Learning to Say No!

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Disclaimer

The opinions expressed in this talk are solely of the author and does not necessarily reflect the opinions or beliefs of NTU.
What is the goal of research?

"The **goal** of the **research** process is to produce **new knowledge** or **deepen understanding** of a topic or issue."
The Road Ahead

Outline

Find your nest!

Learning to say no!

Quality over Quantity
Finding Your Nest!
The Value Alignment Problem

- Intellectually stimulating
- Count paper
- Count grant
- Mentorship
- Gives resources
- Good manpower
- Basic Research
- Research

- Boring people
- Quality-focus
- Grants are means to the end
- You-are-on-your-own
- Find-your-own-resources
- NP-hard problem
- Applied Research
- Teaching
Theory vs Practice

Reality

• Multi-objective optimization problem
• Choose a Pareto-optimal solution
• What if you cannot find the “right” nest?

- Hotel stay
- Be Roman in Rome (until tenure)
- Become a Roman
# Finding Right Problems

## What Should You Work On?

- Work on problems that interest you!
- *Not-too-hot-not-too-cold*
- Personal mantra: Shorter the related work, the better

## Avoid

- Very *hot* areas (numerous papers getting published)
- Problems advocated by *Pied Piper Papers*
The Curse of Hot Topics

**Benefits**
- Everybody knows the problem!
- Relatively easier to get published
- Rapid citation growth!

**The Curse**
- Too many folks have published!
- Potentially incremental work
- Low visibility
  - You may not be known for that topic/problem – you are not one of the pioneers
Beware of Pied Piper Papers (P³)

Pied Piper Papers

- On hot or well-established problems
- Introduce a new way which is supposed to be better than the old way
- Rapid citation growth – many followers
- Eventually demonstrated that old way is actually better!
What’s important is you develop an area of science, you make progressive discoveries, and you earn a reputation for solid work.

If you do good solid work consistently, you will be recognized

Bruce Beutler, Nobel Prize (Medicine, 2011)
Publishing Your Research

You want to see how your ideas compete with those from the best in the world.

Researchers do take notice on where you publish and not only what you publish.

“If we aim high and fall short, we still achieve more than by aiming low and falling short”

- Gail Lynne Goodwin
Quality Over Quantity

You may be ghost authors
Incremental work
Compromising quality
Review manipulation
Not a serious scientist

http://sciencenordic.com/crisis-basic-research-scientists-publish-too-much
Keep Your Timetable Sparse!

Good ideas take time to gestate!
Get Relevant Resources

"Funding is a means to an end, not an end in and of itself. Whereas people should get grants in order to do research, too often nowadays people do research in order to get grants"

Maintain High Professional Integrity

“Ghost” authorship

Own your work!

Fabrication and manipulation

Review process manipulation
How Can You Implement All These?

Outline

Find your nest!

Learning to say no!

Quality over Quantity
Find Your Nest

Mismatched values!
Quality over Quantity

Quantity over Quality

Low visibility areas

P³ papers!

Manipulation!

Irrelevant “work”!
No! Has A Cost
"If you want to make everyone happy, don't be a scientist — sell ice cream."

Steve Jobs
The secret to success is to offend the greatest number of people.

George Bernard Shaw
Final Words

“..it's very important to realize what kind of a researcher you think you are best suited to be, and follow it. Don't look at some superstar and say, “I want to be like her, and she has a big group building lots of systems, so that's what I'm going to do.” If that's what your calling is, that's wonderful, go do it, more power to you. But don't get confused by trying to emulate someone who doesn't fit your working pattern.

Prof Jeffrey Naughton, Univ of Wisconsin