


## Breaking Out of the Clinic: Academic Career

### Robert Jeraj

Professor of Medical Physics, Human Oncology,  
Radiology and Biomedical Engineering  
University of Wisconsin Carbone Cancer Center, Madison, WI  
University of Ljubljana, Slovenia

 rjeraj@wisc.edu




---

---

---

---

---

---

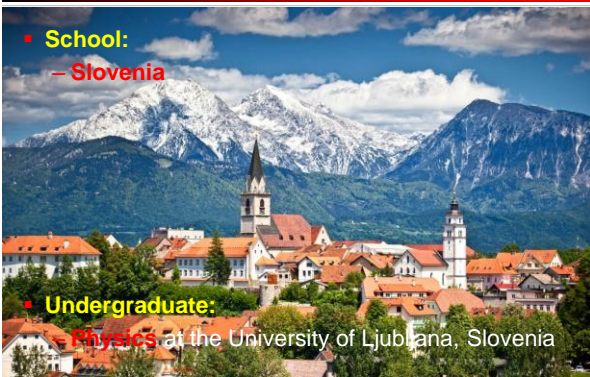
---

---

---

---

### Brief history – early days




---

---

---

---

---

---

---

---

---

---

### Brief history – PhD

- During my PhD went for a year to **Queensland University of Technology (QUT)** in Brisbane, Australia
  - QUT had a Medical Physics program!
  - But I had no idea what MP was!
  - Decided to attend MP classes!
  - Met good friends (e.g., Paul Keall)
  - Long-term connection
  - Finished PhD in Slovenia (Monte Carlo based inverse treatment planning)




---

---

---

---

---

---

---

---

---

---

## Brief history – postdoc



- Debated where to go for a **1-year postdoc** (Harvard/MGH in Boston, McGill in Montreal, or University of Wisconsin in Madison)
  - Where is Madison? (>25 Madison's in the US)
  - ...but they got **Tomotherapy (Rock Mackie)**
  - ...and great **University of Wisconsin**
  - Who cares for **one year!**



- But that was **in 2000!**

---

---

---

---

---

---

---

---

## What happened?



- **In 2003** a tenure-track faculty position opened at UW-Madison:
  - Didn't want to apply at first... Why should I? What is tenure track?
  - Rock convinced me to apply: "You can always say no.."
  - Once I got it, **I didn't say no...**
- Once I got the **academic "freedom"**, it all started...

---

---

---

---

---

---

---

---

## What do I like about academics?



- **FREEDOM**
  - **Choose the part of science that you like most** (e.g., I switched from Monte Carlo transport - which I still like because of physics ☺ - to more fundamental understanding of disease through the means of molecular imaging biomarkers)
  - **Collaborate as much as you want and as wide as you want** (e.g., I switched from a "one-man-band" doing computer simulations to almost exclusively clinical trial – highly interdisciplinary approach)

---

---

---

---

---

---

---

---

## What do I like about academics?



- **MENTORING**
  - Seeing people grow through a PhD (and beyond) is the ultimate reward (e.g., 20+ PhDs that graduated in my group are one big professional family, carrying the same professional genes)
- **FRIENDSHIPS**
  - Many meetings, many friends (e.g., some of my best personal friends are medical physicists!)




---

---

---

---

---

---

---

---

## What is different than clinical?



- **Academic and Clinical careers are “orthogonal”**
  - **Academic:** Innovation = braking the rules
  - **Clinical:** Protocols = confine to the rules
- **E pluribus unum**




---

---

---

---

---

---

---

---

## Summary



- If a student (or clinical physicist) wanted to get to where you are today, **what advice could you give?**
  - **Understand yourself, follow your heart!**
- How do you think that **your career and day-to-day duties** compare to the clinic?
  - **Totally different!**
- What strategies have you used to **search for non-clinical positions?**
  - **None. Just followed my instinct.**
- When applying for non-clinical positions, how do you **highlight your skills?**
  - **Be who you are! Don't try to be who you are not!**

---

---

---

---

---

---

---

---