



Community updates

Major projects and initiatives from the past 12 months.

Modern software engineering - for science

Empowering scientists with modern software engineering

Nextflow enables scalable and reproducible scientific workflows using containers. It allows the adaptation of pipelines written in the most common scripting languages.

Its fluent syntax simplifies the implementation and deployment of complex parallel and reactive workflows on any cloud or cluster.



Modern software engineering - for science

A community collaborating on pipeline development

Pipelines follow best-practices to ensure maximum portability and reproducibility. The large community makes the pipelines exceptionally well tested and easy to run.

Extensive documentation covering installation, usage and description of output files ensures that you won't be left in the dark.

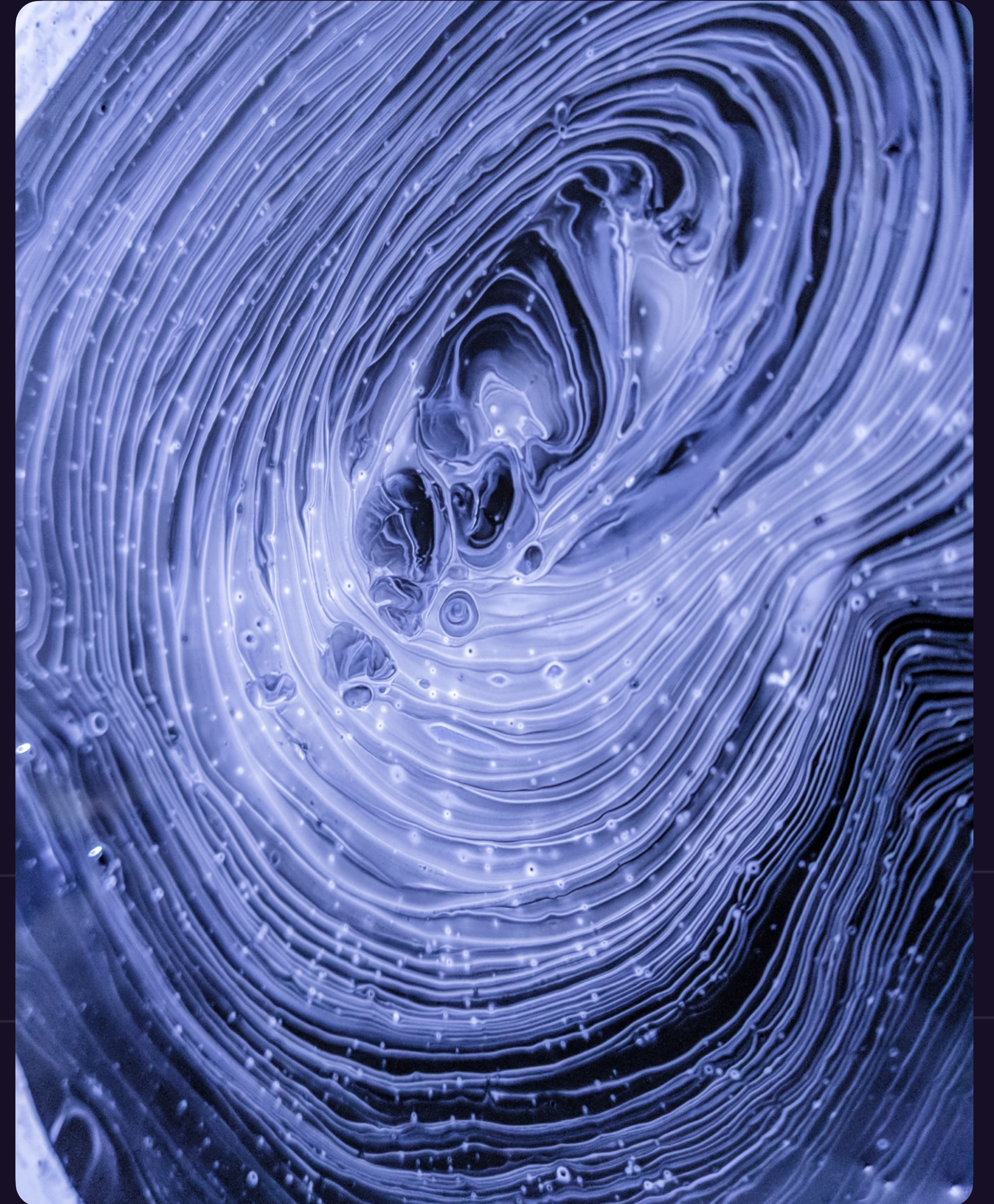
 **nextflow**
workflow management

nf-core 



Community growth

Where we are in numbers



 **708**

Developers committing to nf-core GitHub repositories

 708

X 8,848

People following for Nextflow + nf-core X (twitter) accounts



708



8,848



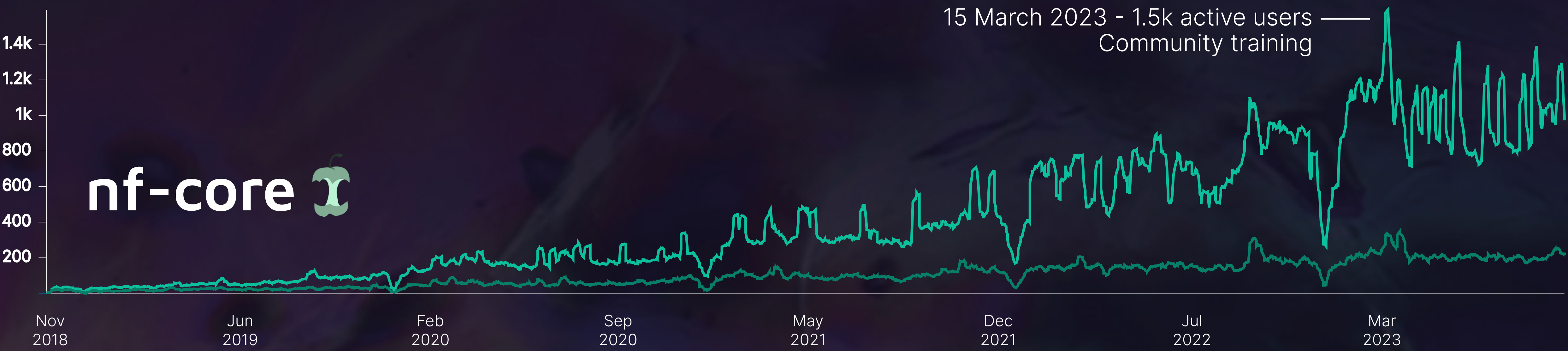
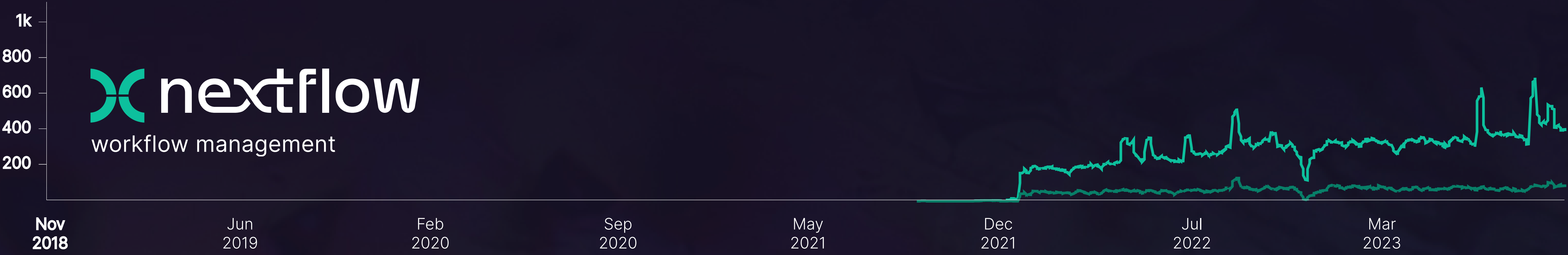
10,790

Users on Nextflow + nf-core Slack Organisations

Slack members

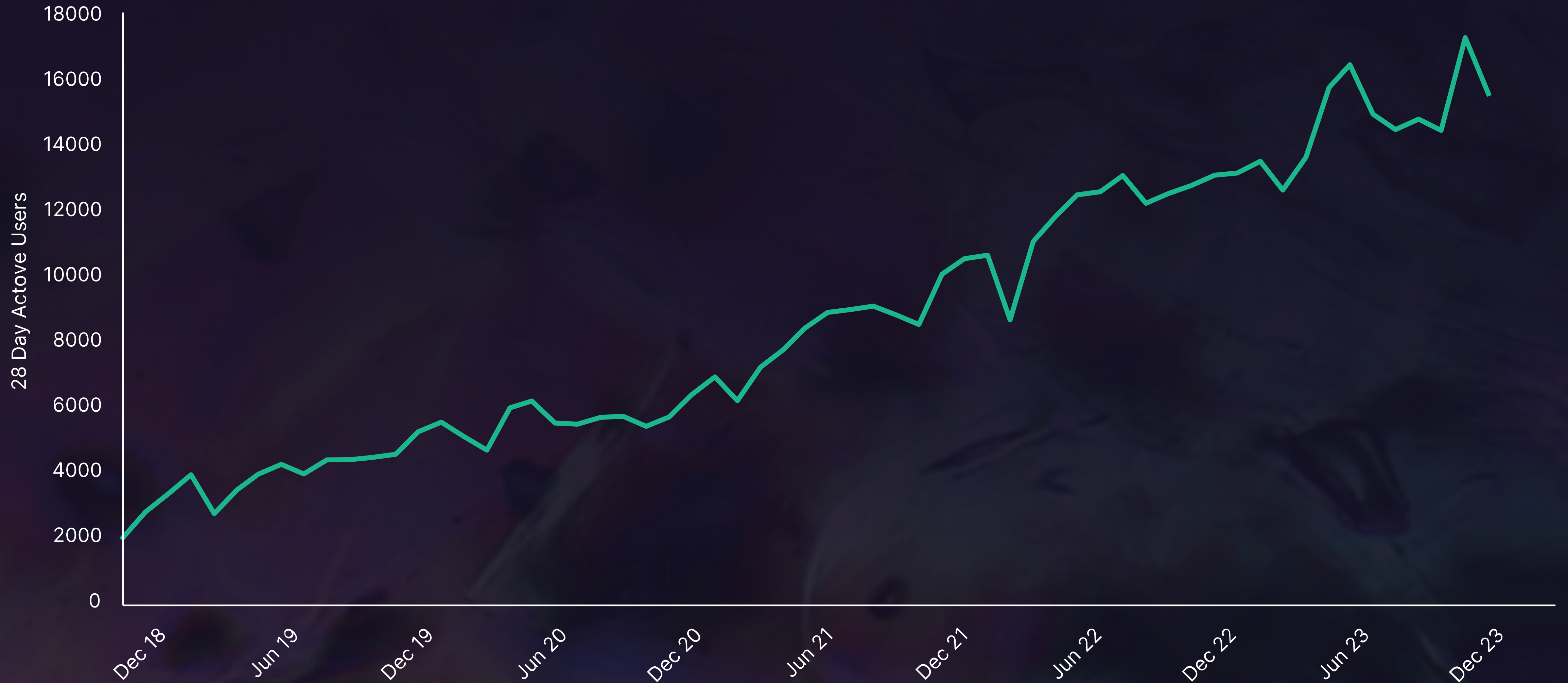


Active Slack members



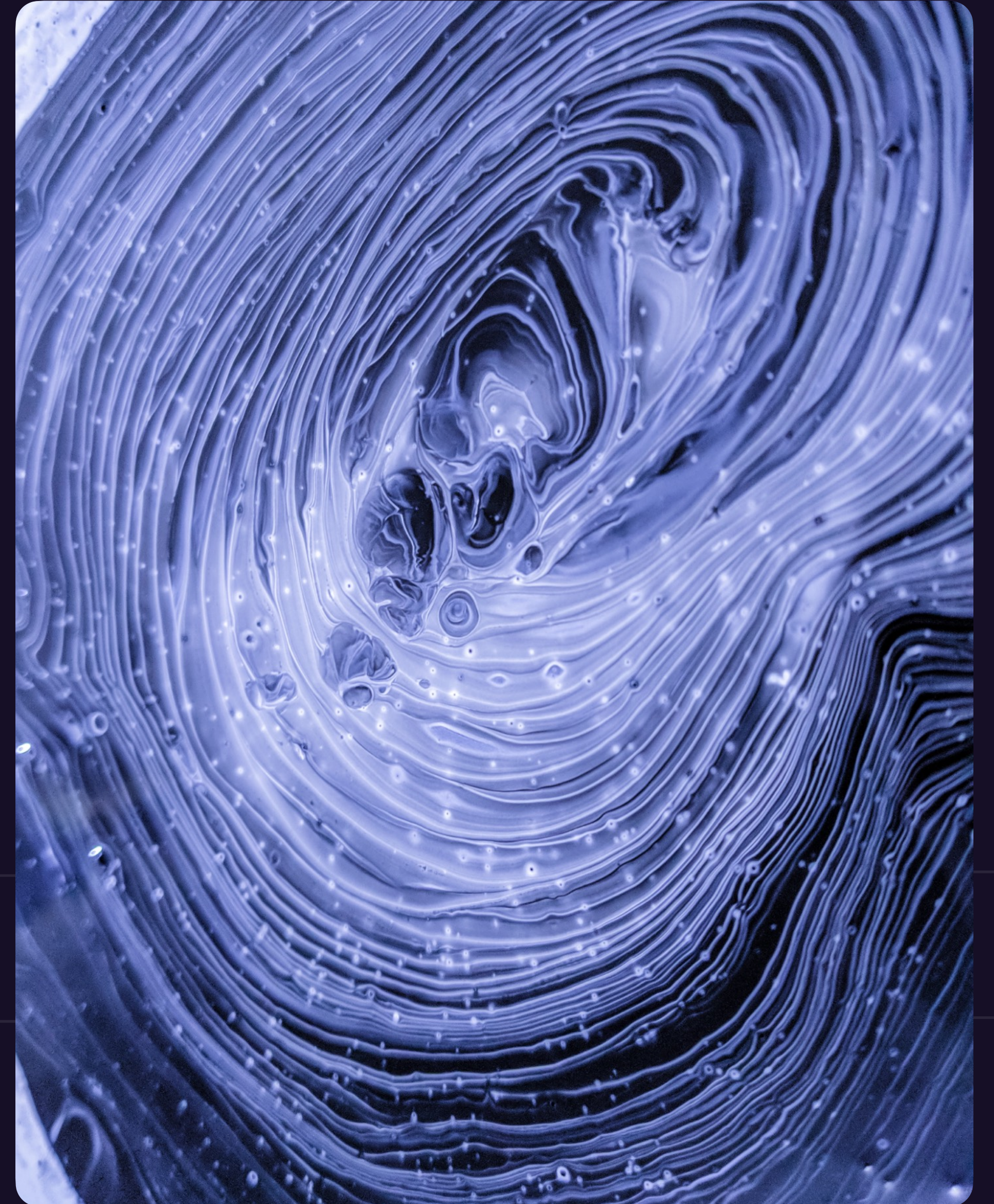
■ Weekly active members ■ Members who posted

Nextflow Docs - Unique IPs



Building with nf-core

Using nf-core tooling and
resources



nf-core modules + subworkflows

Pipeline

Pipeline parameters

Resource requests

Tool arguments

Input channels

Subworkflow

Channels

Pipeline logic

Module

Module

Module

nf-core resources

93

Pipelines

nf-core



Ready-to-use pipelines, covering most techniques in genomics.

Increasingly: proteomics, imaging and more.

nf-core resources

54

Subworkflows

nf-core



Shared subworkflows for common analysis pathways

nf-core resources

1,078

Modules

nf-core

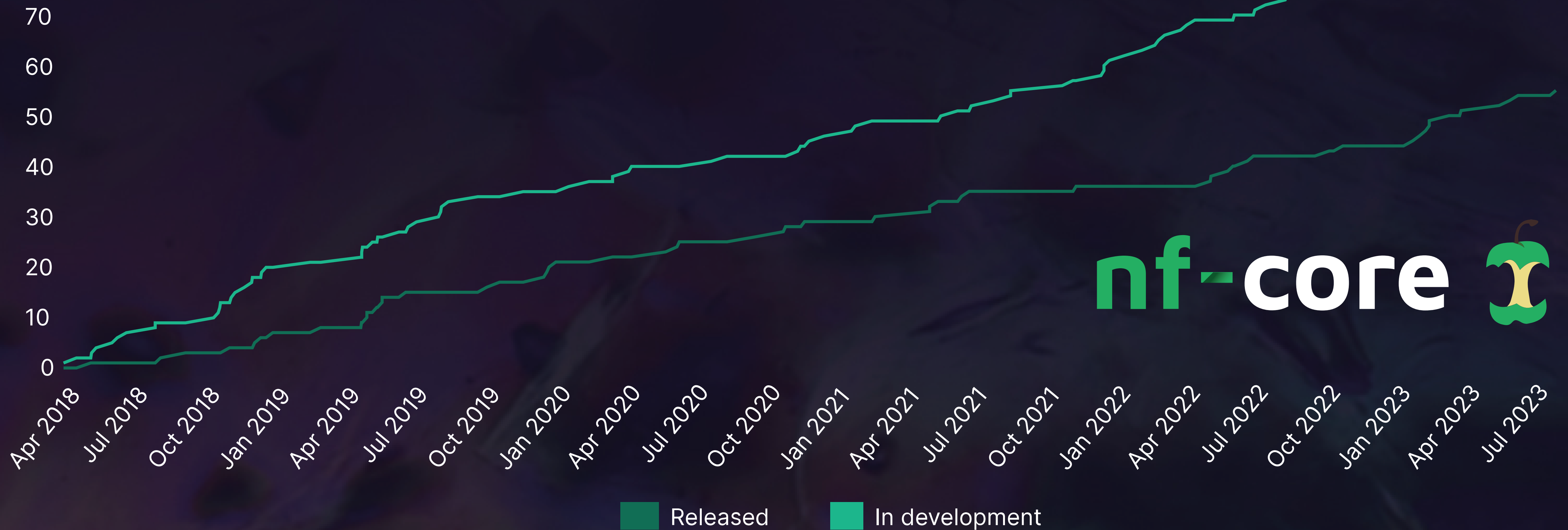


Tool process wrappers, with bundled software and continuous-integration testing

nf-core pipelines

90 **~1000 pipelines**

80 built using the nf-core template on GitHub



nf-core/tools

```
nf-core --help
```

nf-core/tools

```
graph TD; A[nf-core/tools] --- B[For users]; A --- C[For developers];
```

For users

List
Launch
Download
Params

For developers

Create
Lint
Modules
Subworkflows
Schema

nf-core/tools

For users

For developers



For everyone

nf-core modules + subworkflows

Custom

nf-core 

Pipeline

Pipeline parameters

Resource requests

Tool arguments

Input channels

Subworkflow

Channels

Pipeline logic

Module

Module

Module

nf-core modules + subworkflows

Custom

nf-core 

Pipeline

Pipeline parameters

Resource requests

Tool arguments

Input channels

Subworkflow

Channels

Pipeline logic

Module

Module

Module

nf-core modules + subworkflows

Custom

nf-core 

Pipeline

Pipeline parameters

Resource requests

Tool arguments

Input channels

Subworkflow

Channels

Pipeline logic

Module

Module

Module

nf-core modules + subworkflows

Custom

nf-core 

Pipeline

Pipeline parameters

Resource requests

Tool arguments

Input channels

Subworkflow

Channels

Pipeline logic

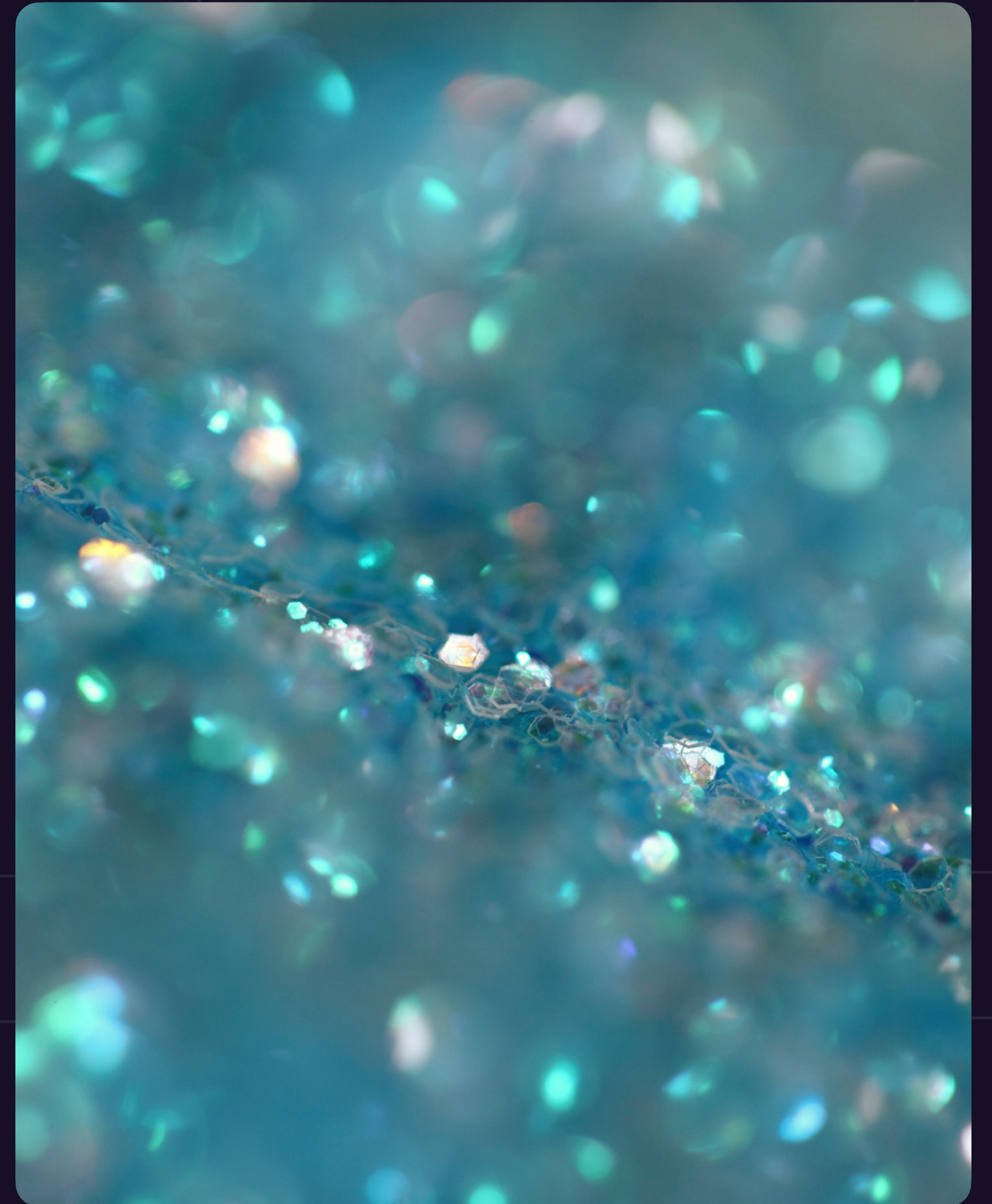
Module

Module

Module

Community projects

New infrastructure to support
users and developers



A testing framework for Nextflow pipelines



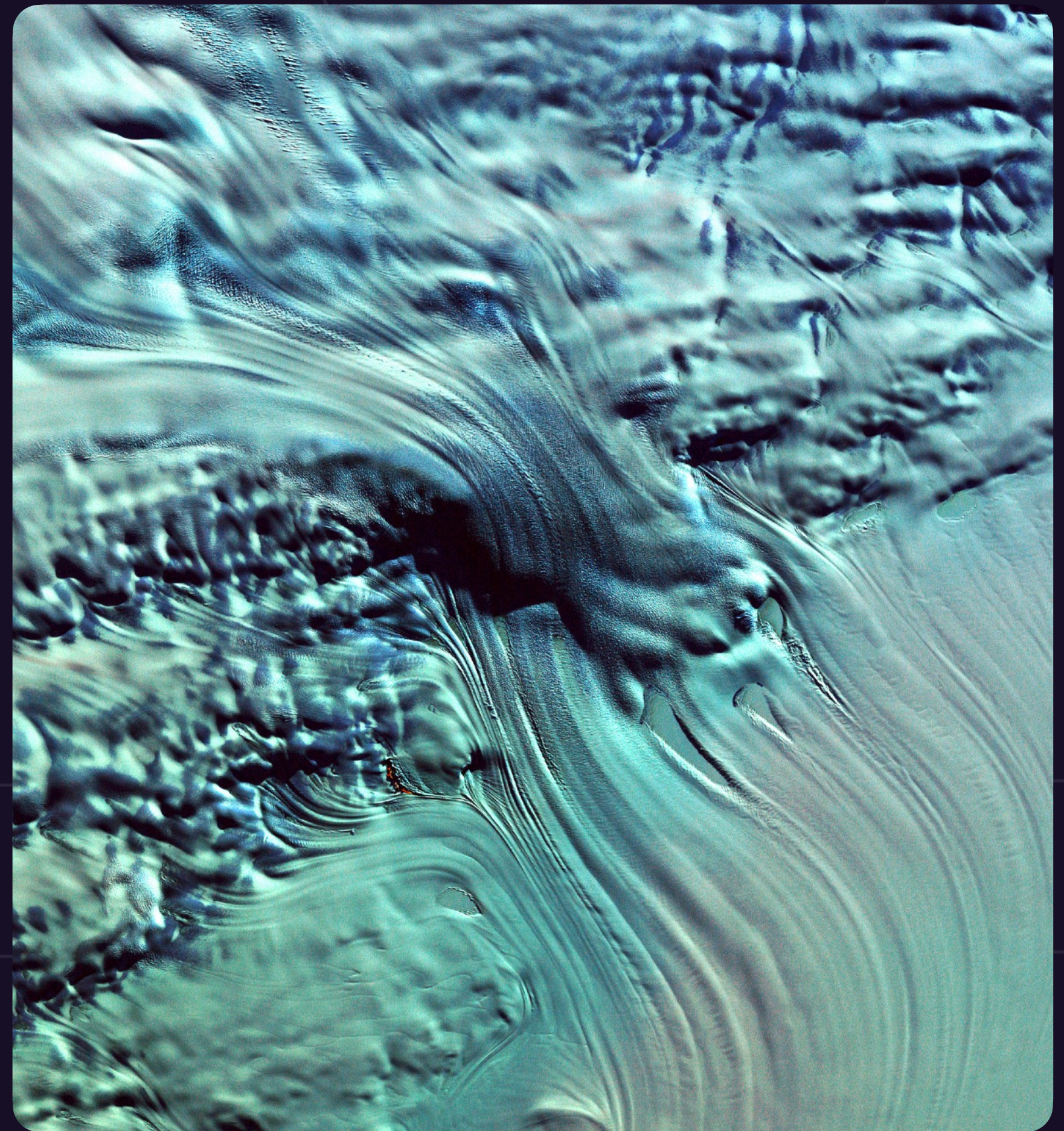
nf-test

Lukas Forer
Sebastian Schönherr



Ensuring code quality through CI

- A testing DSL, similar to Nextflow itself
- Uses snapshots to capture expected states
- Built in assertion types and functionality, suited to Nextflow use-cases



A testing framework for Nextflow pipelines



nf-test

Lukas Forer
Sebastian Schönherr



Ensuring code quality through CI

- A testing DSL, similar to Nextflow itself
- Uses snapshots to capture expected states
- Built in assertion types and functionality, suited to Nextflow use-cases



```
nextflow_pipeline {  
  
    name "Test Hello World"  
    script "nextflow-io/hello"  
  
    test("hello world example should start 4 processes") {  
        expect {  
            with(workflow) {  
                assert success  
                assert trace.tasks().size() == 4  
                assert "Ciao world!" in stdout  
                assert "Bonjour world!" in stdout  
                assert "Hello world!" in stdout  
                assert "Hola world!" in stdout  
            }  
        }  
    }  
}
```

code.askimed.com/nf-test/ >

Nextflow plugins ecosystem

nf-validation

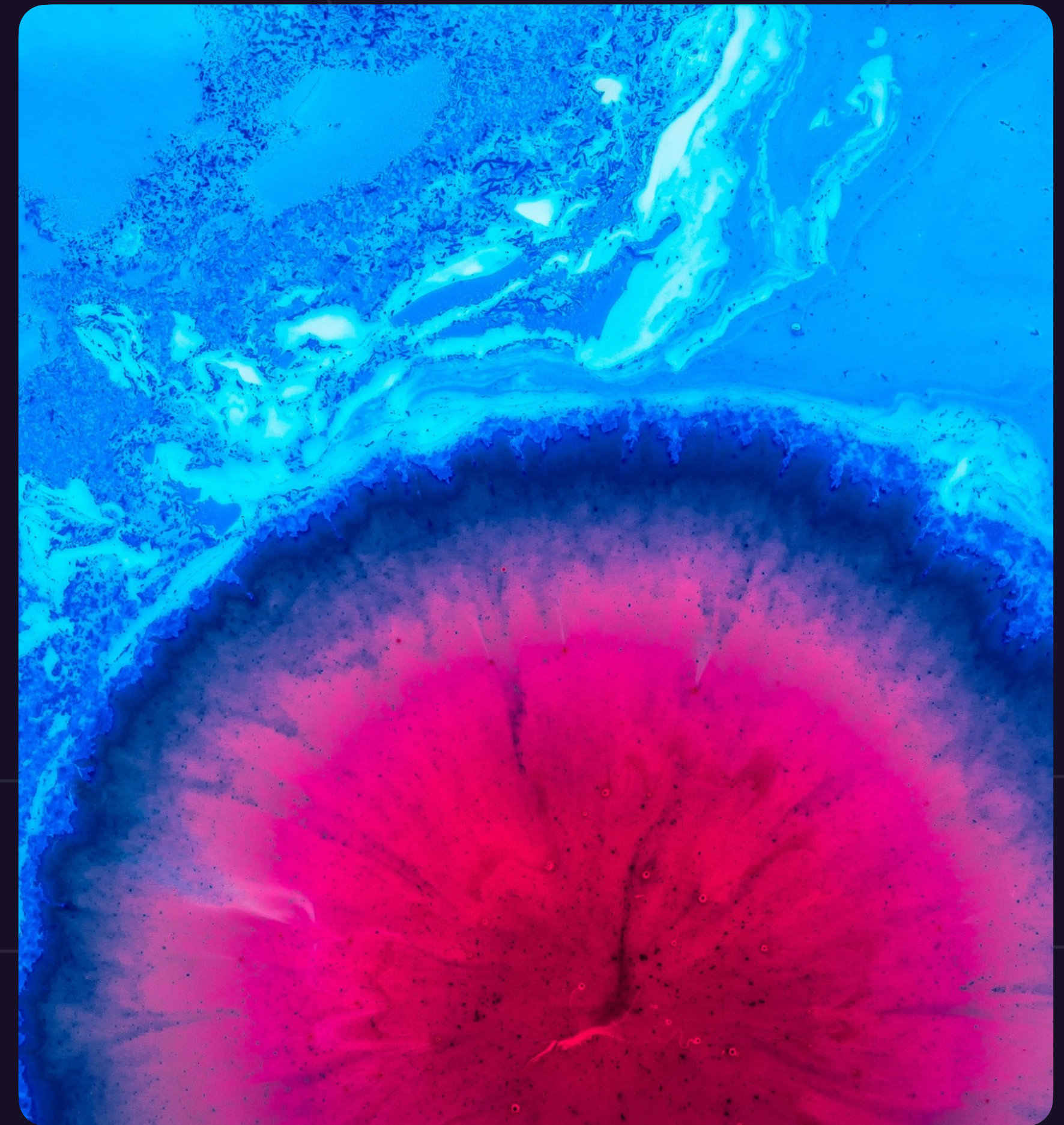
Validate parameters
Create channels from sample sheets

nf-prov

Provenance reporting
BioCompute Objects / RO-Crates

nf-co2footprint

Report on energy consumption and
CO2 emissions, suggest improvements.



Nextflow plugins ecosystem

nf-float

Adds a new Nextflow executor for working with MemVerge



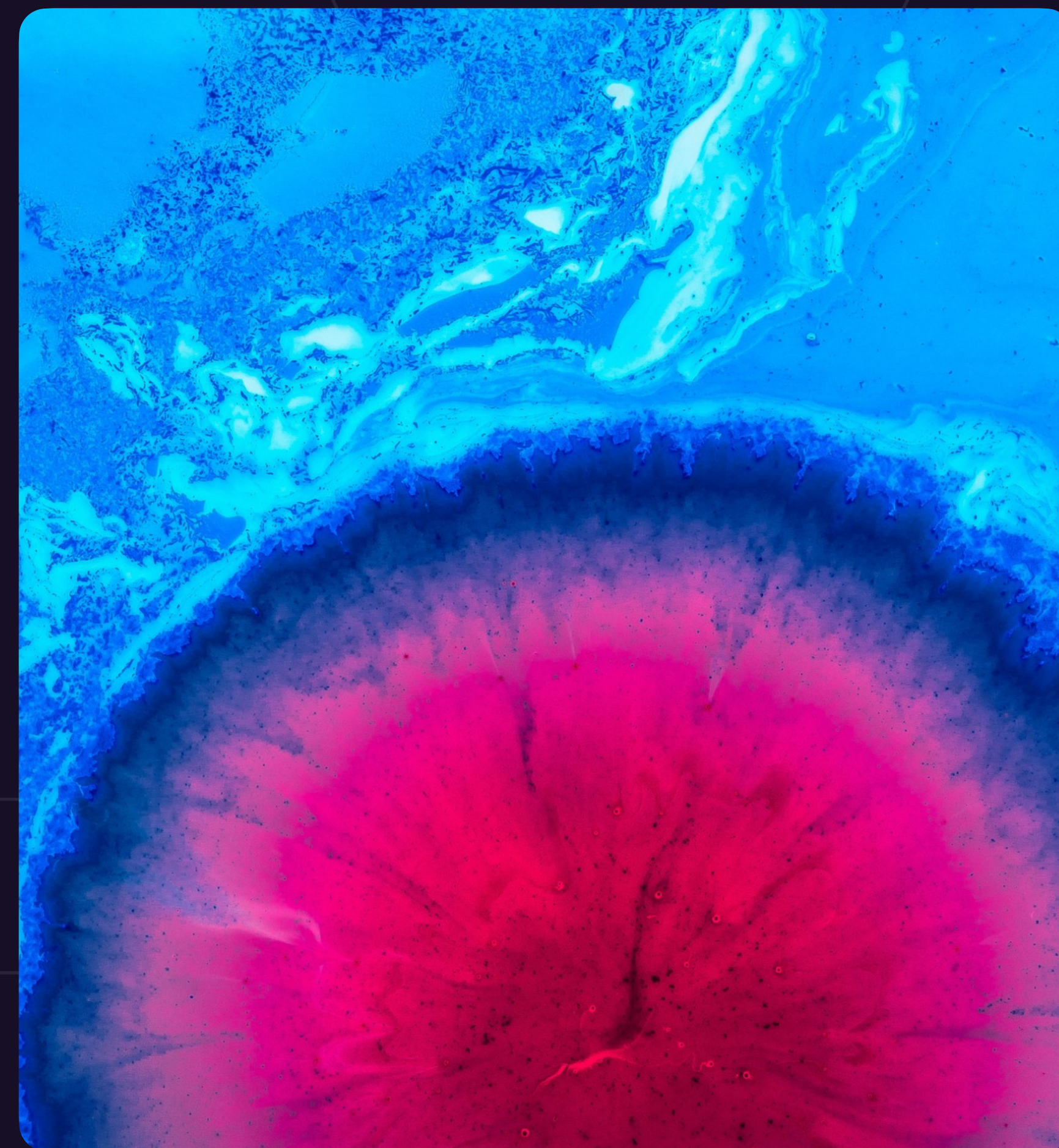
nf-quilt

Automatically publish pipeline results to Quilt packages



Announcing Java-Native nf-quilt: versioned and verified data inputs and outputs for Nextflow

Ernie Prabhakar
Thurs Nov 30, 4:45 PM



Collaboration on accreditation (FDA / IVDR / ISO)

#regulatory and #benchmarking

- Many nf-core pipelines being used in healthcare / accredited settings.
- Nextflow helps with provenance reporting
- MultiQC logs software versions and QC outputs
- New page listing known public documentation

Please let us know if you've done any related work with an nf-core pipeline!



New nf-core website

Rebuilt from the ground up

- Site-wide search!
- Deployment previews
- Support for MDX, markdown extensions
- Markdown front-matter schema
- New hosting



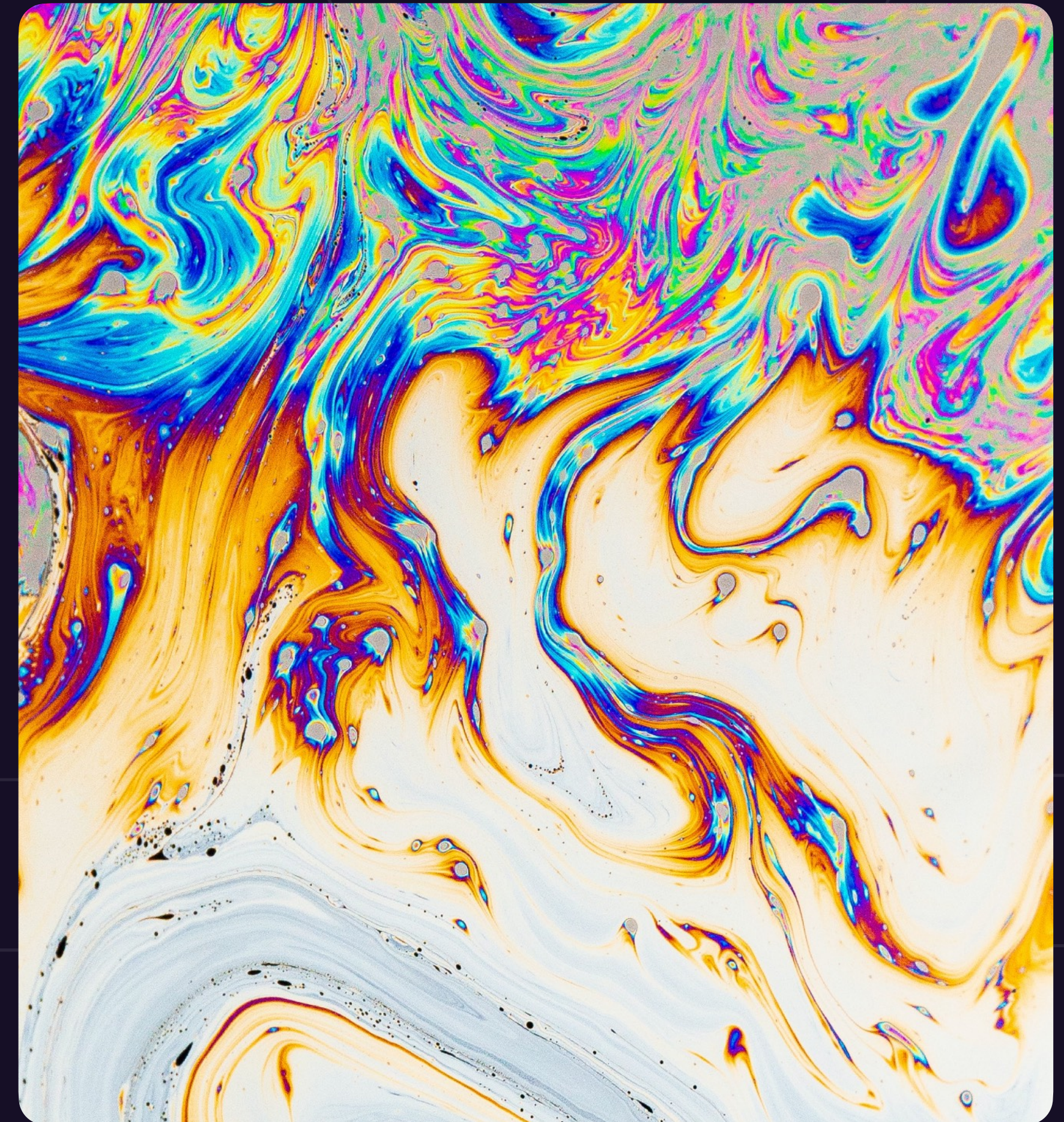
nf-core tools

Helper tools for users & developers

- Improved download capability
- More fine-grained control of pipeline creation from the nf-core template
- Helper tools for subworkflows & nf-test support

Coming soon..

- Rewritten launch and schema tooling
- User friendly terminal app, using Textual



⌘2

nf-core pipelines create

```
> nf-core pipelines create
```



py3.10 ~/GitHub/nf-core/tools/demo textual-create • python3.10 - zsh

Channels: The Nextflow Podcast

New podcast for developers!

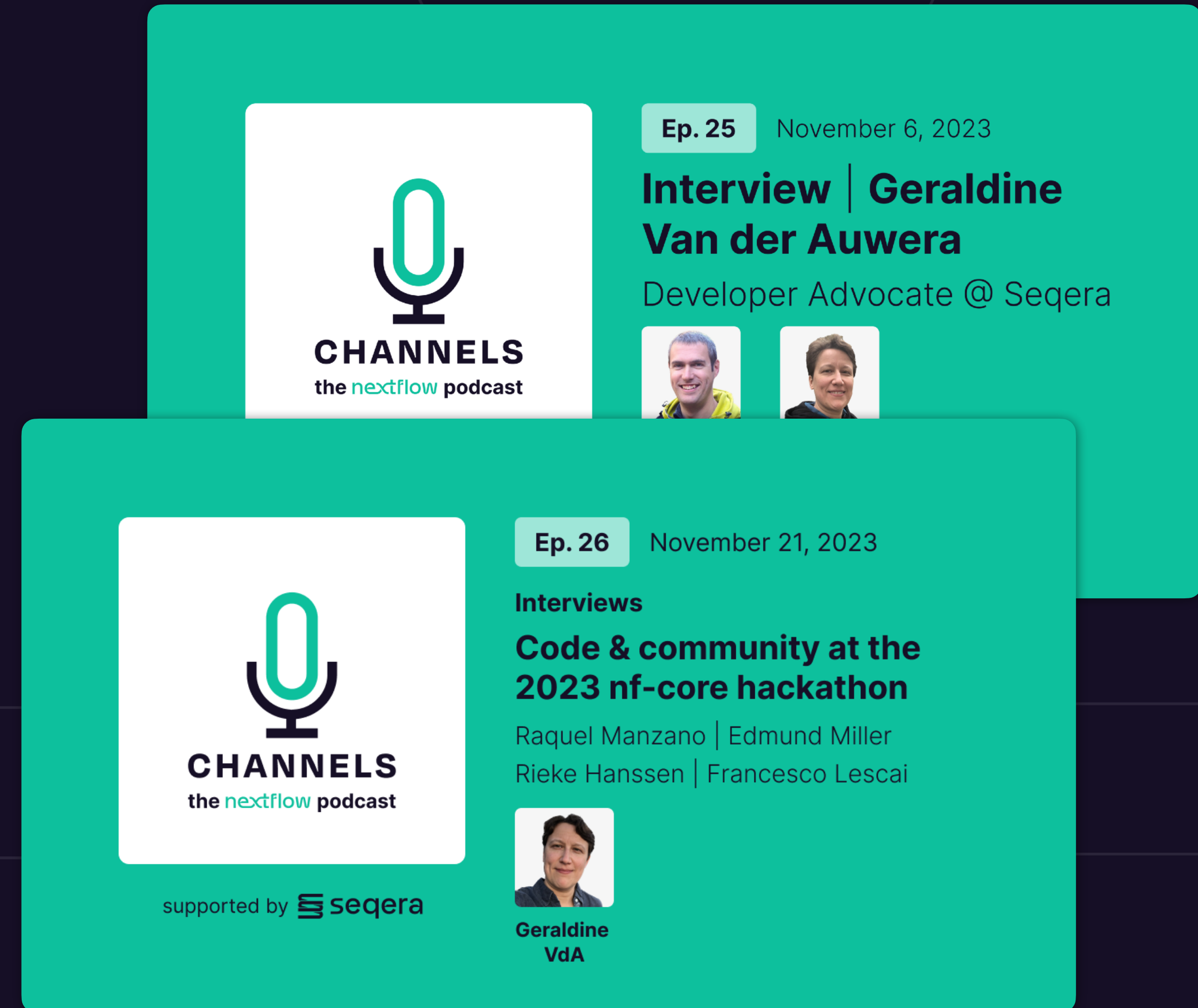
- New episodes every second Monday
- Technical deep dives with Nextflow developers
- Interviews with leaders in the field
- 24 episodes so far, each 30 mins - 1 hour
- Join us on Spotify, Apple Music, YouTube, Twitter (X)



Channels: The Nextflow Podcast

New podcast for developers!


- Ep20: Tower CLI, infrastructure as code and some Seqera road map previews
- Ep21: Live debugging Nextflow / Ambassadors
- Ep22: Better error messages
- Ep23: Clever containers: Wave & Wavelit
- Ep24: Requesting resources
- Ep25: Interview: Geraldine Van der Auwera
- Ep26: Community interviews



The image displays two overlapping podcast episode cards for 'Channels: The Nextflow Podcast'. The top card is for Episode 25, dated November 6, 2023, featuring an interview with Geraldine Van der Auwera, a Developer Advocate at Seqera. The bottom card is for Episode 26, dated November 21, 2023, featuring interviews from the 2023 nf-core hackathon with Raquel Manzano, Edmund Miller, Rieke Hanssen, and Francesco Lescai. Both cards include the podcast logo, a microphone icon, and a 'supported by Seqera' logo.

Ep. 25 November 6, 2023
Interview | Geraldine Van der Auwera
Developer Advocate @ Seqera

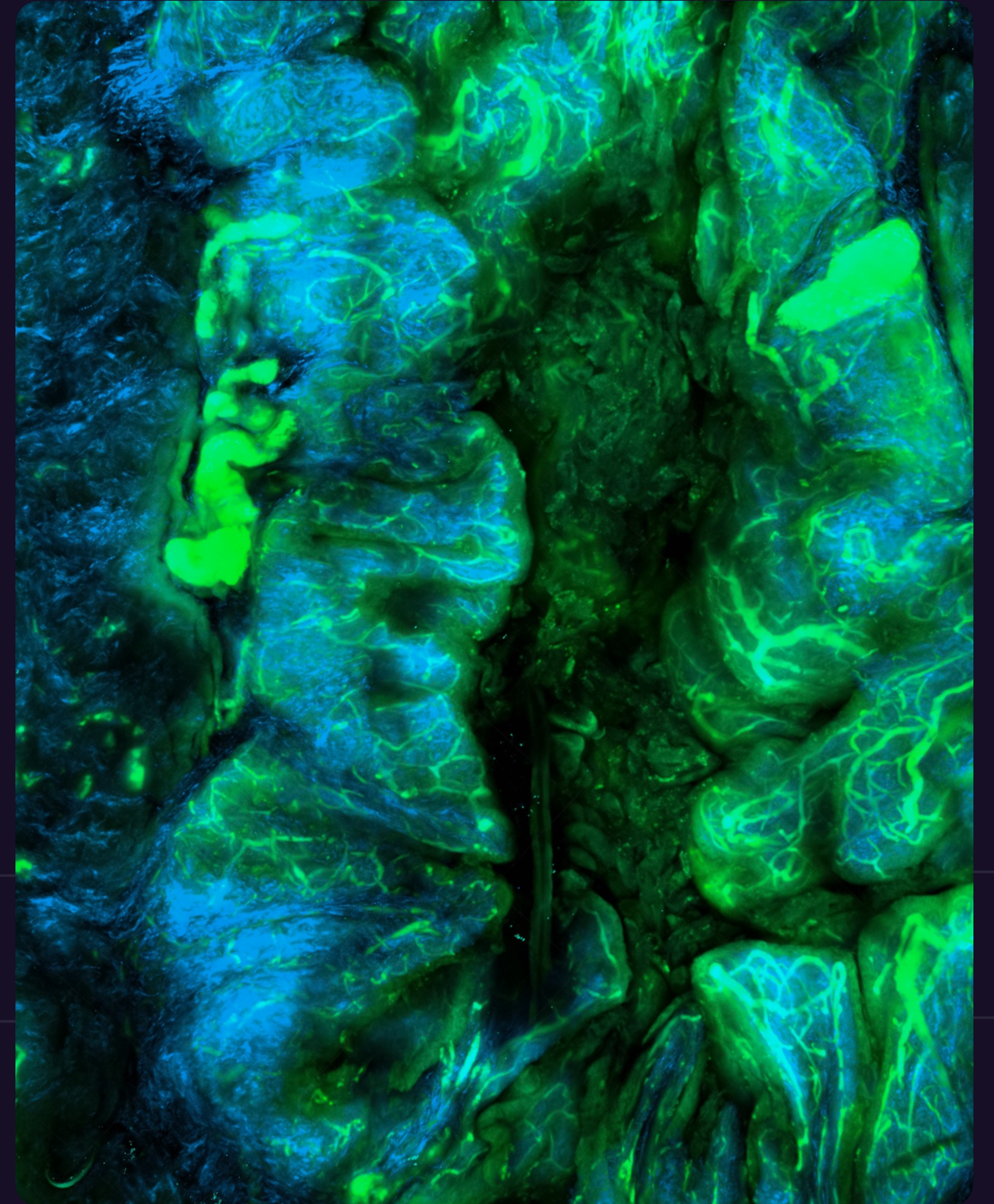
Ep. 26 November 21, 2023
Interviews
Code & community at the 2023 nf-core hackathon
Raquel Manzano | Edmund Miller
Rieke Hanssen | Francesco Lescai

supported by  seqera

Geraldine VdA

Community initiatives

New projects for the community



Nextflow Ambassadors

Introducing the Nextflow Ambassador Program – an initiative designed to foster **collaboration, knowledge sharing, and community growth**

Nextflow Ambassadors

What you get

What you do

How to apply

Help to shape and grow the Nextflow and nf-core communities



Receive training and get access to our content library



Access a travel fund for conferences; get support for local events



Get recognition for your work, as well as exclusive swag!



Nextflow Ambassadors

What you get

What you do

How to apply

Engage with the local, national, and international Nextflow community



Speak about Nextflow and nf-core at meetings and events



Running local events such as user groups, hackathons, and workshops



Writing or sharing tweets, blogs, articles, and technical docs



Nextflow Ambassadors

What you get

What you do

How to apply

nextflow.io/ambassadors >



We're looking for people who:

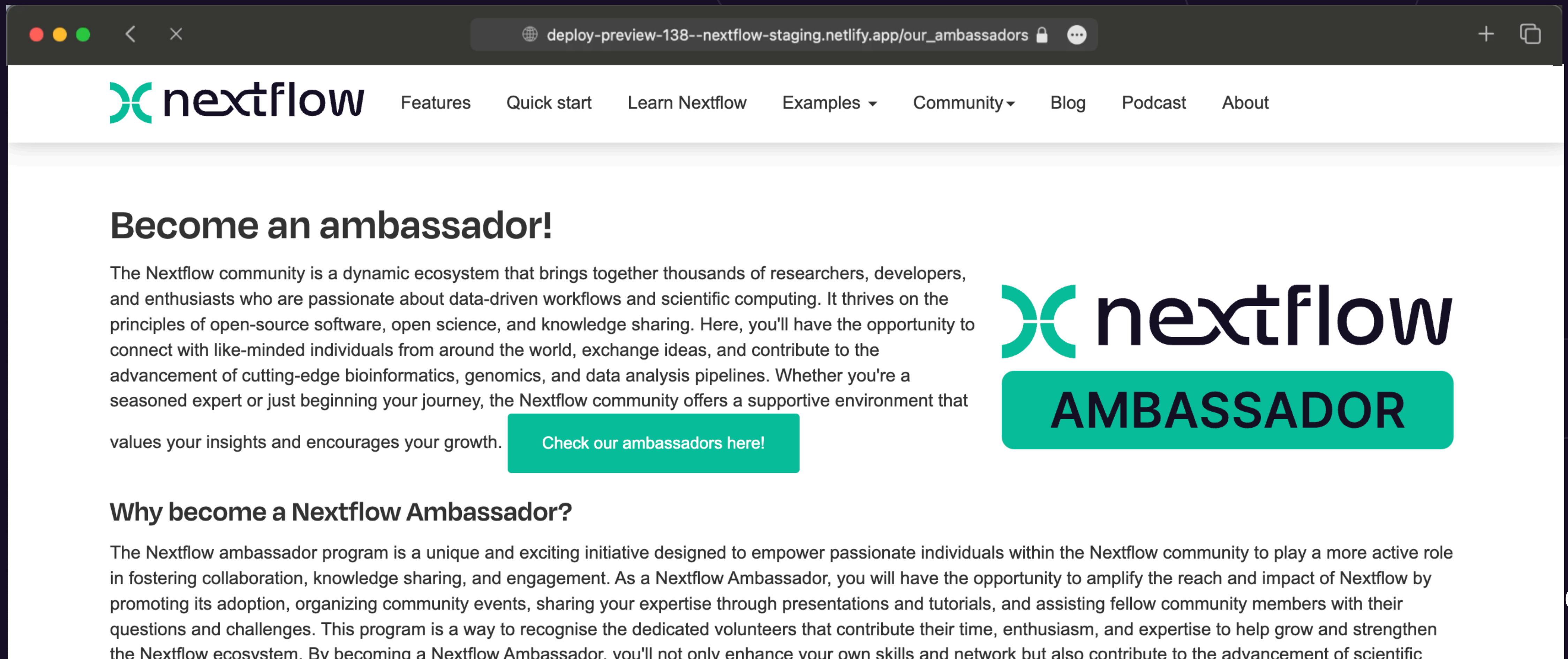
- Joined the Nextflow and nf-core community at least 6-months ago
- Share our information reliably and appropriately
- Have already participated in some of our events and/or initiatives
- Are willing to actively support the community as an ambassador for at least one year

Nextflow Ambassadors

What you get

What you do

How to apply



The screenshot shows a web browser window with the URL `deploy-preview-138--nextflow-staging.netlify.app/our_ambassadors`. The page features the Nextflow logo and a navigation menu with links for Features, Quick start, Learn Nextflow, Examples, Community, Blog, Podcast, and About. The main heading is "Become an ambassador!". Below it, a paragraph describes the Nextflow community as a dynamic ecosystem for researchers, developers, and enthusiasts. A teal button labeled "Check our ambassadors here!" is positioned at the end of the paragraph. To the right, there is a large Nextflow logo with the word "AMBASSADOR" in white text on a teal background below it.

nextflow

Features Quick start Learn Nextflow Examples Community Blog Podcast About

Become an ambassador!

The Nextflow community is a dynamic ecosystem that brings together thousands of researchers, developers, and enthusiasts who are passionate about data-driven workflows and scientific computing. It thrives on the principles of open-source software, open science, and knowledge sharing. Here, you'll have the opportunity to connect with like-minded individuals from around the world, exchange ideas, and contribute to the advancement of cutting-edge bioinformatics, genomics, and data analysis pipelines. Whether you're a seasoned expert or just beginning your journey, the Nextflow community offers a supportive environment that values your insights and encourages your growth.

[Check our ambassadors here!](#)

Why become a Nextflow Ambassador?

The Nextflow ambassador program is a unique and exciting initiative designed to empower passionate individuals within the Nextflow community to play a more active role in fostering collaboration, knowledge sharing, and engagement. As a Nextflow Ambassador, you will have the opportunity to amplify the reach and impact of Nextflow by promoting its adoption, organizing community events, sharing your expertise through presentations and tutorials, and assisting fellow community members with their questions and challenges. This program is a way to recognise the dedicated volunteers that contribute their time, enthusiasm, and expertise to help grow and strengthen the Nextflow ecosystem. By becoming a Nextflow Ambassador, you'll not only enhance your own skills and network but also contribute to the advancement of scientific

nextflow

AMBASSADOR

OW

Nextflow Ambassadors




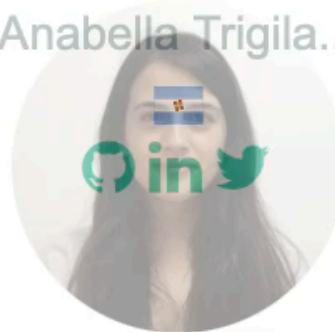




What you get

What you do

How to apply

nextflow Features Quick start Learn Nextflow Examples Community Blog Podcast About

Nextflow Ambassadors

 Abhinav Sharma	 Adam Talbot	 Alex Peltzer	 Anabella Trigila
	 Bhargava Morampalli		

Nextflow Ambassadors


What you get

What you do

How to apply

nextflow.io/ambassadors >

Read more in our blog post on nextflow.io!



**Nextflow
ambassador
handbook**

September 2023

Community Forum

A new home for the community across all Seqera tools, built with Discourse – brings **public access**, **scales with the community** and **fosters better structured discussion**

Community Forum



community.seqera.io



Sign Up

Log In



Welcome to the community!

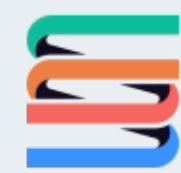
We're happy to have you here. If you need help, please search before you post.





- all categories ▾
- all tags ▾
- Categories
- Latest
- Top

Category

Topics

Latest

Seqera Platform (Tower)	0
 Collaborative data analysis at scale, on-premises or in any cloud.	

	  Welcome to Seqera Community!	1
	 Random	7 Aug

Community Forum

 nextflow

Introducing
community.seqera.io

[Learn more](#)

Read more in our blog post on nextflow.io!

community.seqera.io >

 nextflow

Geraldine Van de Auwera

New Seqera Lead Developer Advocate!

- Formerly worked at the Broad Institute with GATK, WDL, terra.bio
- Wrote the O'Reilly book "Genomics in the Cloud"
- Lives in Boston, USA 🇺🇸

Please get in touch if you'd like to work together on training, collaborative blog posts, podcasts, anything Nextflow related!



Thank you



Phil Ewels, PhD

Product Manager for Open Source
phil.ewels@seqera.io

