

Senior Level RSE career paths (with an s)

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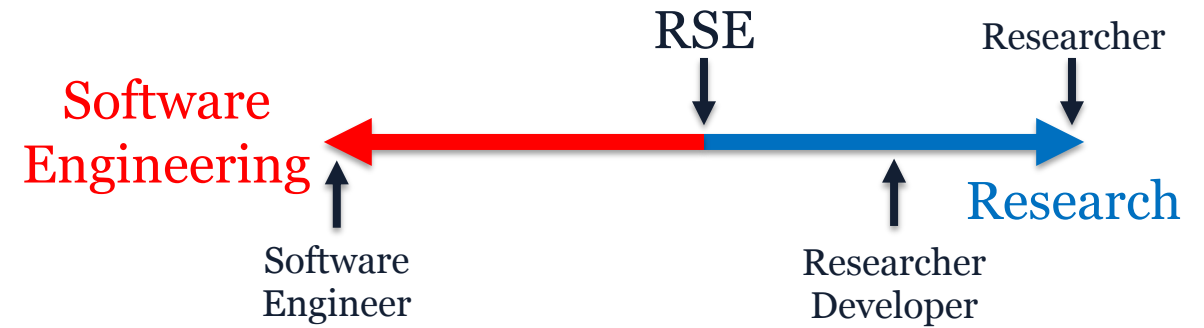
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RSEs

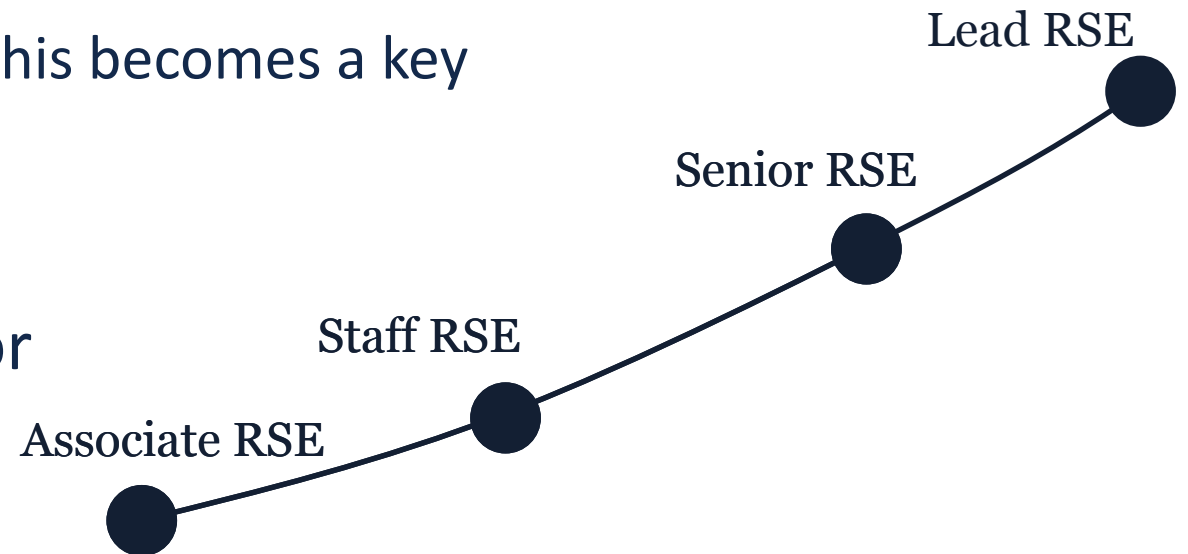
- Research Software Engineers

- Term coined in 2012
- Universities have RSE groups and/or RSEs embedded in research groups
- 7 national/multinational organizations, including UK, US, Germany, Belgium, Netherlands, Nordic, AU/NZ; work underway in Canada, S. Africa
 - International Council to coordinate
- US-RSE has ~800 members
- Society of RSE (UK) has ~500 dues-paying members and community of ~3300
- Multiple annual events
- Estimate: 100k RSEs worldwide



Career paths: today

- Need to define career progression
 - Too many levels can make it hard to distinguish & define
 - 3 basic levels is typical
- Increasing levels include some mentoring and leadership
 - At some point in technical progression, this becomes a key element
- Let's call this the Lead RSE level
- Requires ability to be PI of a project or lead an element of a large project

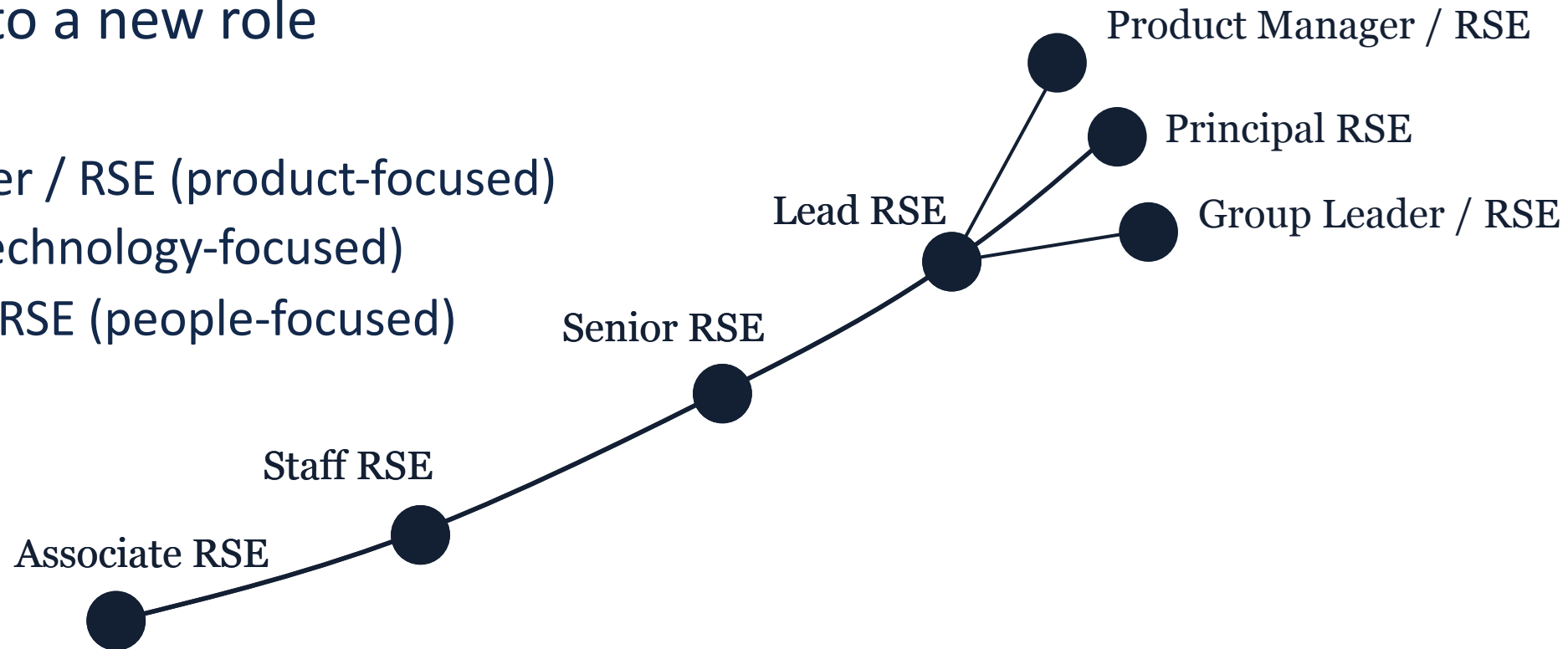


Career paths: adding different emphases

- Past Lead level, multiple aspects of leadership may exist
- RSE may choose to emphasize one aspect; use that emphasis to build new skills and move to a new role

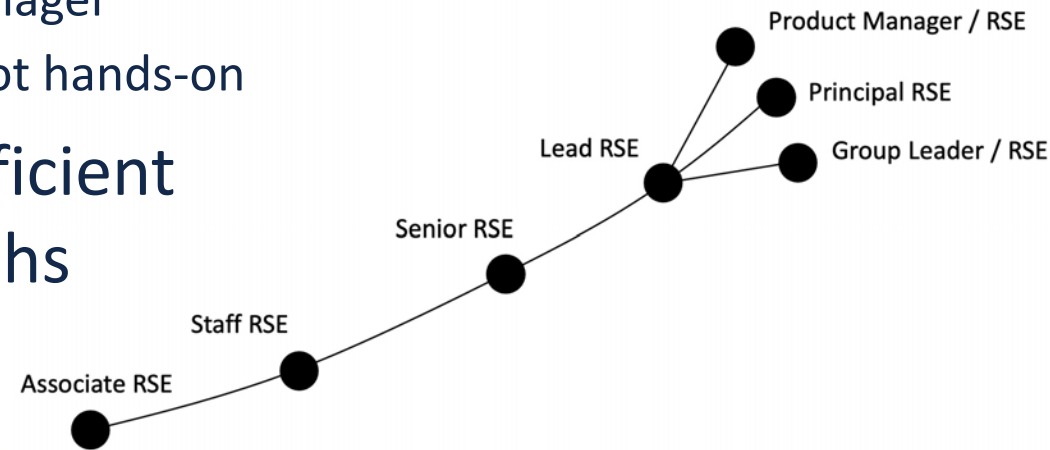
- Three options:

- Product Manager / RSE (product-focused)
- Principal RSE (technology-focused)
- Group Leader / RSE (people-focused)



What happens next?

- These are end points for RSE career paths
 - Principal RSE will continue to work directly with software, mentor others, lead software projects, etc.
 - Points where others may leave the RSE community & change to further grow other skills
 - Product Manager / RSE → higher-level product manager outside of software
 - Group Leader / RSE → higher-level organizational manager
 - May still be responsible for software, but probably not hands-on
- Caveat: An organization must have both sufficient scale and desire to support these career paths



References

- D. S. Katz, K. McHenry, “Super RSEs: Combining research and service in three dimensions of Research Software Engineering, 2019.
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- C. Fournier, “The Manager's Path: A Guide for Tech Leaders Navigating Growth and Change”, O’Reilly Media, 2017
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