

SCIMMA Project

Enable and support the data flow
& collaborative networks of people
and instruments for MMA.

2-year conceptualization phase, NSF-funded.

Aim to address the needs of NSF MMA detection
and follow-up facilities (LIGO, IceCube, Rubin
Observatory, ++)

- University of Wisconsin-Milwaukee
- Columbia University
- Cornell University
- Pennsylvania State University
- Michigan State University
- University of Texas at Austin / TACC
- Las Cumbres Observatory / UCSB
- U. of Illinois at Urbana-Champaign
- University of Washington

+ numerous collaborators

<https://scimma.org/about/people.html>

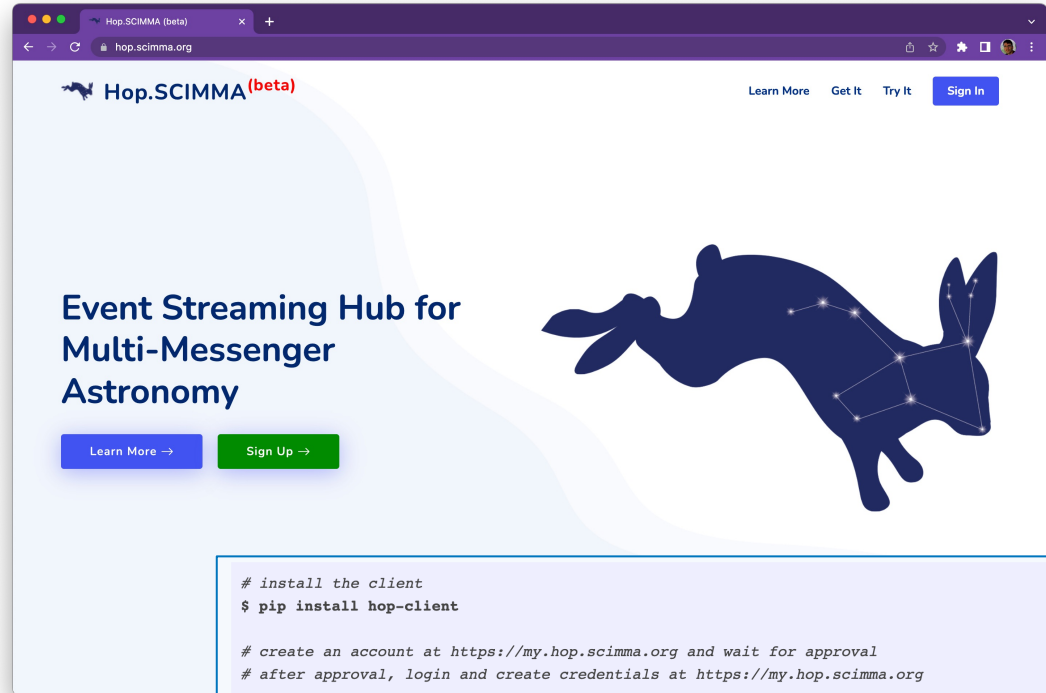
Hopskotch & Hop.SCIMMA (hop.scimma.org)

Hopskotch: A scalable, reliable, and extensible Pub-Sub system with IAM integration.

Python on the front-end, Apache Kafka on the backend. Demo video at <https://scim.ma/mub>.

Hop.SCIMMA: A scalable, low-latency, community message exchange hub.

Location for experiments to transmit alerts.
A single place for the community to connect to receive alerts.
Strong IAM integration (permissions).



```
# install the client
$ pip install hop-client

# create an account at https://my.hop.scimma.org and wait for approval
# after approval, login and create credentials at https://my.hop.scimma.org

# enter the credentials into the hop authentication prompts:
$ hop auth add

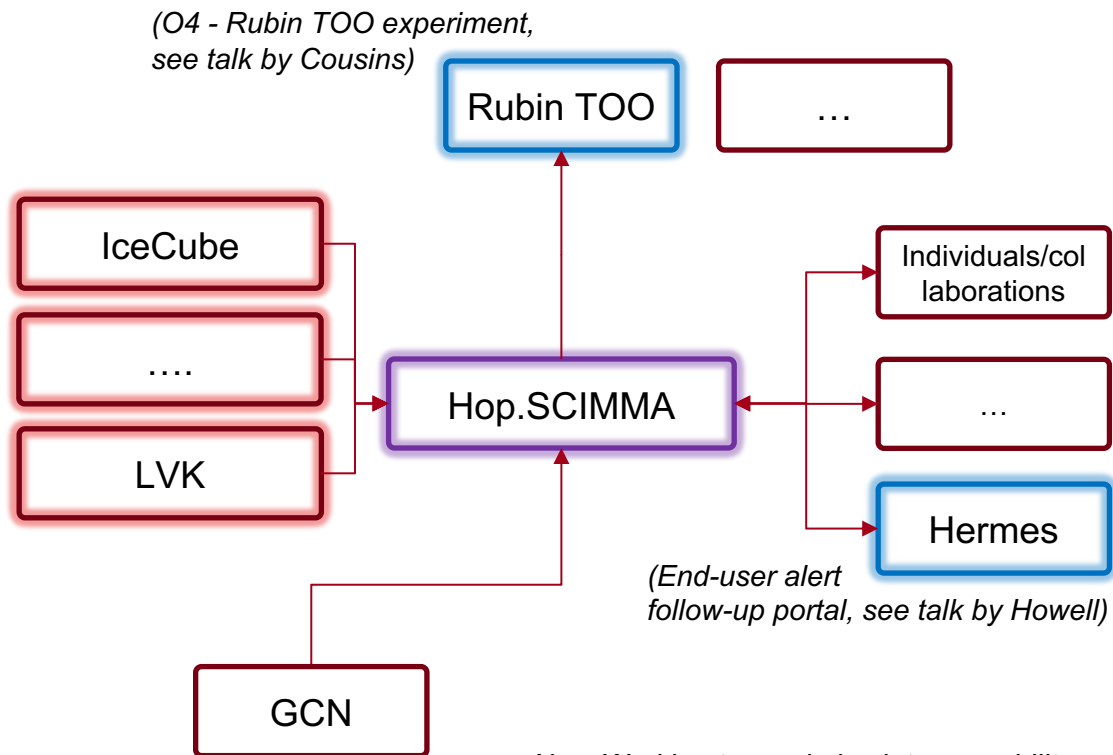
# receive test messages from the heartbeat stream (approximately one per second)
$ hop subscribe kafka://kafka.scimma.org/sys.heartbeat
```

Hop.SCIMMA: Providing an MMA Alert Hub

1. Endpoint to which to send an access-controlled, high-throughput, machine-readable stream of events, at which automated follow-up resources will be listening.

2. Hub for follow-up facilities and scientists to connect to, built to enable ad-hoc collaborations and follow-up campaigns.

3. Data source for high-level portals and apps (e.g. Hermes)

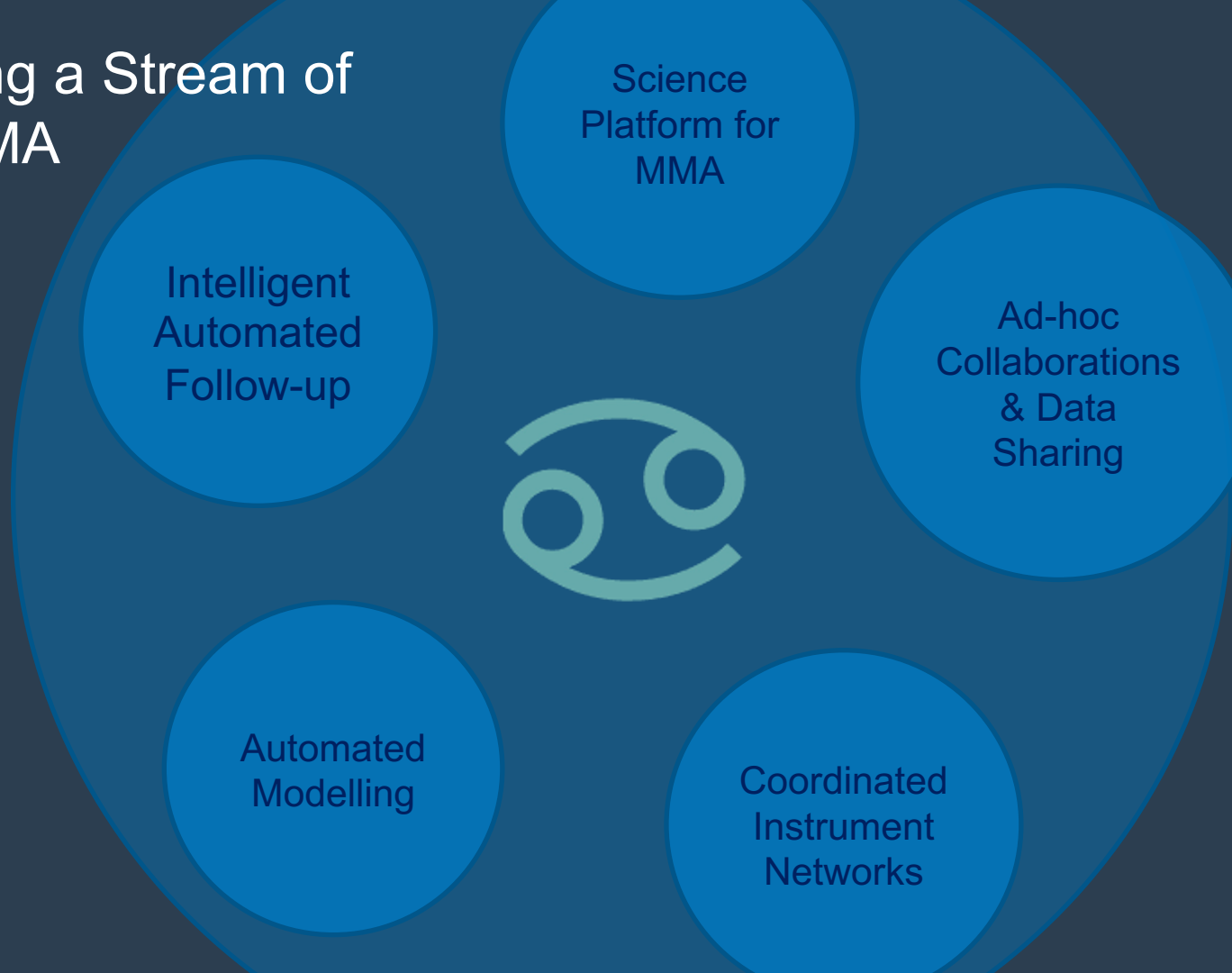


Also: Working to maximize interoperability with other systems (TACH, etc.).

SCIMMA: Enabling a Stream of Discoveries in MMA

Serving the MMA community by operating and supporting the development of cyberinfrastructure, systems, and algorithms for data-intensive multi-messenger science

Thank you!



Science
Platform for
MMA

Ad-hoc
Collaborations
& Data
Sharing

Coordinated
Instrument
Networks

Automated
Modelling

Intelligent
Automated
Follow-up