

Career Options for Scientists

widening the aperture to discover interesting possibilities

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Premise: What if you need a Plan B?

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Assumptions before the premise:

This not a “you should” presentation.

Your presence at this meeting demonstrates your capabilities as a successful scientist.

Fact: Funding is very uncertain.

My opinion: There will likely not be funding to support all of us in the near future.

It does not hurt to plan for the future.

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So the rest of this talk is unashamedly about getting you to realize your value to and potential fulfillment in other careers.

Your scientific skills are highly portable.

- critical thinking
 - communicating complex ideas succinctly
 - proposal writing
 - math
 - software
 - teaching
 - leadership / coordination / planning
-
- ability to learn quickly
-
- curiosity
 - hard work

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- curiosity
 - hard work: *only 32% of workers are engaged with their work;
18% of people are actively disengaged at their jobs*

<https://www.npr.org/2023/01/25/1150816271/employee-engagement-gallup-survey-workers-hybrid-remote>

Random jot list of science-friendly careers

This is in no way exhaustive – just a very short list of obvious things.

- Commercial Space Companies (near-Earth space environment, instruments, analysis)
- Proposal Writing (there are whole companies for this)
- Education: university, community college, high school
- Policy
- Project Management (technical people prefer technical leaders)
- Journalism (what if a newspaper had a real scientist as a science writer!!)
- Technical Product Development and Sales (squint and proposals are like sales, right?)
- National Security / Defense
- Software
 - Finance
 - Data Science / Data Analytics
 - Health Care (think image processing, algorithms, and analysis)
 - Defense

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 - **Defense**

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So let's talk about software.

Full disclosure:

A sideways move into scientific software is what I did after my PhD in Nuclear Astrophysics.
I am in a group of 50 RSEs at JHU / APL.

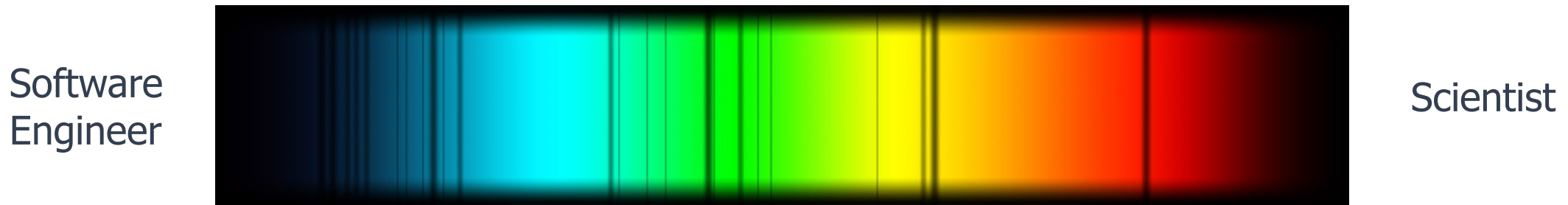
Emerging and Burgeoning Career Option: RSE

RSE = Research Software Engineer

RSEs provide analysis and software-heavy solutions to research efforts

Many Universities and labs have dedicated groups of RSEs.

The RSE Spectrum



Required skills: **interest** in software, **curious** about many things, **learn** quickly

Emerging and Burgeoning Career Option: RSE

RSE Professional Society
<https://us-rse.org>
(annual conference!)

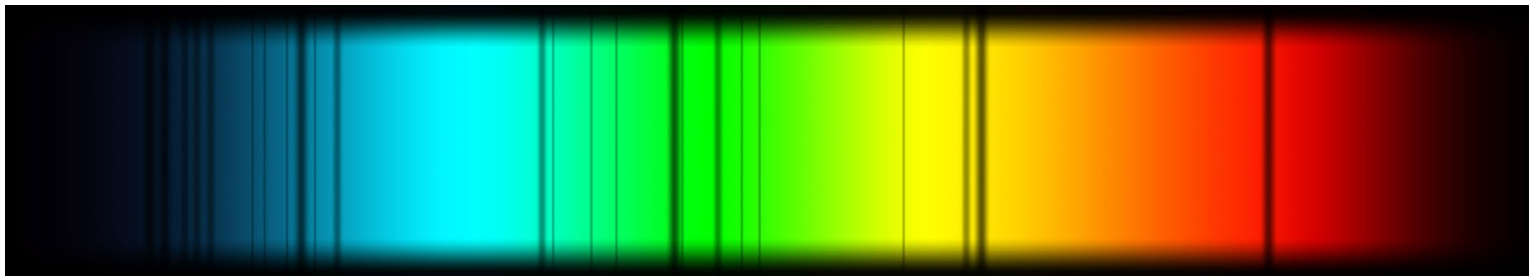
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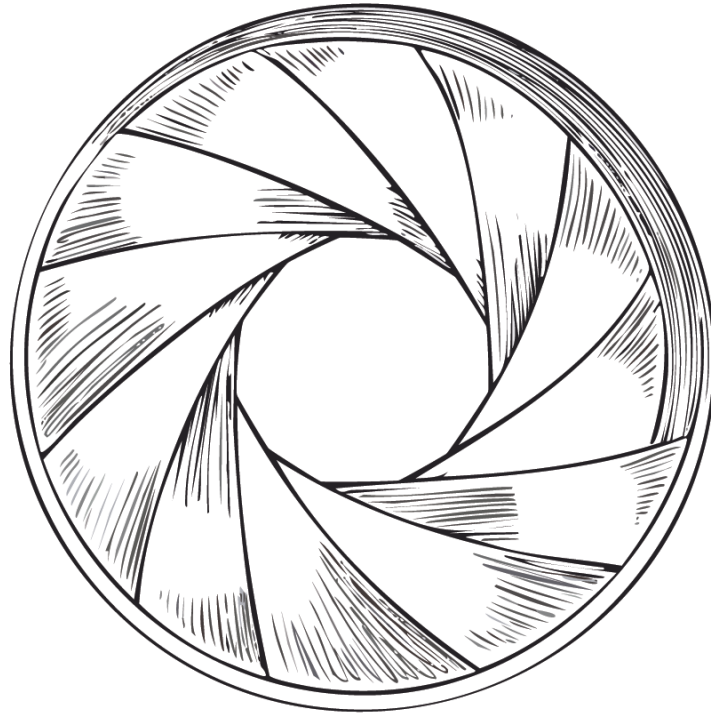


Scientist

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Consider taking a class or online course in Python, Data Science, or AI / ML.
See if you like it. Bolster your resume.

All of these options require that you open up the aperture.



An Exercise in GenI (Generative Intelligence):

Picture a flowering plant, thriving in the soil between some boulders.



Bloom where you are planted.



JOHNS HOPKINS

APPLIED PHYSICS LABORATORY