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Enterprise

Launching Your Career with an Industrial Postdoc

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Post-Docs in Industry

Why do we do it?

- Recruitment
  - Post-doc training improves the connection between people and jobs
  - Improves the fit of candidates to careers/jobs
- Exploratory research beyond the scope of an existing program
- Valuable contacts in academia
- Post-doctoral enthusiasm and innovation
- Performance of critical milestones on external contracts

Benefits

Why should you do it?

- Exposure to industrial culture
  - “Try before you buy”
- Experience strong multidisciplinarity
  - A staple of industrial R&D
  - In photonics @ Labs: physics, computational science & engineering, materials science, electrical engineering, VLSI fab, computer architecture, …
- Understand industrial decision-making processes
- Access to state-of-the-art equipment
  - Research
  - Manufacturing
- Limited bureaucratic responsibilities
- No requirements to write proposals
- Very competitive pay
- Opportunity to file strategic patent applications
- High-quality industry contacts

Risks

Why should you not do it?

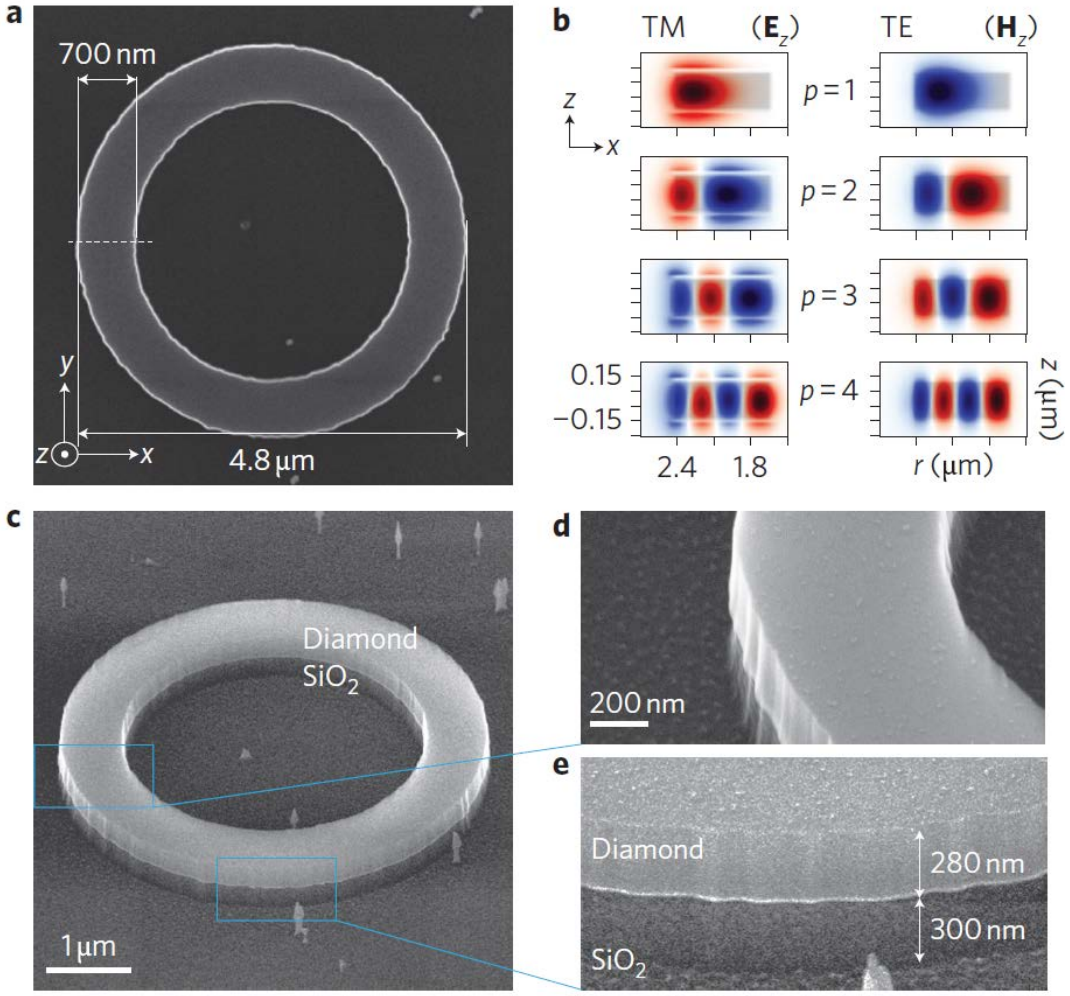
- Highly dependent on boundary conditions
  - Industry
  - Corporate culture
  - Boss
- Applied (not basic) research is the norm
- Limited access to proprietary information
  - Can seem “closed” compared to academia
- External collaborations can be heavily constrained
- Projects can be cancelled
- Publications
  - Managerial approval process is common
  - Conference attendance subject to corporate constraints

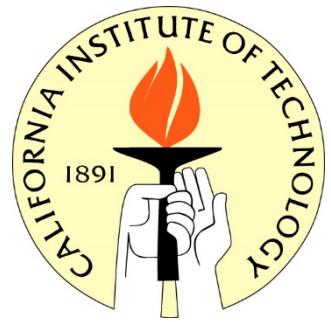
Myths

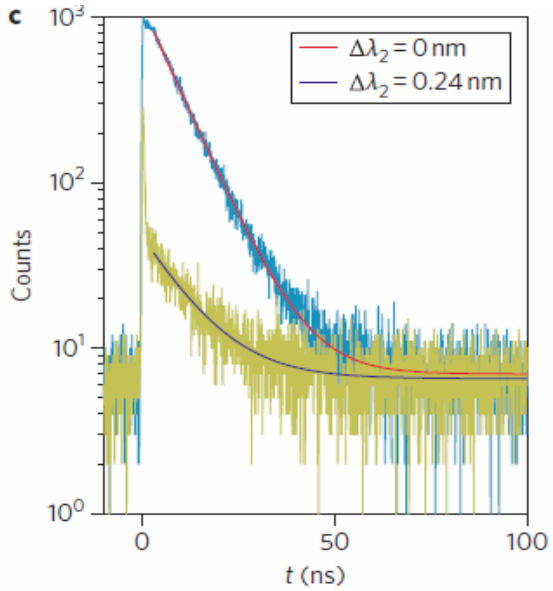
– Industrial post-docs can’t return to academia
  – But … industry recognizes the value of research
  – … and many universities seek to commercialize research
  – Many academics launch start-ups (safety in tenure)

Integrated diamond photonics

A. Faraon et al., Nature Photon. **5**, 301 (2010)







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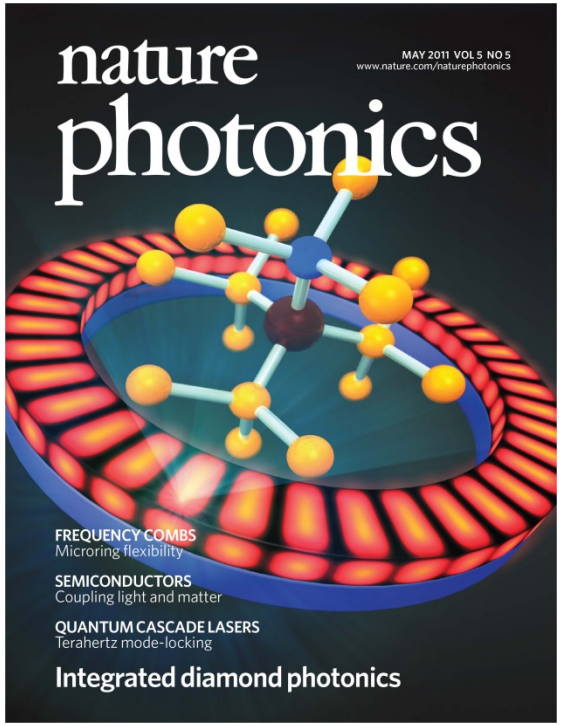

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Team

Ranojoy Bose, Antoine Descos, Marco Fiorentino, Yingtao Hu, Jim Huang, Xue Huang, Zhihong Huang, Brian Kelley, Dave Kielpinski, Geza Kurczveil, Cheng Li, Qi Li, Di Liang, Jason Pelc, Chris Schiller, Ashkan Seyedi, Nik Tesak, Tho Tran, Thomas Van Vaerenbergh, Rui Wu, Xiaoge Zeng, and Ray Beausoleil

+ a host of interns and alums

+ academic, industrial, and government collaborators, including Innolume, OSU, Stanford, TAMU, and UCSB

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Leading an industrial research team

My philosophy

- Think big—as big as your company
- Keep your head: chaos = opportunity
- Do any job needed to make your project work
- Do the job you want before you're promoted
- Build the best possible team
  - Hire people smarter than you are (Easy!)
  - Trust your team
- Share credit wisely
- Come to work each day willing to be fired
- Ask for forgiveness, not permission!

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Thank you

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