SIMBER

The Simula-Berkeley Education and Research Collaboration

Rachel Thomas
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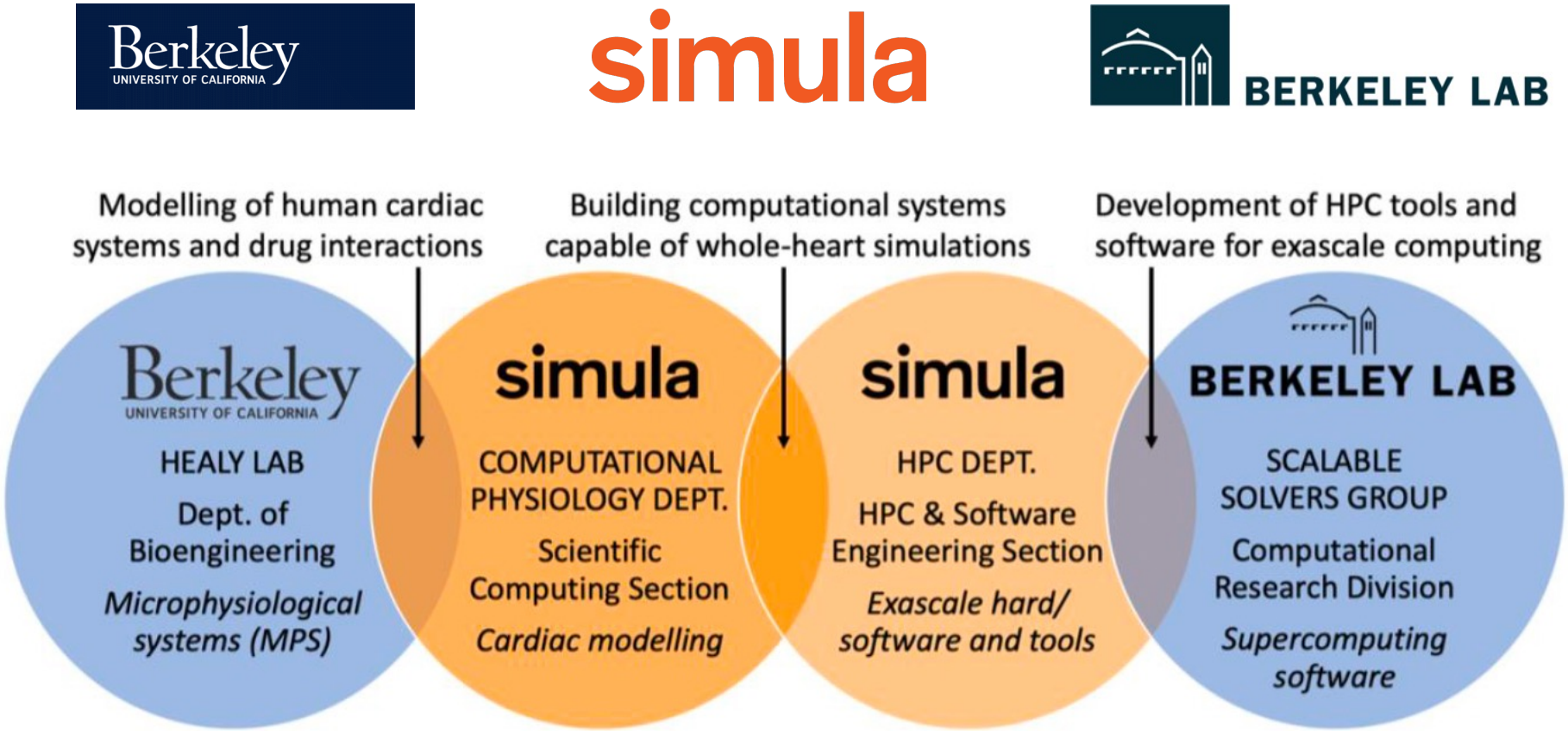
Senior Scientist

Nick Forsch
Research Engineer

The Research Council of Norway

INTPART: International Partnerships for Excellent Education, Research and Innovation

SIMBER: developmental biology to HPC



SIMBER budget and activities

Main activities and milestones in the project period

	Milestones throughout the project	Total allocation 5-yr (~1000 USD)
1	Administration (general admin, engineer, overhead)	$425
2	Build & implement digital collaboration tools	$40
3	Kick-off meeting (for all participants)	$55
4	KodeSkolen - programing in biology	$10
5	Travel, incl. researcher stays	$360
6	Project specific trainings	$30
7	Student participation in the summer school	$42
8	Regular workshops and mini-retreats	$230
9	Closing meeting (for all participants)	$55
10	New book in Simula SpringerBrief on Computing	$10
11	Project Coordination	$200

Total ~ $1.45m

Digital collaboration framework

SIMBER budget and activities

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Researcher exchange and networking (mobility)

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Education

Total ~ $1.45m

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Total ~ $1.45m

Consortium events

SIMBER budget and activities

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Summary compendium

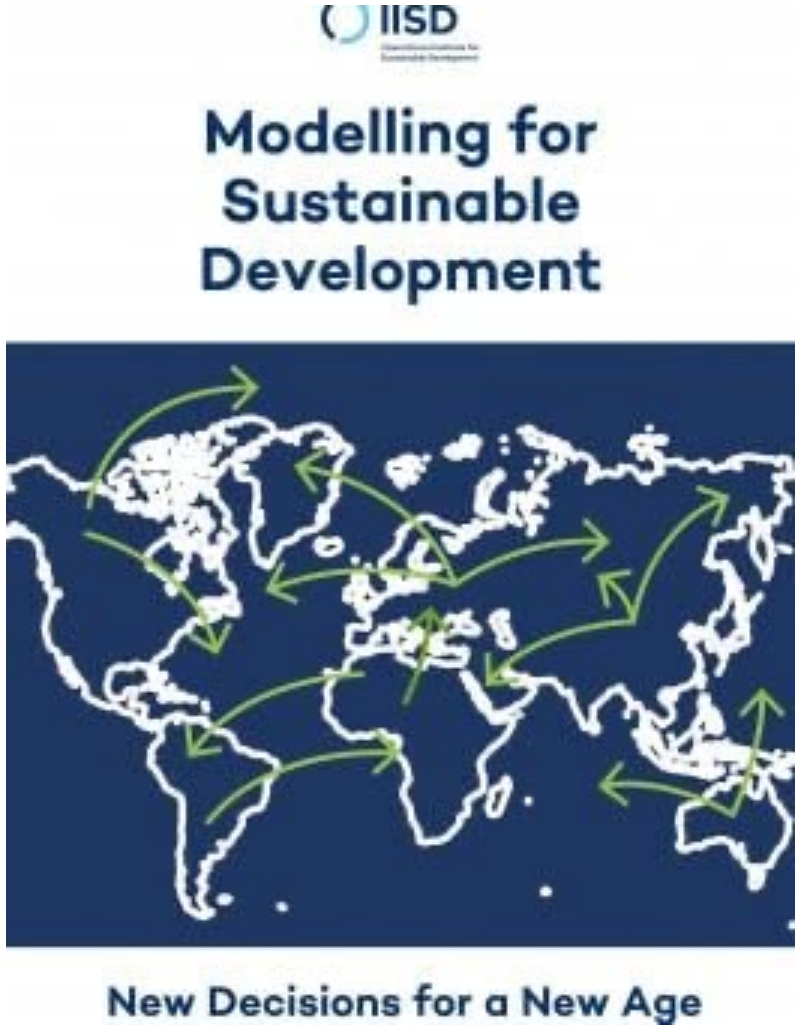
SIMBER as a workshop for sustainable international collaboration

Perspective:

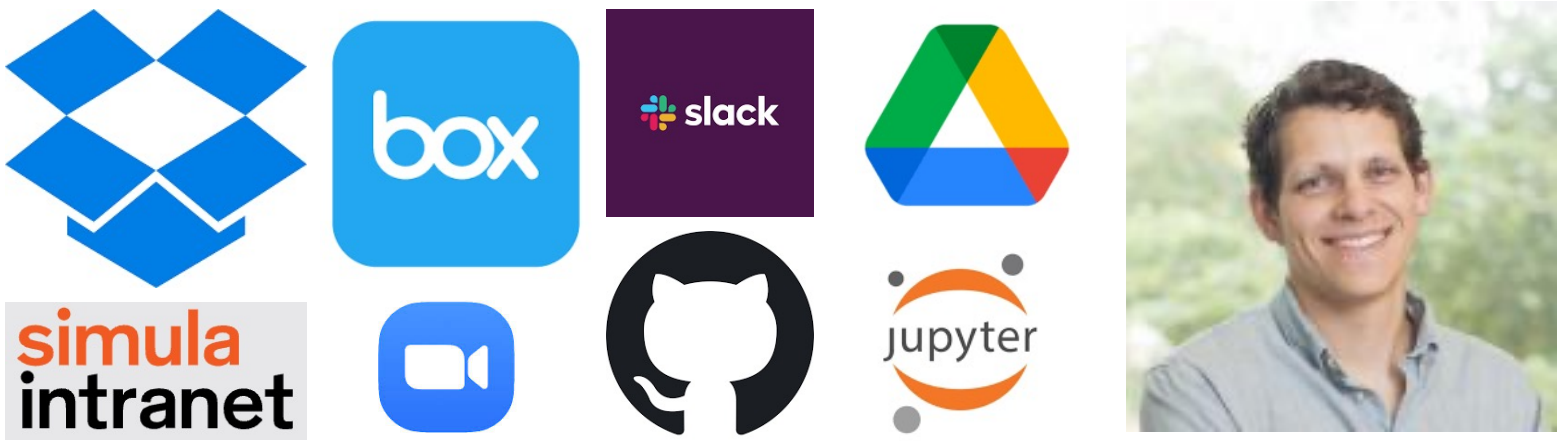
- Air travel was responsible for ~15% of total carbon emissions by universities in 2018
- This is up from ~8% in 2008

Priorities:

- Evolving approaches to digital collaboration
  - Optimized digital meeting formats
  - Dedicated communication and project organization tools
  - Additional digital networking tools and training
- Long-duration exchange (prioritizing trainees)
- Combination travel (multi-event)
- Tailored opportunities for thoroughly-vetted offsetting
- RCN buy-in



Digital collaboration tools



Digital Collaboration Tools

centralized, compact, efficient

COMMUNICATION

Synchronous
- Teleconferencing
- Live chat

Asynchronous
- Email lists
- Chat messaging

FILE SHARING

Project-specific

GitHub

jupyter

Integrate with comm. platforms

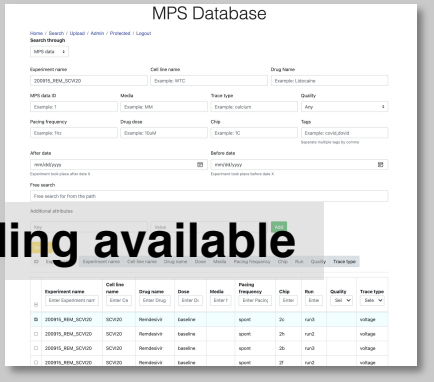
INFORMATION SHARING

“One-stop” intranet
- Contact information
- Web forms for e.g. funding requests

Temporary solutions

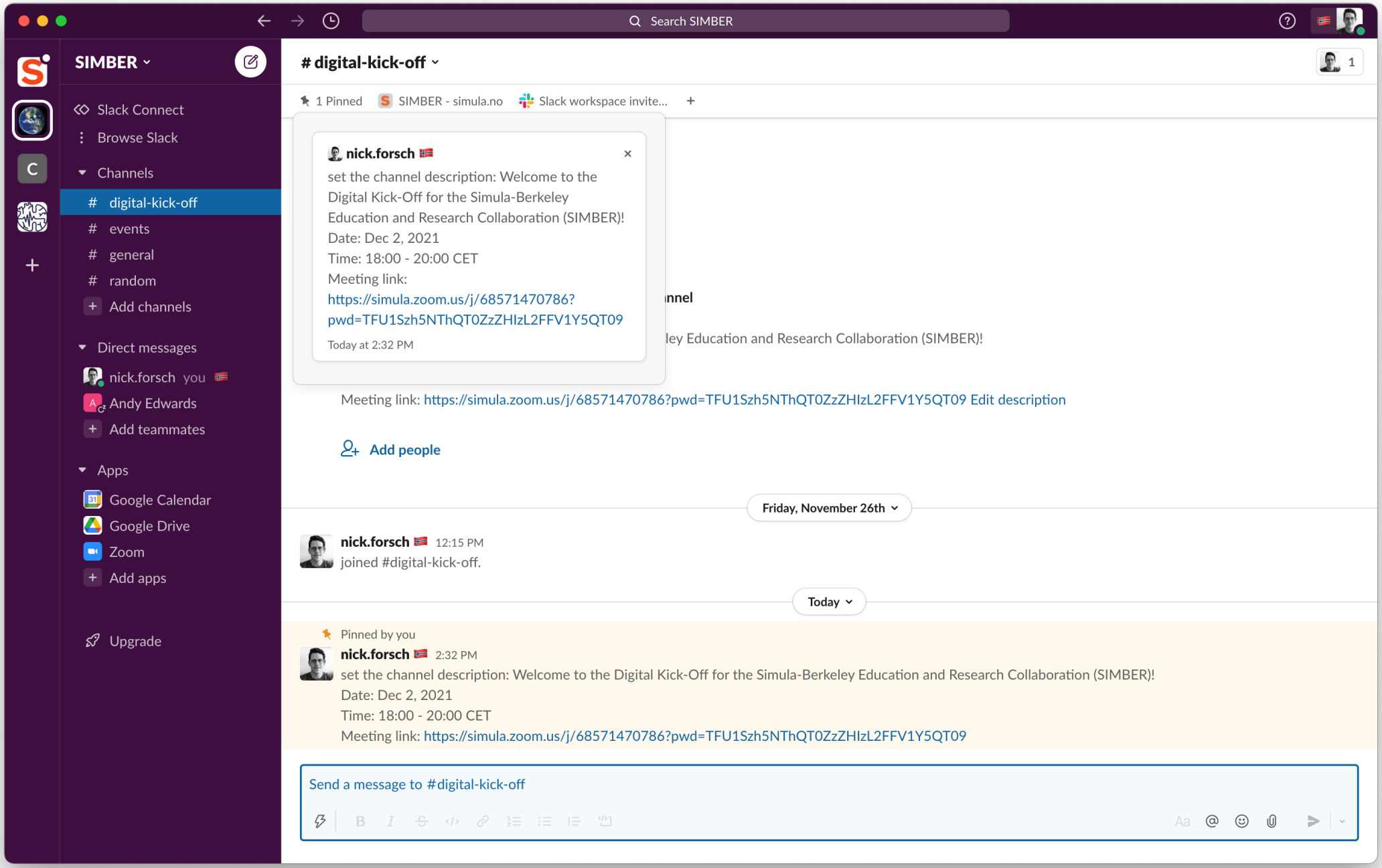
TOOLS FOR SCIENCE

Project-specific



Funding available

slack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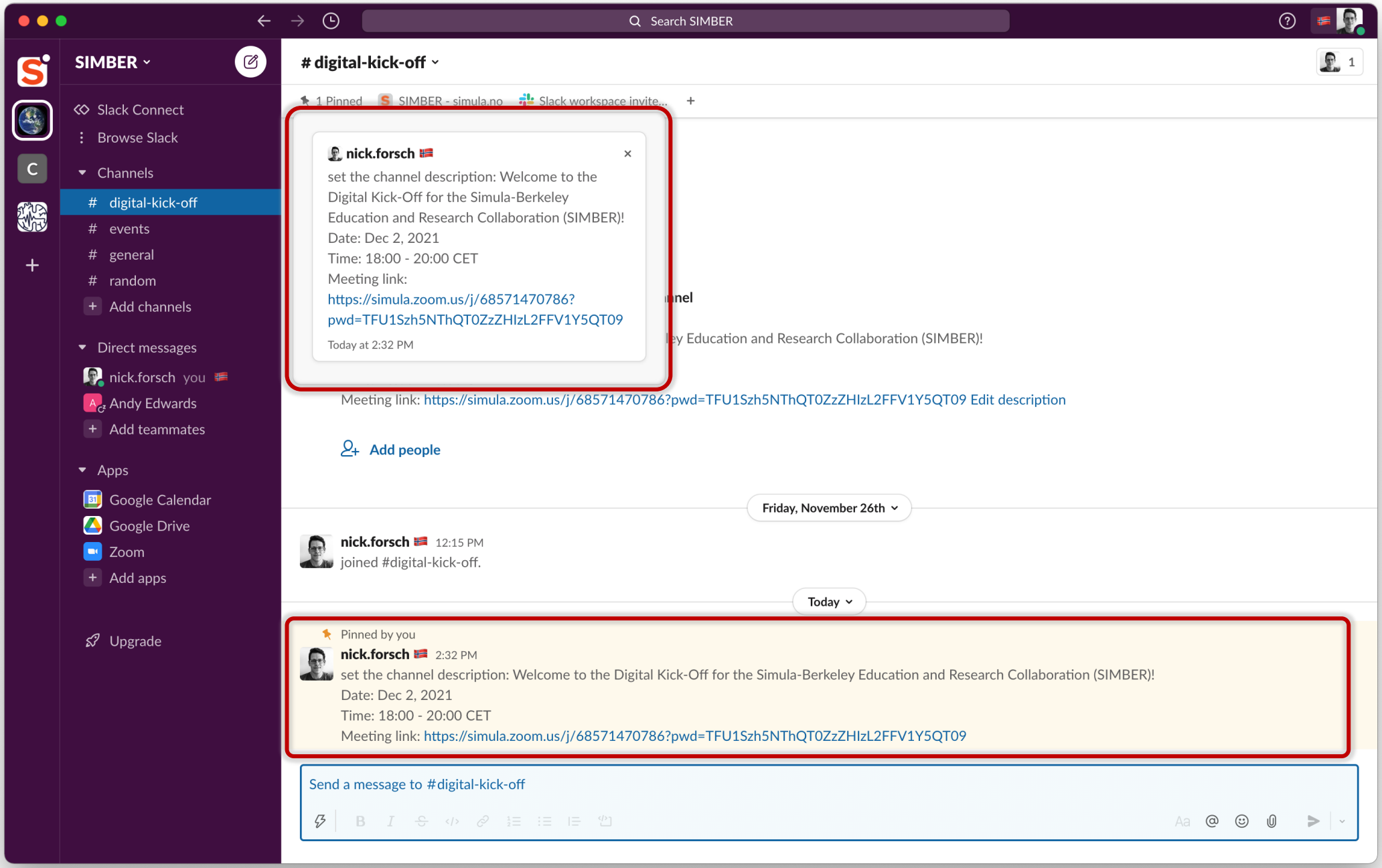
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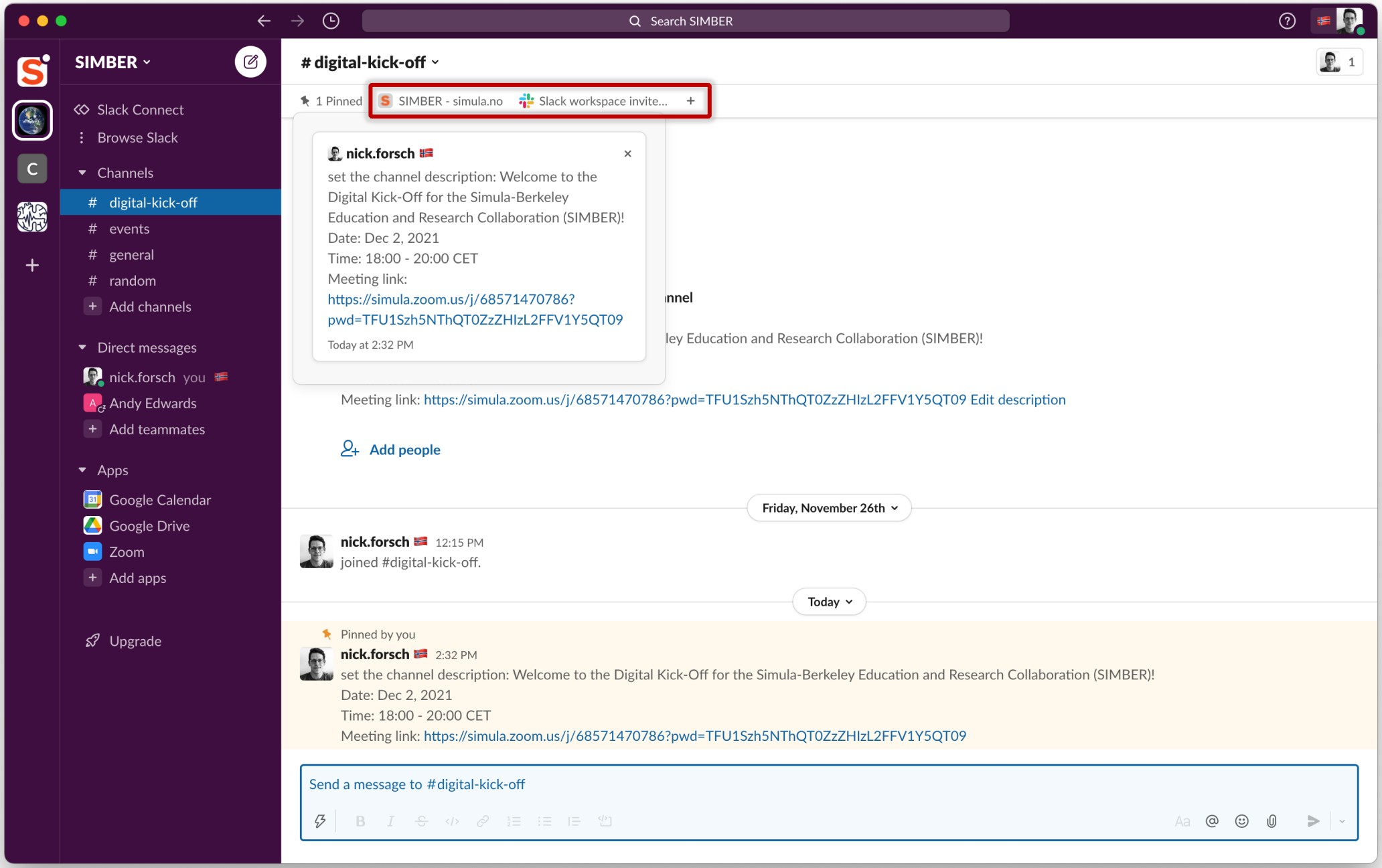
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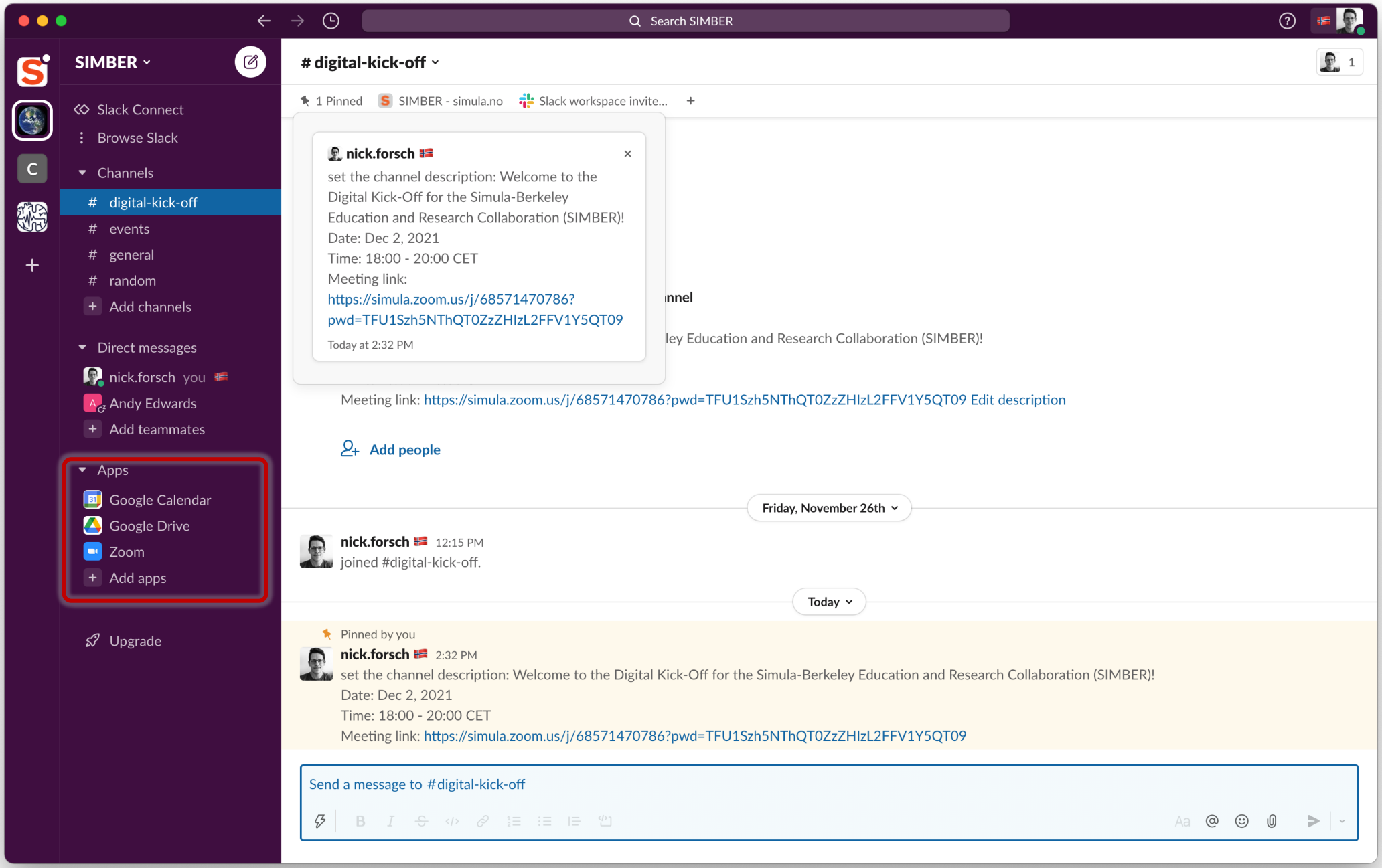
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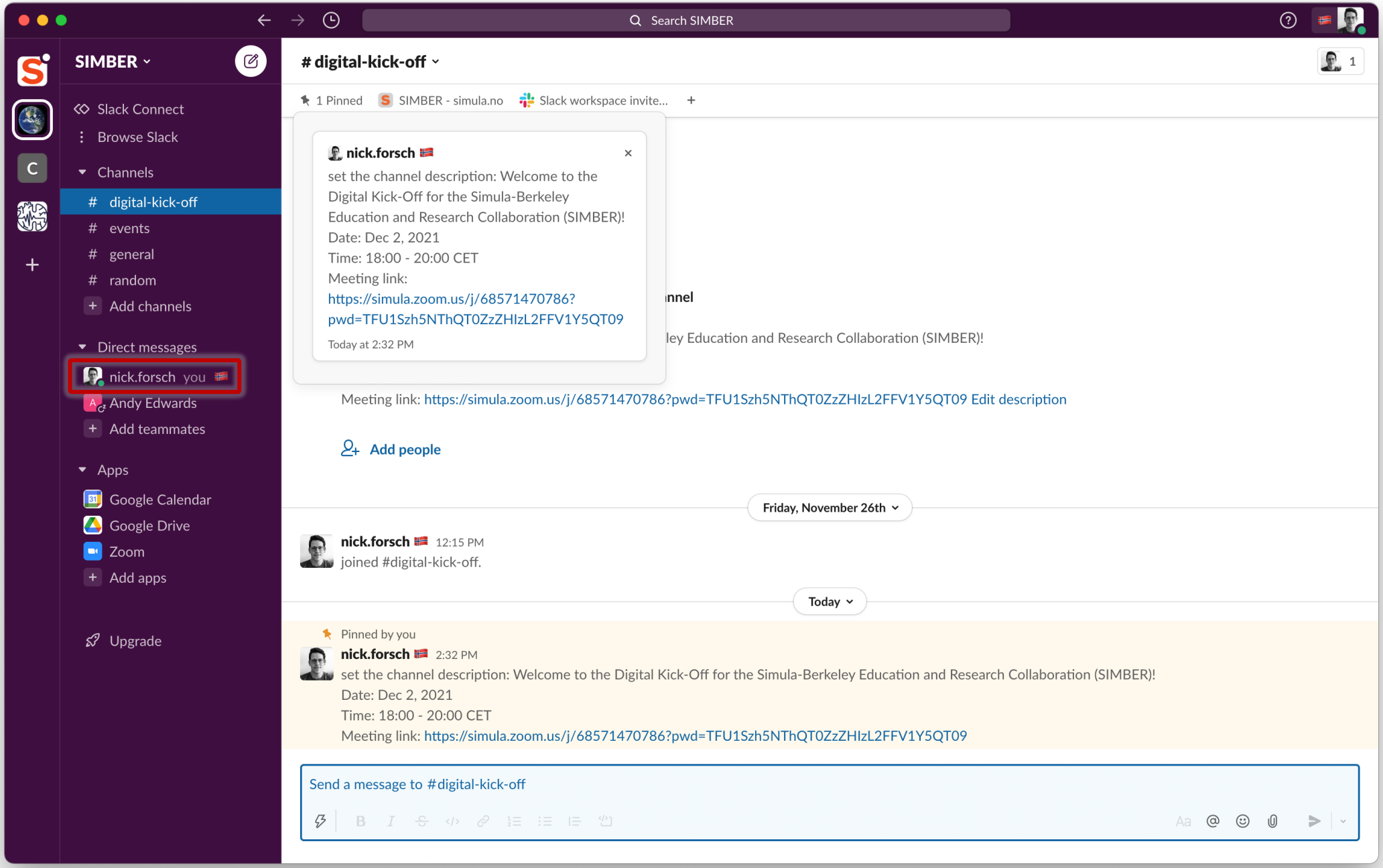
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SIMBER mobility

- Travel
- Exchange
- Custom workshop-retreat
- Project-specific training

Exchange priorities:

- Focused short-term events
- Longer-term trainee exchange (travel + salary support)
- Clear objectives

Procedures:

- Simple online process:

https://podio.com/webforms/26856197/2049834

SIMBER mobility

- Travel
- Exchange
- Custom workshop-retreat
- Project-specific training

SIMBER Mobility Funding

Please fill out the fields below and attach your budget for SIMBER mobility funding use. A confirmation will be sent to your email after submission.

PERSONAL INFORMATION

First Name(s)

Last Name

Email

Employed at

If "other", please specify below

- [ ] Simula
- [ ] University of Oslo
- [ ] University of California, Berkeley
- [ ] Lawrence Berkeley National Lab
- [ ] Other

Employed at (if not listed above)

MOBILITY INFORMATION

Start Date

MM/DD/YYYY

End Date

MM/DD/YYYY

Number of persons

Abstract

Please provide a short abstract that describes the reason you are applying for SIMBER mobility funding (how will this funding facilitate your project and/or your development as a researcher).

BUDGET

Please attach your detailed budget as an Excel or PDF file.

Total amount requested

USD

Attachments

Choose File No file chosen

Add another

Submit

SIMBER educational opportunities

Coding for biologists

simula kodeskolen

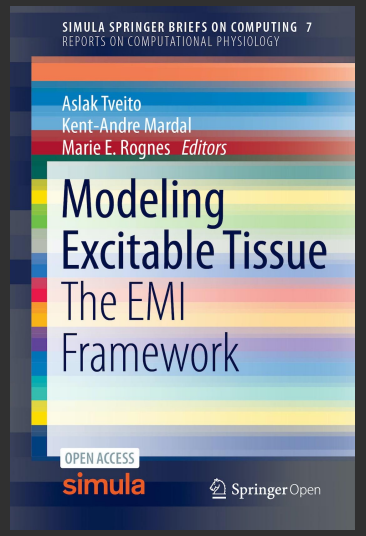
Simula Summer School in Computational Physiology

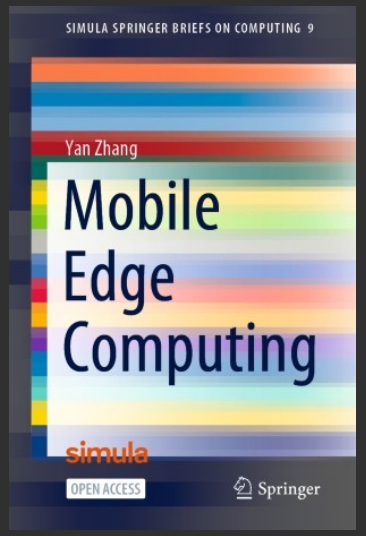
SUMMER SCHOOL IN COMPUTATIONAL PHYSIOLOGY

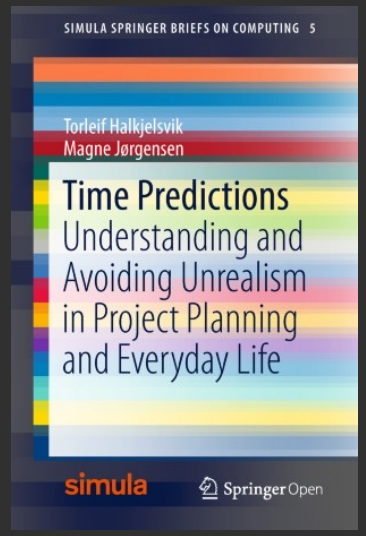
SIMBER initial retreat

- Location: Close to Berkeley
- Duration: 2 days
- When: August 2022 (proposed)

SIMBER Springer brief







Simula's Springer brief series will offer final summary of the project developments

- To be initiated in conjunction with a wrap-up retreat (2026)

https://www.springer.com/series/13548

Program

Time (PST)

✓ **9:00-9:20:** **Introduction to SIMBER: Scope, Goals, Principles and Procedures**
Presenter: Andy Edwards, Senior Scientist, Simula

9:20-9:40: **Human Microphysiological Systems for a Healthy World**
Presenter: Kevin Healy, Professor of Bioengineering, UC Berkeley

9:40-10:00: **IdentiPhy: Identification of Physiological Drug Side Effects in the Heart**
Presenter: Sam Wall, Chief Research Scientist, Simula

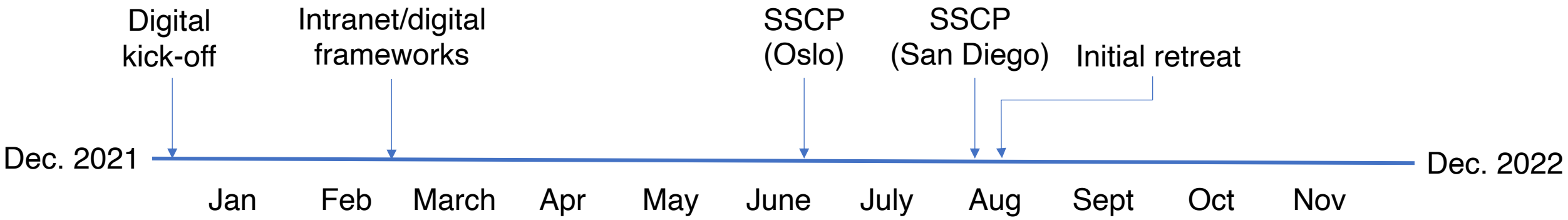
10:00-10:10 **Break**

10:10-10:30 **Overview of R&D Activities in Scalable Solvers Group**
Presenter: Xiaoye (Sherry) Li, Senior Scientist and Group Leader, LBNL

10:30-10:50 **Efficient Large-Scale Cardiac Simulations with HPC**
Presenter: Xing Cai, Chief Research Scientist, Simula

10:50-11:00 **Wrap-up and additional questions**

Year 1



<u>To be included</u>

- Kodeskolen/MPS workshop (Berkeley): Healy lab and IdentiPhy lead
- Initial LBNL workshop (Oslo/Berkeley): HPC and Solvers lead
- Individual exchange