Navigating the Research Landscape: Key Strategies for Success
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Key Strategies for Success.

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#researchlandscape
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AДЕA Leading Conversations Webinar Series

Expert Panel Leading the Conversation

Charles Sfeir, D.D.S., Ph.D.
Associate Dean for Research,
Director, Center for Craniofacial
Regeneration, University of Pittsburgh
School of Dental Medicine
Associate Professor, Department of Oral
Biology, Periodontics, Bioengineering
and the McGowan Institute for
Regenerative Medicine

Dr. Eugene Anderson
Chief Policy Officer and Managing Vice
President
American Dental Education Association
Today’s Objectives:

• Summarize the criteria for launching or expanding an academic research career.

• Identify research projects and funding opportunities—both institutional and national.

• Develop a personal strategy for navigating the research landscape.
Ask the Expert…

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Charles Sfeir, D.D.S., Ph.D.

Ana Karina Mascarenhas, B.D.S., M.P.H., Dr.P.H.
“Scientific research offers many satisfactions besides the exhilaration of discovery. Researchers seek to answer some of the most fundamental questions that humans can ask about nature. Their work can have a direct and immediate impact on the lives of people throughout the world. They are members of a community characterized by curiosity, cooperation, and intellectual rigor. However, the rewards of science are not easily achieved. At the frontiers of research, new knowledge is elusive and hard won. Researchers often are subject to great personal and professional pressures.”

Introduction to the Responsible Conduct of Research, On Being a Scientist: A Guide to Responsible Conduct in Research 3rd Ed, Copyright © National Academy of Sciences. All rights reserved.
• By Having Passion for your Research Topic (Program) You Have the
  – Ability to convey that enthusiasm through investigating “an important problem or critical barrier” in your field. This equates to **Significance**
  – Ability to convey that enthusiasm through exerting a “sustained, powerful influence on your research field(s)” equating to **Impact**
  – Ability to convey that enthusiasm through **Innovation** to “shift current research or clinical practice paradigms”
  – Ability to convey that enthusiasm to those you mentor and advise

*NOT-OD-09-025 Enhancing Peer Review NIH
http://grants.nih.gov/grants/guide/notice-files/not-od-09-025.html*
• If you are not the expert become the expert, surround yourself with expertise and cultivate a suitable and sustaining research environment

Derive satisfaction from discovery, new knowledge and mentoring

Business end or research and administrative responsibilities
DISCUSSION

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SET GOALS
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Setting Goals

– Based on:

• Type of faculty appointment
  – Tenure track or non-tenure track
  – Institution and its expectations for tenure or promotion
  – Timeline

• Available time for research in schedule

• Negotiate start-up resources
Goals for a Researcher are generally centered around:

- Achieving tenure or promotion
- Getting funding
- Becoming independent researcher or expert in the area
- Publishing
Achieving set goals are based on:

– BEING PROACTIVE
  • Finding good mentor/mentors
  • Collaborating
  • Being resourceful
    – Finding funding/seed money
    – Engaging students to assist in your projects

– Develop a ROADMAP and measure progress every six months

– Making RESEARCH a PRIORITY
Setbacks:

• Unforeseen delay in building labs, recruiting staff, funding, project progression
• Not sufficient time for research
  – Other priorities, particularly covering teaching and clinics
• Lack of institutional support
• Change in institutional leaders
• Moving
• Personal life
DISCUSSION

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Funding

• Seek funding from all sources, federal, corporate, foundations etc.

• Sponsors that offer specific funding programs for new and junior investigators who are at the rank of assistant professor or equivalent
Federal Agency Funding Opportunities


- National Science Foundation (NSF) - NSF CAREER: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=503214


- National Aeronautics and Space Administration (NASA): http://www.nasa.gov/mission_pages/station/research/ops/funding_information.html#.VChKTb5PSfQ
Consider training grants (K grants):
https://www.nichd.nih.gov/training/extramural/Pages/career.aspx

*K awards provide support for senior postdoctoral fellows or faculty-level candidates. K awards are designed to promote the career development of specific groups of individuals based on their past training and career stage.*

- Establish collaborations, submit grants as Co-PI (with appropriate budget for your portion of the research) or multi-PI teaming with senior investigators (complementary expertise)

- Platform technologies could be applicable to various clinical applications, thus multiple grant applications could be submitted to various institutes
DISCUSSION

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Mentors

- Are advisors, coaches, counselors and supporters all at the same time.
- Are experienced scientists who guide your research, but also challenge you to develop your independence.
- A good mentor will help you define your research goals, and then support you in your quest to achieve them. He or she will:
  - share knowledge,
  - provide encouragement, and hopefully inspire you.
  - In addition to promoting your research, your mentor should help you to develop your career goals and construct a scientific network.
- Above all, your mentor should be someone you trust to always keep your best interest in mind.
What You Should Expect From Your Mentor

It is the responsibility of your mentor to work with you on your scientific development. It is also reasonable to expect that your mentor will:

• Help you to define your training goals at the outset and evaluate them at regular intervals throughout your training.

• Meet with you regularly, one-on-one, to discuss your progress towards these goals.

• Listen to you and to your ideas.

• Provide constructive and timely feedback on your scientific work.
What You Should Expect From Your Mentor

- Support your growth through encouraging training opportunities and professional development
- Introduce you to scientific colleagues, so you can begin to develop networks of your own
- Acknowledge your contribution to the research, for example, through authorship on publications

Select a mentor that can dedicate time

[Image: Hands holding up the word MENTOR]
DISCUSSION

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Managing time/discipline:

– Research is not a 9am to 5pm job
  • Learn to balance
– Negotiate hard dedicated time for research
– Fiercely protect that time
  • If not productive at research, easier for time to be taken away
– Sometimes learn to say “NO”

Only you can control the professional goals you have set for yourself!!
Strategies for making time for writing:

– Make writing a priority
  • Set dedicated time aside for writing each week
  • Find an environment conducive to writing with no distractions
    – At work: close door
    – At home, coffee shop
  • Keep ROADMAP in front of you – put on notice board
  • Find a “motivator”
    – Set a pact with a fellow colleague to motivate each other

If research does not get published it never happened
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• Publishing: What to keep in mind during the research process that will result with a research project worthy of publication
  • “Publish or Perish”
  • Descriptive vs. Mechanistic
  • Original vs. “Me Too”
  • All experiments/investigations should be sufficiently robust and suitable for eventual public display and publication
  • Will the product of the work, “publication” drive the field forward? “Impact”
• Proof of Principle
• Feasibility
• Product of Peer Review
• Statement of the Quality of the Research

• Pilot Studies
• Reproducibility
• Avoid Salami Science and the Least Publishable Unit
If You Knew Then What You Know Now……

What Would You Do Differently?
THANK YOU!