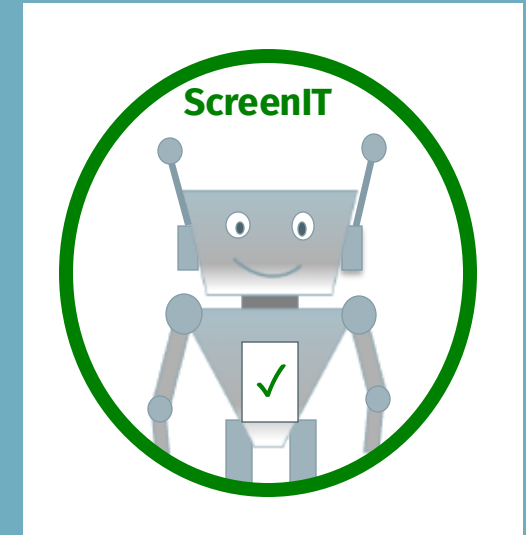# ScreenIT

Tracey L. Weissgerber, PhD

QUEST Center for Responsible Research

Tracey Weissgerber

ReproducibiliTeach, Meta-research Methods

@T_Weissgerber (inactive)

BIH QUEST
Center for Responsible Research

BIH Berlin Institute of Health @Charité

ScreenIT: Developing scalable solutions collaboratively

ScreenIT brings together 25-30 international tool makers and other interested researchers who develop or use automated screening tools

Tools:

- Detect common problems or beneficial practices, in scientific publications

- Share customized feedback with authors & readers
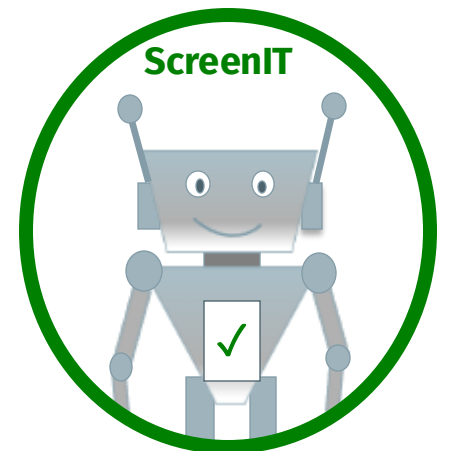
Tool	Screens for	People
SciScore	RRIDs & resources, NIH rigor criteria, ethics/consent statements, sex as a biological variable, cell line authentication	Anita Bandrowski Peter Eckmann
LimitationsRecognizer	Author-acknowledged limitations	Halil Kilicoglu
ODDPub	Open data, open code	ONico Riedel, Vladi Nachev
rtransparent	Statements for COI, funding, protocol registration	Stelios Serghiou
ctRegistries	Clinical trial registration numbers	Maia Salholz-Hillel Delwen Franzen
Scite	Retracted citations, citations with correction or erratum	Sean Rife
Barzooka	Bar graphs of continuous data (often misleading)	Nico Riedel, Vladi Nachev, Tracey Weissgerber
JetFighter	Rainbow color maps (create visual artifacts)	Shyam Saladi
Seek & Blastn	Incorrect nucleotide sequences	Cyril Labbe & others*

Other members: Jennifer Byrne*, Guillaume Cananac*, Amanda Capres-Davis*, Bertrand Favier*, Rene Bernard, Sarah McCann, Gerben ter Riet, Alexandra Bannach-Brown, Robert Schulz

Advantages & limitations

BMC Research Notes

COMMENTARY   Open Access

Is the future of peer review automated?

Robert Schulz[1], Adrian Barnett[2], René Bernard[3], Nicholas J. L. Brown[4], Jennifer A. Byrne[5], Peter Eckmann[6], Małgorzata A. Gazda[7], Halil Kilicoglu[8], Eric M. Prager[9], Maia Salholz-Hillel[1], Gerben ter Riet[10], Timothy Vines[11], Colby J. Vorland[12], Han Zhuang[13], Anita Bandrowski[6] and Tracey L. Weissgerber[1]

Advantages: Tools can...

- Screen many papers quickly
- Draw authors, editors, reviewers & readers attention to items that affect transparency, rigor & reproducibility
- Identify widely accepted, but problematic, practices

Limitations: Tools...

- Make mistakes
- Can't always determine whether a specific item is relevant
- Can't detect complex or nuanced factors
- The factors for which we have tools may not be the most important

Performance & limitations: https://scicrunch.org/ASWG/about/ToolLimit

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Over 2 years, we screened and posted public reports on >23,000 bioRxiv and medRxiv COVID-19 preprints

Automated screening of COVID-19 preprints: can we help authors to improve transparency and reproducibility?

Tracey Weissgerber ✉, Nico Riedel, Halil Kilicoglu, Cyril Labbé, Peter Eckmann, Gerben ter Riet, Jennifer Byrne, Guillaume Cabanac, Amanda Capes-Davis, Bertrand Favier, Shyam Saladi, Peter Grabitz, Alexandra Bannach-Brown, Robert Schulz, Sarah McCann, Rene Bernard & Anita Bandrowski

Contains data through July 2020

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Current activities

Randomized controlled trial

- Does feedback from automated tools help authors improve reporting?

ARRIVE compliance checker

- Collaborative project with 4 teams

Meta-science Summer School Hackathon: Contribot

- Detects author contributions & CRediT statements, ORCIDs, acknowledgements
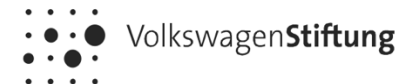
"Screen My Paper" website for BIH/Charité

Next steps: Deploy, get researcher feedback, improve

Future activities

Collaborators needed

New tools

- Expand study types/reporting guidelines (e.g., qualitative research studies, systematic review, SAGER guidelines)
- New fields

New applications

- Meta-research
- Monitoring
- Interventions

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Also from the GRN: How can you make reproducible research & open science training the norm at your institution?
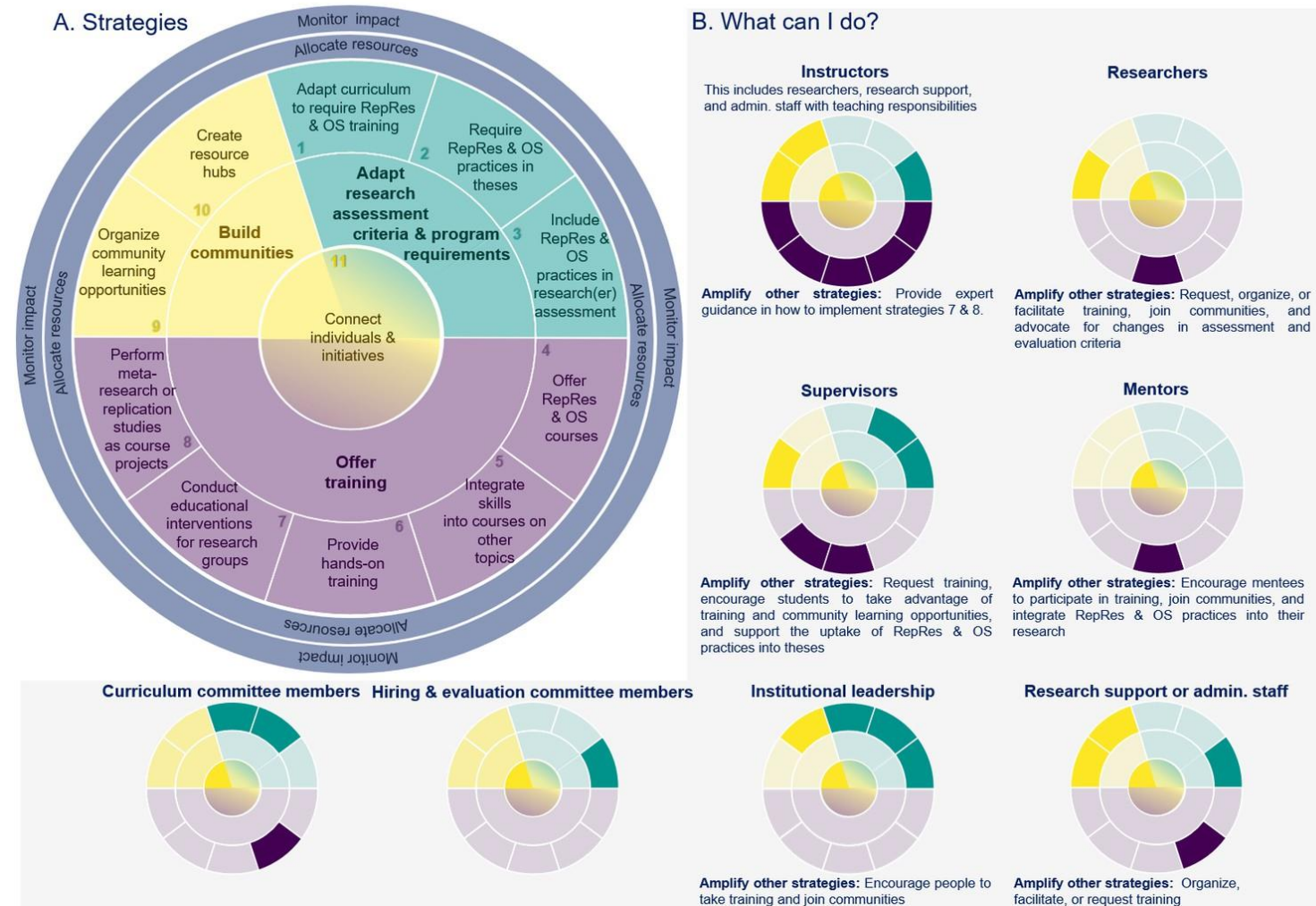
Questions...?
Comments...?
Emotional outbursts...?

Tracey Weissgerber

ReproducibiliTeach, Meta-research Methods