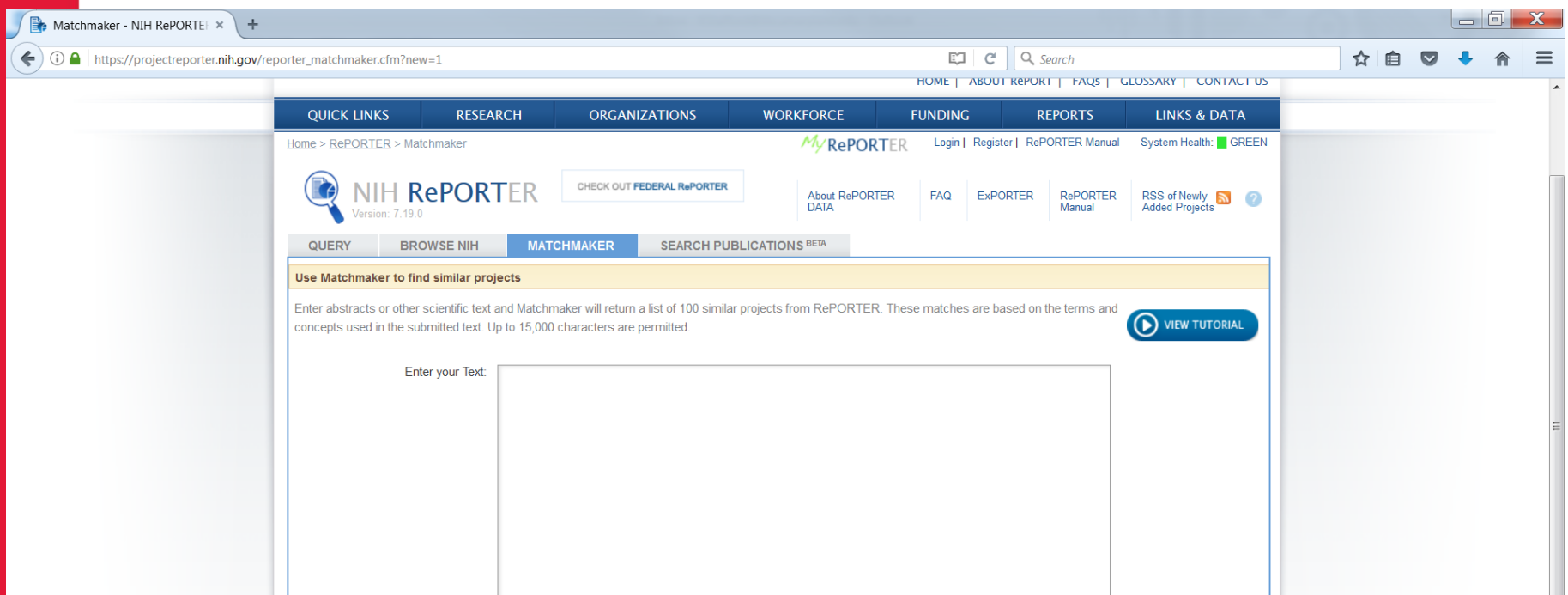
Infectious diseases global health researcher

Global health expert

**BUT HOW DO YOU BUILD A  
CAREER?**

# Pearls or peanuts...you be the judge

- Seek out collaboration
  - Go to seminars (and talk to the speaker)
  - Search RePORTER



The screenshot shows the NIH RePORTER Matchmaker web application. The browser address bar displays the URL [https://projectreporter.nih.gov/reporter\\_matchmaker.cfm?new=1](https://projectreporter.nih.gov/reporter_matchmaker.cfm?new=1). The page features a navigation menu with categories: QUICK LINKS, RESEARCH, ORGANIZATIONS, WORKFORCE, FUNDING, REPORTS, and LINKS & DATA. Below the navigation, there is a search bar and a "CHECK OUT FEDERAL RePORTER" button. The main content area is titled "Use Matchmaker to find similar projects" and includes a text input field labeled "Enter your Text:" and a "VIEW TUTORIAL" button. The page also displays the NIH RePORTER logo and version information (7.19.0).



PROJECTS PROGRAM OFFICIAL

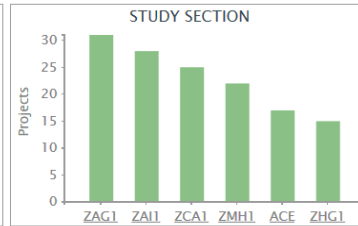
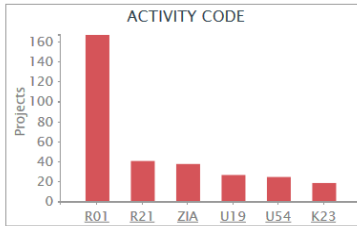
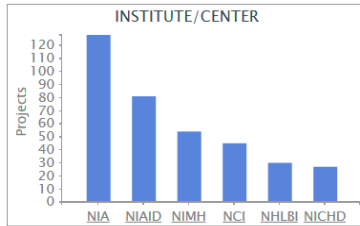
500 projects similar to concepts from the entered text. (500 maximum).

**Matching Text:** Currently, it is estimated that 15% of adults on ART in sub-Saharan African are over 50 years old [1], and ... [more](#)

Exclude Subprojects:

Fiscal Year (FY):    
 Current FY is 2018. Similarity search available for FY 2007 and later years.

Click on chart labels to filter search results by the institute/Center or Activity Code or Study Section



Click on the column header to sort the results

Records per page:   
 1 2 3 4 ... 18 19 20

[Click here to view detailed Charts](#)

1 of 20 [Next](#) [Last](#)

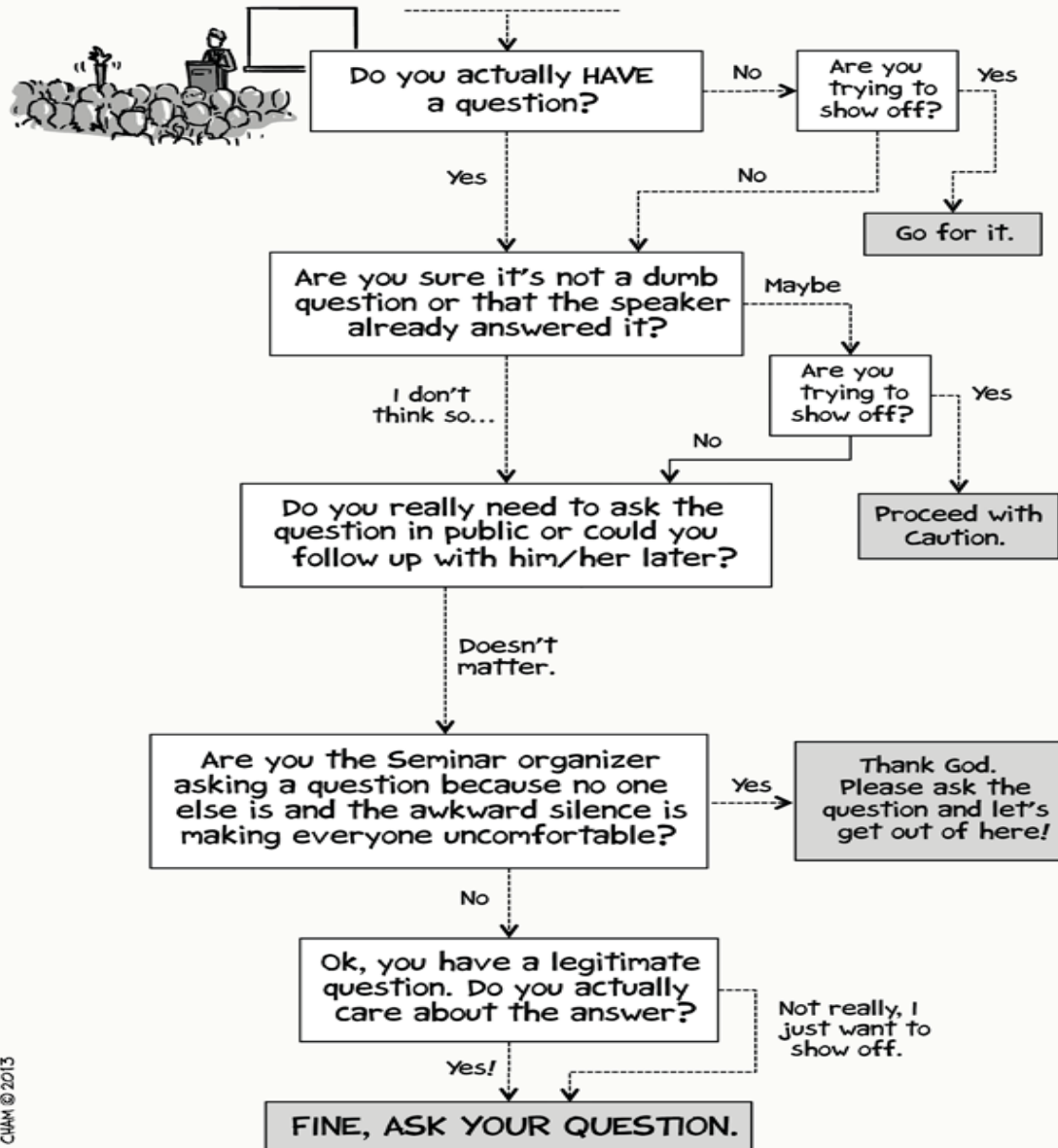
T: Application Type; Act: Activity Code; Project: Admin IC, Serial No.; Year: Support Year/Supplement/Amendment

Match Score	T	Act	Project	Year	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
<input type="checkbox"/>	455	5	R01	AG052340	03	<a href="#">CHARACTERIZING THE EPIGENETIC RELATIONSHIP BETWEEN AGING, HIV-INFECTION, ART AND BIOLOGICAL OUTCOMES</a>	<a href="#">JAMIESON-KARAVODIN, BETH DEIRDRE</a>	UNIVERSITY OF CALIFORNIA LOS ANGELES	2018	NIA	NIA	\$583,026	
<input type="checkbox"/>	428	1	R01	AG058704	01	<a href="#">STRESS, EPIGENETICS AND AGING</a>	<a href="#">SUGLIA, SHAKIRA FRANCO et al.</a>	EMORY UNIVERSITY	2018	NIA	NIA	\$690,654	
<input type="checkbox"/>	425	5	R21	AG056175	02	<a href="#">BIOLOGICAL AGING IN OLDER HIV-INFECTED AFRICAN AMERICANS</a>	<a href="#">ARPADI, STEPHEN M et al.</a>	COLUMBIA UNIVERSITY HEALTH SCIENCES	2018	NIA	NIA	\$240,000	
<input type="checkbox"/>	407	5	K99	AG056599	02	<a href="#">LIFE COURSE DETERMINANTS OF EPIGENETIC AGE ACCELERATION AND SUBSEQUENT DEMENTIA</a>	<a href="#">SCHMITZ, LAUREN LUCIA</a>	UNIVERSITY OF MICHIGAN AT ANN ARBOR	2018	NIA	NIA	\$132,300	

# Pearls or peanuts...you be the judge

- Seek out collaboration continued
- Use conferences to network
  - And not just at the cocktail hours
    - Make a list of 10 people you are interested in meeting
    - Read their work before you go...
    - Introduce yourself
    - Follow up

# Should you ask a Question during Seminar?



# Pearls or peanuts...you be the judge

- Say yes to a lot
  - At first at least
  - Finding time, and then protecting it is hard
    - Without dedicated funding
    - Without collaborators
    - When you have other responsibilities
      - Clinical, programmatic, administrative, etc.

# Pearls or peanuts...you be the judge

- Build research into your career development and performance plans
- Build training into your plans
- Use your educational benefits
  - Get your boss' buy-in!

# Pearls or peanuts...you be the judge

- Find good mentors
  - Look for faculty with K24s
  - Look for faculty/staff doing what you want to do
- Find a sponsor
  - Mentored research awards (K's) don't pay for the research
    - They pay for your time
      - Very modest research budget

# Pearls or peanuts...you be the judge

- Figure out what you really want to do
  - Do you want to be PI?
  - Run your own lab?
  - Work on other people's grants?
- Figure out what you need to do that
  - Funding?
  - Data?
  - Time?
  - Training?

# Pearls or peanuts...you be the judge

- Getting what you need
  - Use the resources on campus!!!
    - Research support
    - Career/Professional Development
    - Take advantage of training opportunities



You didn't learn *EVERYTHING* you need to know in kindergarten

# **ADDITIONAL TRAINING**

# Clinical Research Curriculum: Certificate Program

	Course	Credits
PREV 600	Principles of Epidemiology	3
PREV 616	Introduction to Clinical and Translational Research at UMB	2
PREV 621	Biostatistical Methods	3
PREV 633	Legal and Regulatory Issues in Clinical Research	2
PREV 710	Clinical Research Project Development and Implementation	1
CIPP 909	Responsible Conduct of Research	1

# Clinical Research Curriculum

## MS-Clinical Research Track

Core Courses		17 Credits
PREV 600	Principles of Epidemiology	3
PREV 616	Summer Short Course	2
PREV 619	Biostatistical computing	1
PREV 620	Principles of Biostatistics	3
PREV 633	Legal and Regulatory Issues	2
PREV 710	Clinical Research Project Development and Implementation	2
PREV 720	Statistical Methods in Epi	3
CIPP 909	Responsible Conduct of Research	1
<b>Concentration Courses/Electives</b>		<b>~8</b>
<b>Thesis (or Research Practicum)</b>		<b>5-6</b>

# Research Ethics Curriculum: Certificate Program

	Course	Credits
ETHC 637	Introduction to Research Ethics	3
ETHC 638	Ethical Issues in International Research	3
ETHC 629	Introduction to Ethical Theory	2
ETHC 639	Legal and Regulatory Issues For Institutional Review Boards	2
ETHC 665	Responsible Conduct of Research in International Affairs	1
ETHC 640	Ethics of the Globalization of Research	1

# Master of Public Health

Core Courses		23 Credits
PH 608	Foundations of Public Health	1
PH 630	Health Equity and Social Justice	3
PH 614	Professional Skills for Public Health	2
PH 600	Principles of Epidemiology	3
PH 620 OR PH 621	Principles of Biostatistics OR Biostatistical Methods	3
PH 632	Concepts in Qualitative Research	3
PH 624	Public Health & Health Care Systems & Policy	3
PH 612	Interprofessional Education	1
PH 645	Program Planning & Evaluation	3
PH 615	Leadership for Public Health Professionals	1
<b>4 Concentration Courses</b>		<b>12</b>
<b>Public Health Practicum (240 hours)</b>		<b>4</b>
<b>Integrative Public Health Seminar</b>		<b>3</b>

# Master of Regulatory Science

[ABOUT](#)[ACADEMICS](#)[ADMISSIONS](#)[RESEARCH & DISCOVERY](#)[PRACTICE & INNOVATION](#)[CENTERS & PROGRAMS](#)[GET INVOLVED](#)

## MS IN REGULATORY SCIENCE

[Home](#) / [Academics](#) / [MS in Regulatory Science](#)

[Back to Academics](#)[Master of Science \(MS\) in Regulatory Science](#)[About M-CERSI](#)[Course Schedule](#)[Course Managers](#)[Student Profiles](#)[Frequently Asked Questions \(FAQ\)](#)[Program Fact Sheet](#)[Open Houses](#)[Tuition, Fees, and Financial Assistance](#)[How to Apply](#)[News & Updates](#)[Contact Us](#)

The Master of Science (MS) in Regulatory Science provides graduates with the knowledge and skills necessary to contribute to drug regulation and pharmaceutical product lifecycles.

Applications for this **exclusively online program** are now being accepted, until July 15, 2015. Fall semester begins August 25, 2015.

### What is Regulatory Science?

According to the Food and Drug Administration (FDA), regulatory science is the science of developing new tools, standards, and approaches to assess the safety, efficacy, quality, and performance of FDA-regulated products. The MS in Regulatory Science program at the University of Maryland School of Pharmacy primarily focuses on drugs, although aspects of biologics, diagnostics, devices, and nutritional products are also addressed. The program covers all major areas of drug product regulatory science, including:

- Chemistry, Manufacturing, and Controls (CMC)
- Clinical Research
- Pharmacovigilance
- Phase IV Research (e.g., Pharmacoepidemiology)
- Drug and Biologics Discovery

The strength of the program is its science-driven understanding of drug product development and regulation. The program covers regulatory affairs in a global manner, including the application of regulatory principles worldwide.

<https://www.pharmacy.umaryland.edu/academics/regulatoryscience/>

# Resources

- Clinical Research Education and Training Program
  - <http://www.medschool.umaryland.edu/k30/Master-of-Science-in-Epidemiology-and-Clinical-Research--Clinical-Research-Track-/>
- Office of Research Career Development
  - <http://www.medschool.umaryland.edu/career/>

You need cred to get cred (AKA publish or perish)

# **BUILDING A TRACK RECORD**



# An imperfect but important metric

- Your *h-index*
  - Based on the number of publications you have and the number of citations
  - Higher is “better”

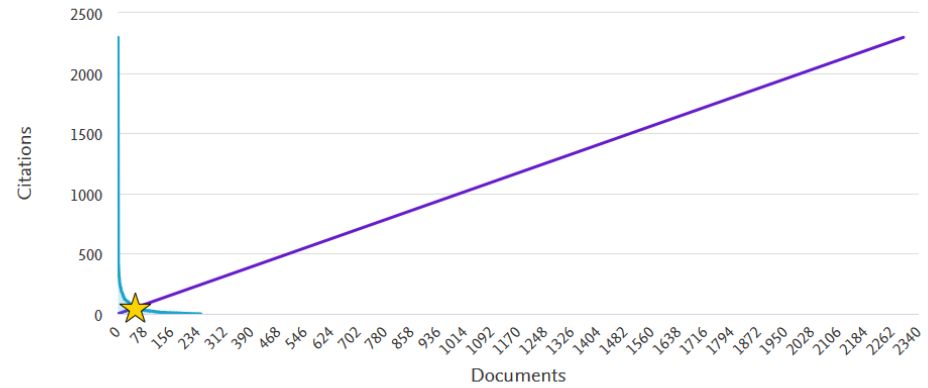
Documents ↓ Citations ↓ Title ↓

Rank	Documents	Citations	Title
1	2296		Frequent detection a...
2	424		The Walter Reed Sta...
3	373		Genetic variation in ...
4	308		Disseminated Vaccin...
5	292		Defective Regulation...
6	246		Classification system...
7	240		Frequency of illness ...
8	220		Immune cell functio...
9	218		A phase i evaluation ...

### This author's *h*-index

53

The *h*-index is based upon the number of documents and number of citations.



Click on cards below to see additional data.

# Analyze author output

About analyze author tool

[Back to citation overview](#)

[Export](#) [Print](#) [Email](#)

**Stafford, Kristen A.**  
Author ID:55549564200

Analyze documents published between: **2010** to **2021**

Exclude self citations  Exclude citations from books [Update Graph](#)

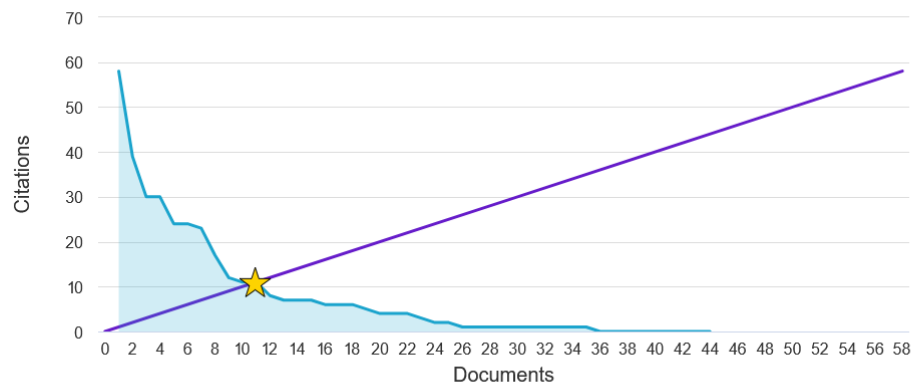
Documents Citations Title

Rank	Citations	Title
1	58	The effects of acup...
2	39	Indicators of adher...
3	30	Estimated Change ...
4	30	Modern Outcomes ...
5	24	The new 2017 ACC...
6	24	Treatment outcom...
7	23	Effectiveness of Pr...
8	17	Concurrent initiatio...
9	12	Evaluation of the cl...

## This author's *h*-index

11

The *h*-index is based upon the number of documents and number of citations.



# Analyze author output

About analyze author tool

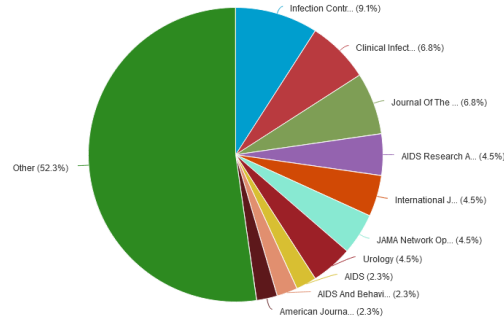
[Back to citation overview](#)

Export Print Email

**Stafford, Kristen A.**  
Author ID:55549564200

Source	Documents
Infection Control And Hospital Epidemiology	4
Clinical Infectious Diseases	3
Journal Of The International Association Of Providers Of AIDS Care	3
AIDS Research And Human Retroviruses	2
International Journal Of STD And AIDS	2
JAMA Network Open	2
Urology	2
AIDS	1

Documents by source



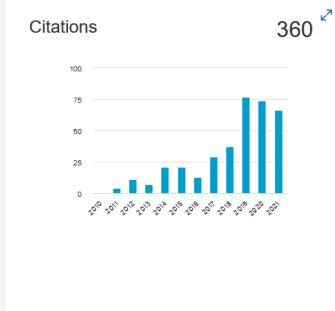
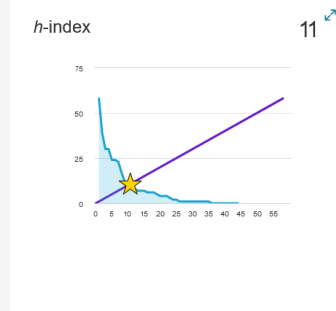
44

by type

by year

by subject

Click on cards below to see additional data.



**150 co-authors**

Author Name	Co-authored Documents
Redfield, Robert R.	8
Riedel, David James	8
Magder, Laurence S.	7
Harris, Anthony D.	6
Gilliam, Bruce L.	5

## About Scopus

- What is Scopus
- Content coverage
- Scopus blog
- Scopus API
- Privacy matters

## Language

- 日本語に切り替える
- 切换到简体中文
- 切换到繁體中文
- Русский язык

## Customer Service

- Help
- Contact us

**Stafford, Kristen**

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**From:** Journal of Epidemiology and Infectious Diseases <epidemiology@medcraveonline.us>  
**Sent:** Friday, July 07, 2017 8:38 AM  
**To:** kstafford@umaryland.edu  
**Subject:** Expectant Submission: JEID

**Dear Dr. Kristen A Stafford,**

Hope you are doing well.

I will be thankful if you could concern on my request.

I am pleased to inform you that **Journal of Epidemiology and Infectious Diseases** is planning to release **Volume 1 Issue 1** by the 3<sup>rd</sup> week of July and we need only two articles to succeed this issue. In fact I am afraid as we are left with only few days to release the issue. Hence I have chosen some illustrious people like you in supporting us to release the upcoming issue. So please contribute your **2 Page Opinion/Review/Case Report** for publication towards **our Journal**.

Your prompt submission sustains us a lot and impacts my ranking in end of this month.

Hope you understand my concern and your kind attention in this regard highly esteemed.

Await your encouraging submission.

Best Regards,  
**Karen Roberts**

**From:** [globalhealthresearch@openaccesscontribution.org](mailto:globalhealthresearch@openaccesscontribution.org)  
**To:** [kstafford@umaryland.edu](mailto:kstafford@umaryland.edu)  
**Subject:** Follow up for Global Health Invitation  
**Date:** Monday, July 30, 2018 1:49:13 AM

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**Dear Dr. Stafford, A. Kristen,**

Hope you doing well....

I am writing to follow up on my e mail, from the editorial office of the Journal  
**“Reports On Global Health Research”.**

**We would feel glad if you can support and accept our invite by joining the editorial of the journal.**

If this invitation is agreeable to you, kindly participate and submit your details (Updated CV, photo, Research interest, working details, contact details etc.) as an attachment to this mail.

We look forward to establish a lasting scientific relationship for the benefit of scientific community

Thanks & Regards

**Dilara Buyuk Lewis**

**Reports On Global Health Research**

# Summary

- There is more than one way to have a career in clinical research
- They don't all look like multiple R01s
- Many people make careers as staff or as faculty without a PI role
- Most important thing is to figure out

**MY WORK HERE**

**IS DONE**

[memegenerator.net](http://memegenerator.net)