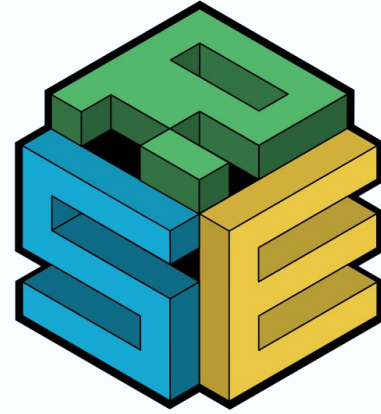




University of  
Sheffield

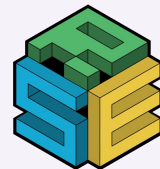
# RSE career pathway[s?]



**ACIT-Hub Training CoDesign Day 2025**

Romain Thomas – July 2025

# Who am I?



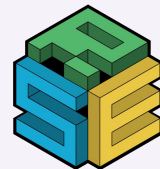
**Romain Thomas**

[romain.thomas@sheffield.ac.uk](mailto:romain.thomas@sheffield.ac.uk)

Head of RSE Team

- PhD in Astronomy (France)
- Fellow at the European Southern Observatory (ESO, Chile).
  - Lot of coding
- Then Staff at ESO (Chile)
  - even more coding + Management of a small team
- Head of RSE at Sheffield (since late 2023)

# Who am I?



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→ *Disclaimer: what I am talking about now is based on my ~2 years experience (so not that much)*

# Before talking about career pathways...

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Better define the role itself.... **Where do RSEs come from?**

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Better define the role itself.... **Where do RSEs come from?**

[From the \[now-archived\] UK-RSE website:](#)

“  
**Some** Research Software Engineers **start off as researchers** who spend time developing software to progress their research. Because they enjoy this work and have invested in developing specialist skills, **they continue to focus on software and its use in research.** Others **start off from a more conventional software-development background** and are **drawn to research** by the challenge of using software to further research.

→ Multiple different backgrounds

# Before talking about career pathways...

Better define the role itself... **What is the RSE profile?**

*[From the \[now-archived\] UK-RSE website:](#)*

“

A growing number of people in academia combine **expertise in programming with an intricate understanding of research.**

→ Software development **AND** research...

# Before talking about career pathways...

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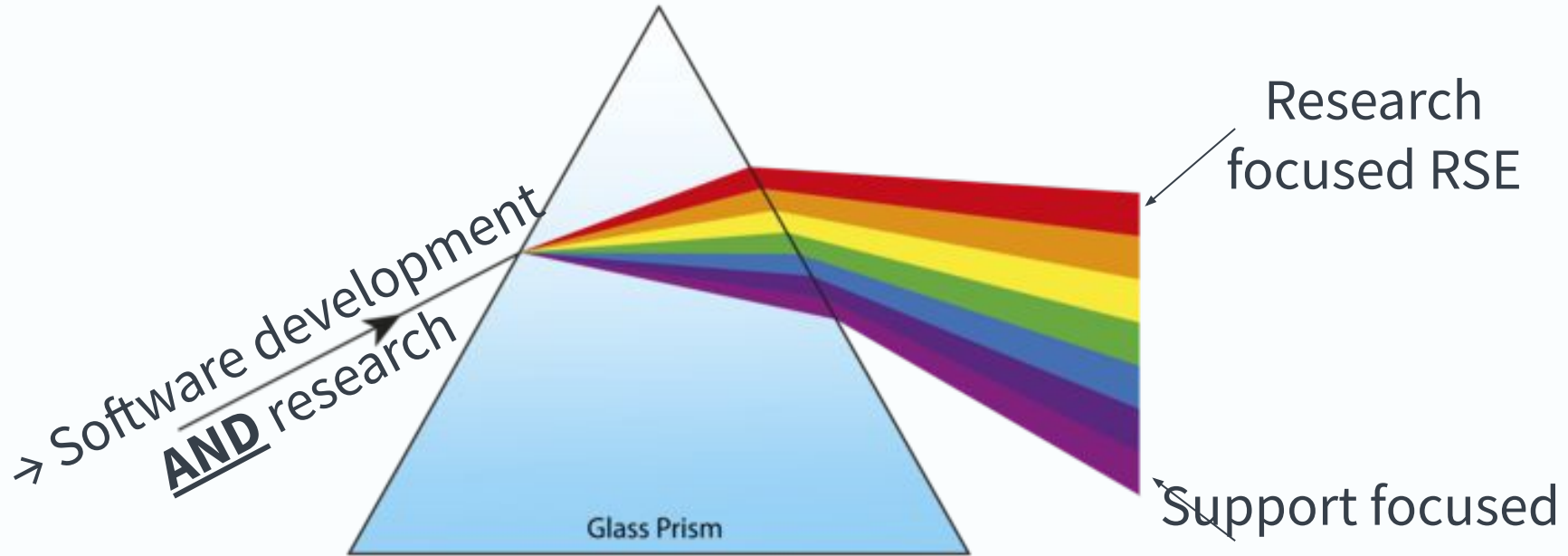
A growing number of people in academia combine **expertise in programming with an intricate understanding of research**

→ Software development **AND** research... in theory  
But in practice?



# Before talking about career pathways...

Better define the role itself.... **What is the RSE profile?**



# Before talking about career pathways...

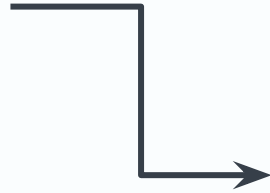
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→ Wide spectrum of profiles  
and skills....

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# Before talking about career pathways...

Better define the role itself.... **What is the RSE role?**

→ Wide spectrum of profiles  
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Wide spectrum of  
specialisations and  
activities

RSE working on Research projects  
(sometimes as [co]-I)  
RSE working on Infrastructures (e.g. HPC)  
RSE working on services (e.g. web)  
RSE working on Data Science  
And more!



# Before talking about career pathways...

Better define the role itself.... **What is the RSE role?**

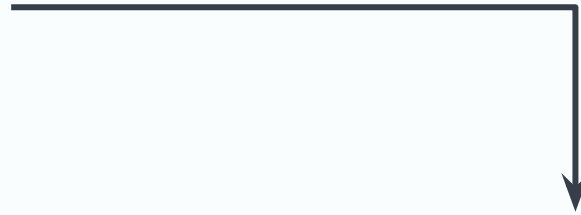
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RSEs might have defined roles.... Some RSEs have all these hats at once!

# Let's talk about career pathways...

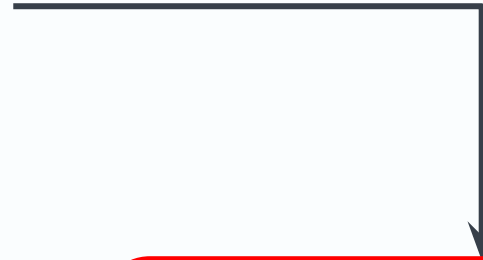
RSEs might have a defined roles.... Some RSEs have all these hats at once!



And then there is growth and development... Some people are leaning towards management, some on the technical side....

# Let's talk about career pathways...

And then there is growth and development... Some people are leaning towards management, some on the technical side....



How do we make a career pathway for all these profiles/cases

# Let's talk about career pathways...

The classical case (as far as I have seen):

- The RSE team seats in central service
  - Contract type: Professional services.
  - Contract duration: Fixed term and/or permanent
    - RSE, senior RSE, HoRSE
  - No promotion pathway (dead man shoe)



# Let's talk about career pathways...

The **much less** classical cases:

- The RSE team seats in central service
  - Contract type: Professional services
  - Contract duration: Fixed term and/or permanent
  - **junior RSE**, RSE, senior RSE, **principal RSE**, HoRSE
    - **Specific promotion pathway established**

# Let's talk about career pathways...

The *case of Sheffield*  
(even more rare):

The RSE team **seats in an Academic School** (but is still somehow central) and **underwritten by multiple entities**

→ Contract duration: permanent **only**

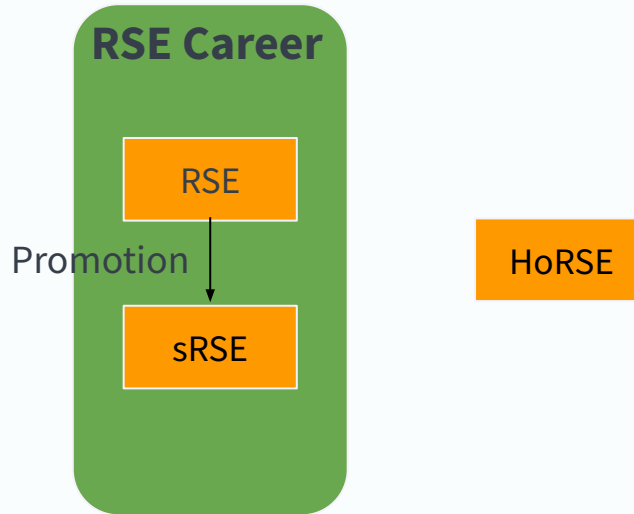
→ Contract type: **Academic (researcher track)**

→ RSE, senior RSE, HoRSE

→ **Academic career pathway**

# Let's talk about career pathways...

*RSE@Sheffield in practice :*



# Let's talk about career pathways...

Profiles  
and  
interests



X

## Roles

RSE working on Research projects  
RSE working on Infrastructures (e.g. HPC)  
RSE working on services (e.g. web)  
RSE working on Data Science  
And more!!

X

## Growth

And then there is growth and development...  
Some people are leaning towards management,  
some on the technical side....

=

?

# Let's talk about career pathways...

Profiles  
and  
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X

Roles

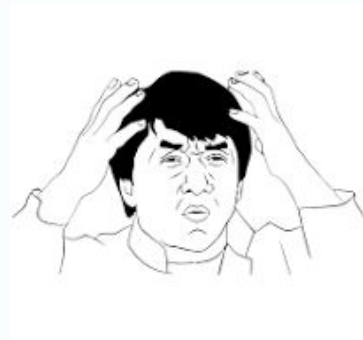
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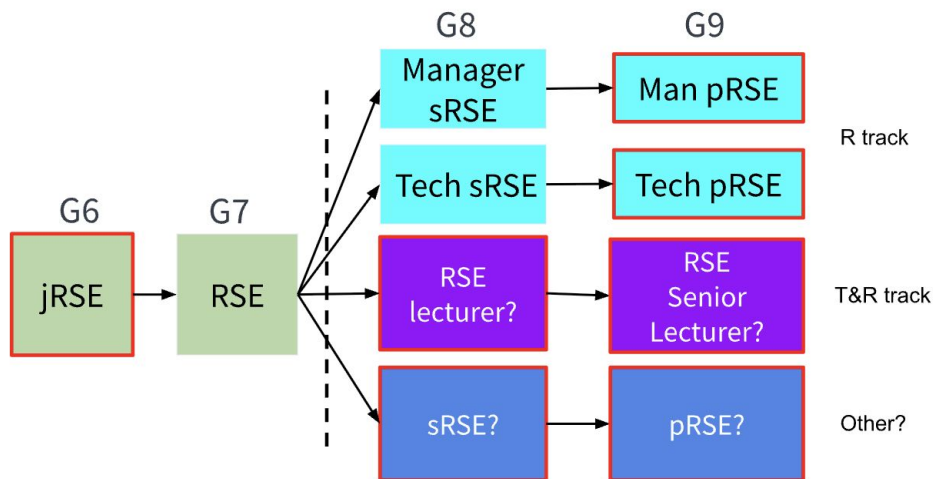


One career pathway will never fit all...

# Let's talk about career pathways...

## *RSE@Sheffield*

What are we exploring?



## **Multiple career pathways**

Based on interest and profile & growth aspiration

Research or more technically oriented

Make expectations clear for each of them

# Let's talk about career pathways...

Profiles  
and  
interests



X

Roles

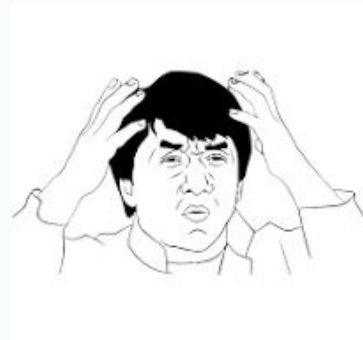
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Growth

And then there is growth and development...  
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=



One career pathway will never fit all...

**Or could it be that there is one?**

# The case of research engineers in....France

In public research, a lot of research engineer are employed by the CNRS (Center for national scientific research, largest fundamental science agency in Europe)

They are currently employing:

- ~11000 researchers,
- ~13000 engineers and technical staff,
- ~7000 contractors

**Caution: Research funding models are WIDELY different between the two countries.**



# The case of research engineers in....France

Date de parution	Intitulé / Unité	Lieu de travail	Bassin d'emploi	Type
02/07/2025	<u>Ingénieur.e d'étude en biologie moléculaire et culture cellulaire (H/F)</u> Institut Jacques Monod - <a href="#">UMR7592</a> - IJM <a href="#">Français</a>	PARIS 13	<a href="#">Île-de-France</a>	IT en contrat CDD
02/07/2025	<u>Ingénieur hydrologue, en charge de la stratégie de gestion passée et future de la ressource en eau (H/F)</u> HydroSciences Montpellier - <a href="#">UMR5151</a> - HSM <a href="#">Français</a>	MONTPELLIER	<a href="#">Occitanie Est</a>	IT en contrat CDD
02/07/2025	<u>Ingénieur d'étude Traitement Automatique des Langues (H/F)</u> Analyse et Traitement Informatique de la Langue Française - <a href="#">UMR7118</a> - ATILF <a href="#">Français</a>	NANCY	<a href="#">Centre Est</a>	IT en contrat CDD
02/07/2025	<u>Ingénieur d'étude Informatique, statistiques et calcul scientifique (H/F)</u> Matériaux Ingénierie et Science - <a href="#">UMR5510</a> - MatéIS <a href="#">Français</a>	VILLEURBANNE	<a href="#">Rhône Auvergne</a>	IT en contrat CDD
02/07/2025	<u>H/F ingénieur.e d'étude sur les batteries et la chimie du solide</u> Institut de Chimie de la Matière Condensée de Bordeaux - <a href="#">UMR5026</a> - ICMCB <a href="#">Français</a>	PESSAC	<a href="#">Aquitaine</a>	IT en contrat CDD
01/07/2025	<u>Technicien H/F Administration réseau</u> Centre de recherche en écologie expérimentale et prédictive - Ecotron Ile-de-France - <a href="#">UAR3194</a> - CEREEP <a href="#">Français</a>	ST PIERRE LES NEMOURS	<a href="#">Île-de-France</a>	IT en contrat CDD
01/07/2025	<u>Ingénieure ou ingénieur d'études en biologie moléculaire et diagnostique (H/F)</u> Maladies infectieuses et vecteurs : écologie, génétique, évolution et contrôle - <a href="#">UMR5290</a> - MIVEGEC <a href="#">Français</a>	MONTPELLIER	<a href="#">Occitanie Est</a>	IT en contrat CDD
01/07/2025	<u>Ingénieur d'étude (H/F) en microbiologie évolutive</u> recherche Translationnelle et Innovation en Médecine et Complexité - <a href="#">UMR5525</a> - TIMC <a href="#">Français</a>	LA TRONCHE	<a href="#">Alpes</a>	IT en contrat CDD
01/07/2025	<u>Ingénieur d'étude (H/F) en biologie cellulaire, modèle d'étude : Myxomycètes (blob)</u> Centre de Recherches sur la Cognition Animale - <a href="#">UMR5169</a> - CRCA <a href="#">Français</a>	TOULOUSE	<a href="#">Occitanie Ouest</a>	IT en contrat CDD

Research Engineers jobs are not only software related:

- Molecular biology,
- Hydrology
- Linguistic
- Scientific computing
- Chemistry
- Microbiology
- .....

But much more difficult to get a permanent position

# The case of research engineers in....France

*“Research engineers take part in the implementation of research activities, training, management, dissemination of knowledge, and the promotion of scientific and technical information for the institutions in which they work.”*

*“They are **responsible for guidance, coordination, and leadership roles in technical — or, where applicable, administrative — areas,** and they **contribute to the fulfillment of teaching missions.** In this capacity, they may be assigned to any specific or general study or mission. They may also take on supervisory responsibilities.”*

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