The role of communities of practice for career development in computational statistics

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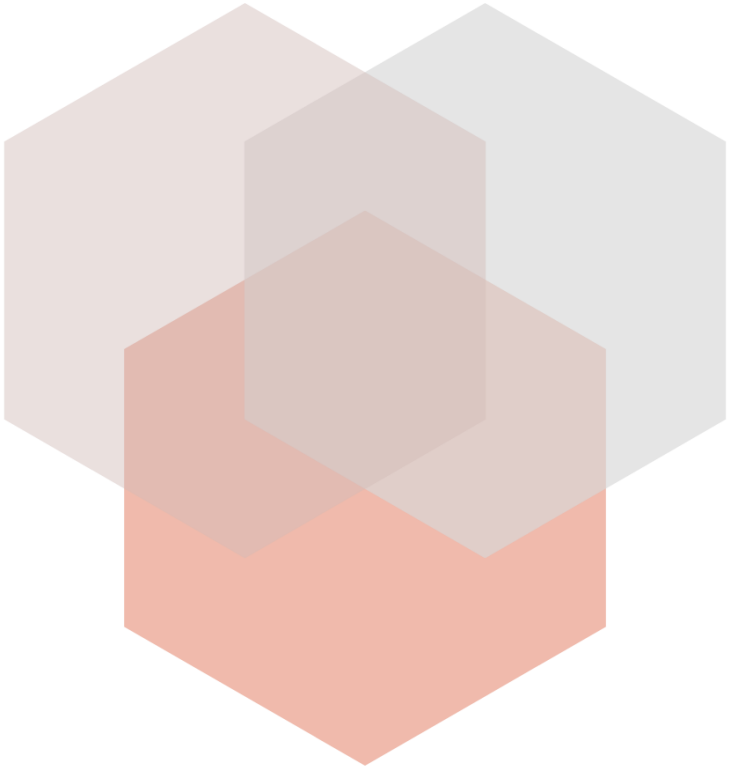
Roadmap

- Communities of practice (CoPs): what are they?
- Why are CoPs important and how can they be sustained?
- Some CoPs in CompStat and Data Science
- Useful guidelines in creating inclusive communities and events

What are communities of practice? (I)

*Communities of practice are **groups of people** who share a **concern** or a **passion** for something they **do** and learn how to **do** it better as they **interact regularly**.* (Wenger-Trayner)



- Domain of interest
- Community
- Practice
- E.g., book clubs
- E.g., professional conference
- E.g., club of friends
- **Community of practice**

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- Examples: group of researchers working on a similar problem who meet on a regular basis, meetup groups etc.

What are communities of practice? (III)

More formally: Concept from social or situated learning theory (Lave and Wenger 1991; Brown and Duguid 1991; Orr 1990; Constant II 1987)

- CoPs are used to describe the process of learning and the spread of knowledge.
- Situated view to learning: *learning is a relational property enacted by groups of people in context and in interaction with one another* (Lave and Wenger 1991)
- CoPs are groups in which a constant process of legitimate **peripheral participation** takes place (Lave and Wenger 1991).

Community composition: Foster inward mobility!

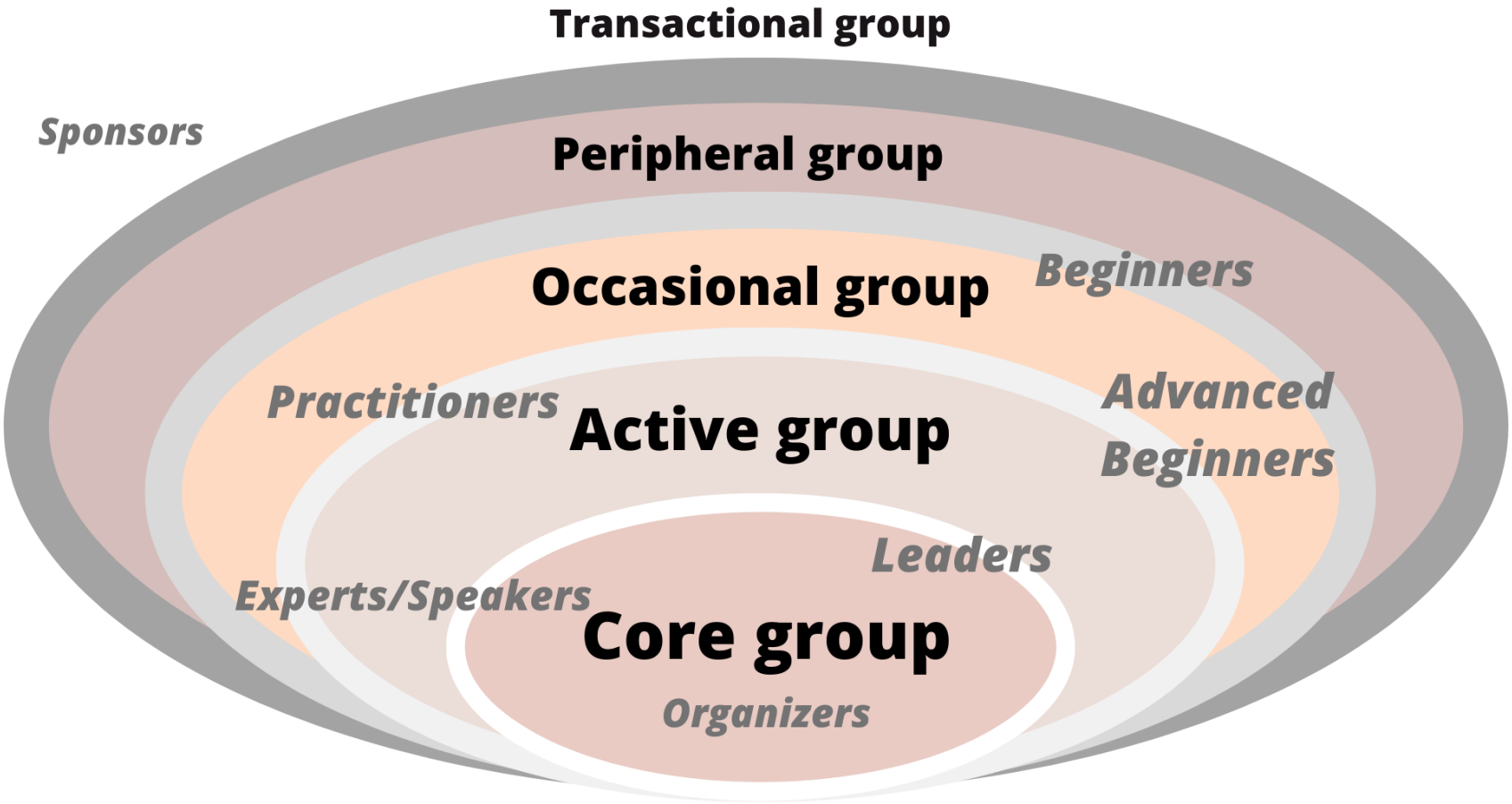

Figure 1: Inspired from Wenger-Trayner, Stevens et al. (2018)

Goals of CoPs

(Wenger and Snyder 2000)

- help to solve problems quickly
- develop professional skills
- set and transfer best practices

Member benefits

(Wenger and Snyder 2000)

- short-term: help with challenges, access to expertise, confidence, meaningful work, social aspects
- long-term: personal development, enhanced reputation, professional identity, networking

Techniques to foster learning-oriented CoPs

1. improve **connectivity** – linking people with others who have similar practices (social networking, directories or profiles)
2. access to **content** – shared repository of information that is used by the community in its practices
3. supporting **conversation** – providing tools for discussing with others in the community
4. providing information **context** – providing awareness of the information context of various resources

based on the C4P model in Kilner (2004) and C. M. Hoadley and Kilner (2005)

CoPs in CompStat and data science

Interdisciplinary field:
high potential for mobility across CoPs

Meetup groups

An accessible format for CoPs in CompStat and data science: **meetup groups**

- Meetup.com is a platform for finding and building local communities
- Regular events (online/in person) can be organized through the platform.

Tip: Many meetup groups organize joint events, so keep an eye for those to discover new communities.

Some relevant meetup groups

- R User Local Groups (see all R Consortium)
- R-Ladies, a world-wide organization to promote gender diversity in the R community
  - offers an online directory of R-Ladies,
  - global github repository
  - supports local chapters who organize events
- Python User Groups
- PyLadies, a global group with the focus on getting more women involved in the Python open-source community
- PyData Groups
- Julia Users Groups
- Julia Gender Inclusive

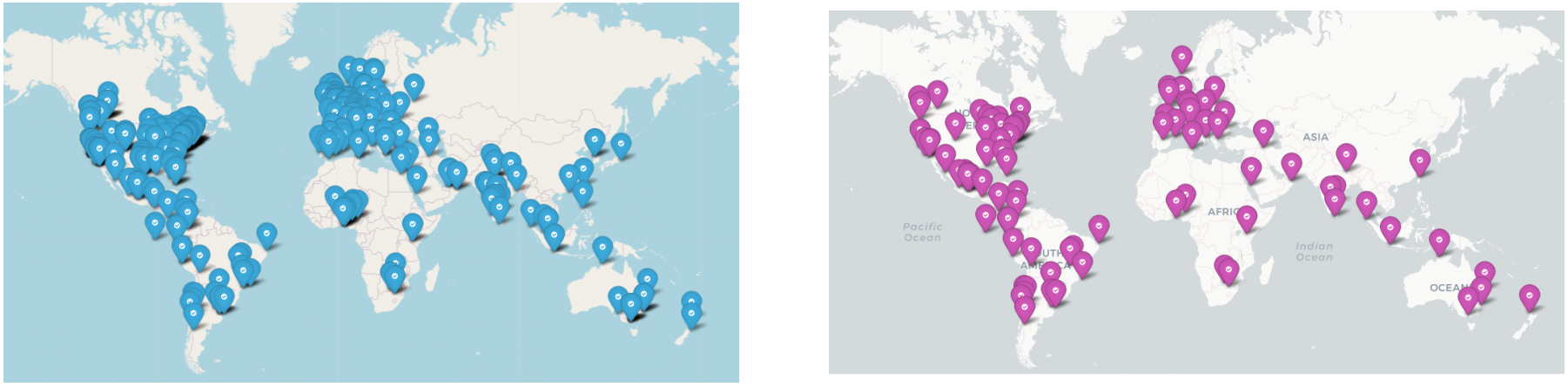

Figure 2: Active R User and R-Ladies groups, Dashboard by Ben Ubah

Figure 3: PyData Groups

Building inclusive CoPs & events

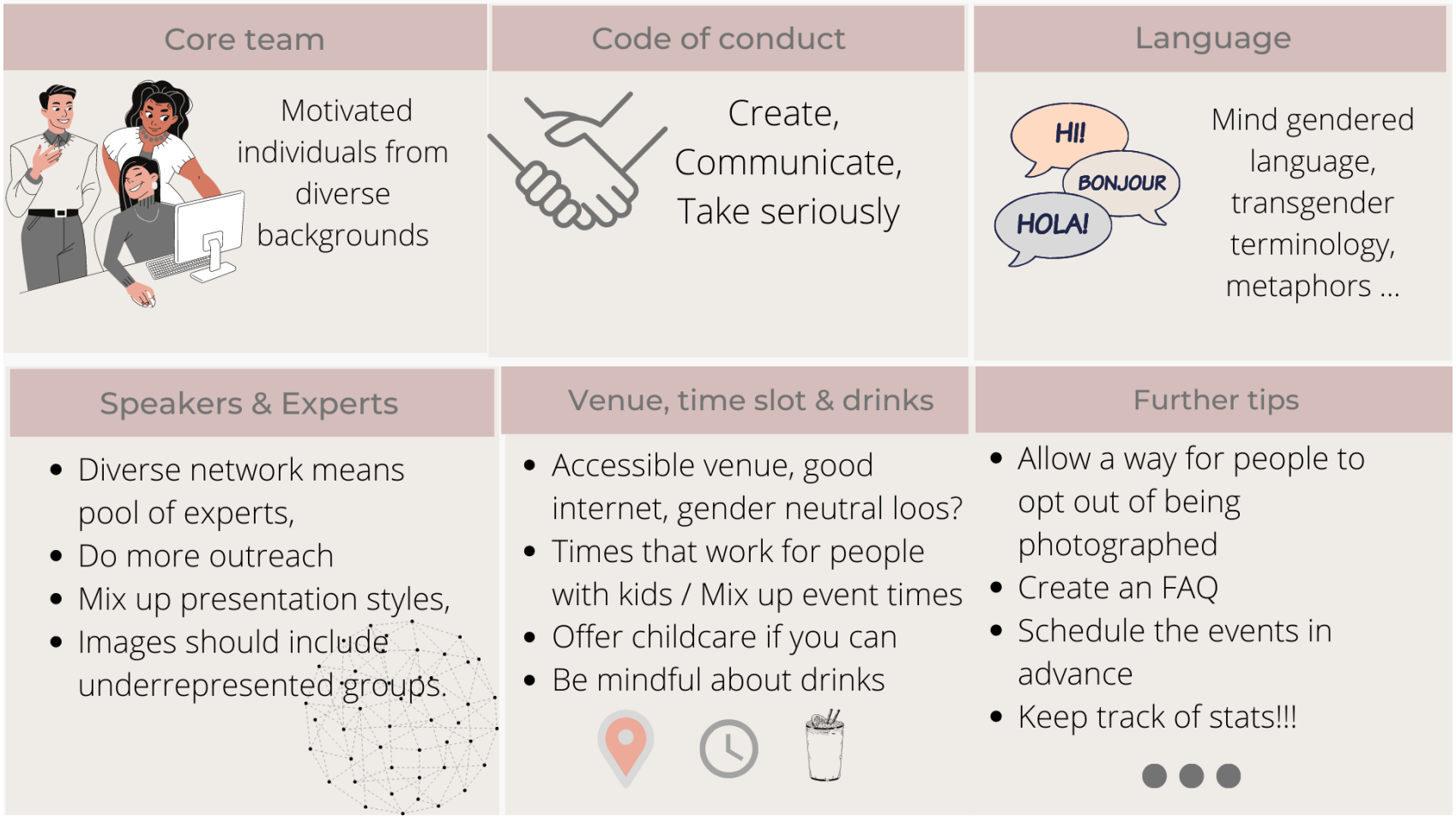

Figure 4: Inspired from WordCamp Organizer and Andy Burgin on Medium

Thank you!

Slides are available at:

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