# Proposing an experiment at IOTA/FAST

Giulio Stancari for the IOTA/FAST Scientific Committee (ISC)

*Fermilab*

# Overview

- Experimental proposal guidelines [Beams-doc-7363]

Beams-doc-7363-v1 — June 6, 2019

## Proposing an experiment at IOTA/FAST

G. Stancari,* D. Broemmelsiek, and A. Valishev

*Fermi National Accelerator Laboratory, P.O. Box 500, Batavia, Illinois 60510, USA*

- The role of **researchers**, **collaborations** and of the **IOTA/FAST Scientific Committee (ISC)**

🔷 **Fermilab**

# Goals

- **Encourage vibrant scientific program**

- Establish fair and transparent resource and schedule **priorities**

- Ensure adequate **planning** of experiments

- **Document** research done at the facility

- **Keep process simple**, to serve a flexible facility with frequent apparatus

  modifications and experiments running in parallel

**🎇 Fermilab**

# Background

IOTA/FAST beam time is divided into **'runs'**. Each run typically lasts for a few months. Intermediate shutdowns are used for maintenance and installation of equipment.

Proposals can be submitted any time. The ISC meets ~monthly or more often if needed (e.g., during a run, when new ideas may emerge)
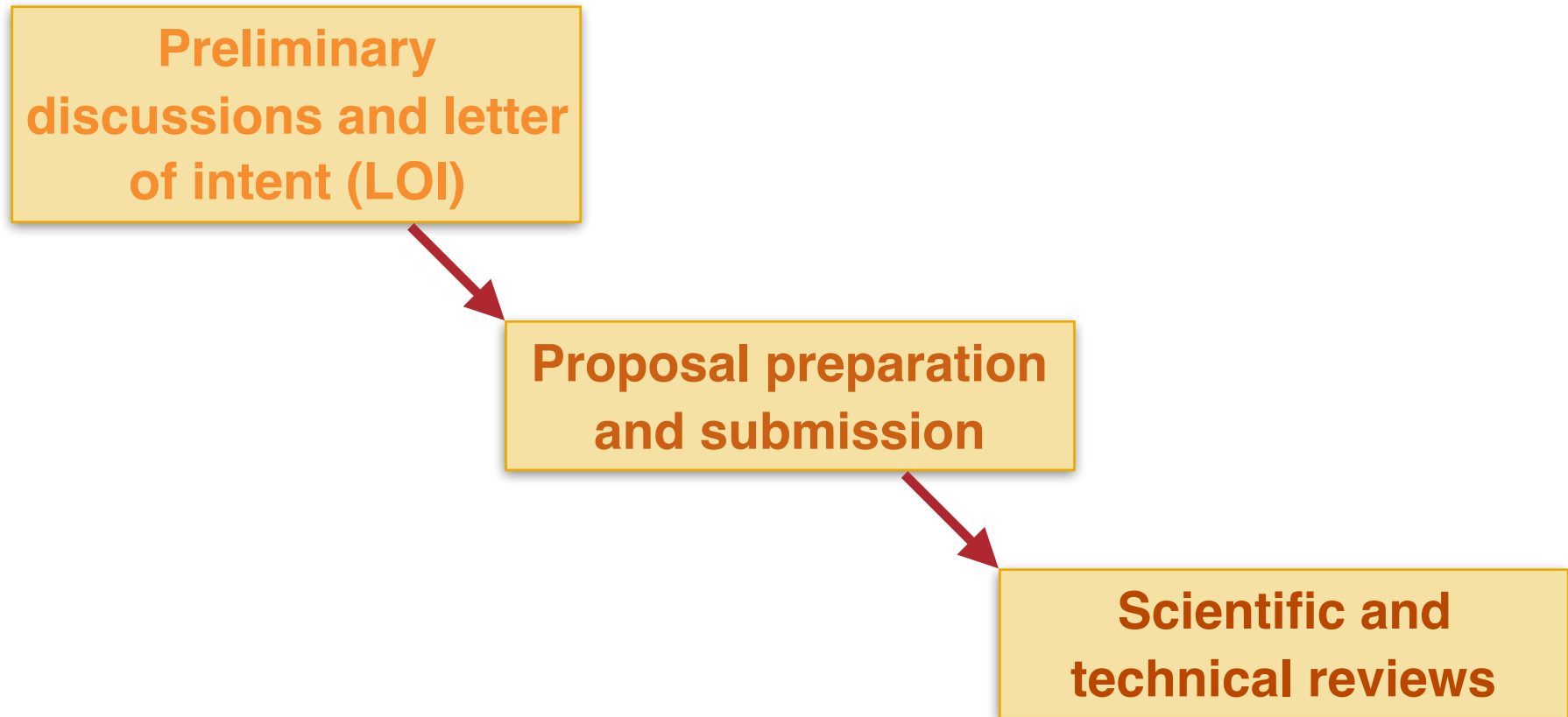
An **'experiment'** is defined by the scope of the proposal and it is usually completed within a run. A research program can span multiple runs and include more than one experiment or proposal (e.g., optical stochastic cooling)

Experiments designate a ***Spokesperson*** or Principal Investigator (PI) and, optionally, a ***Deputy Spokesperson***. If both are external, a ***Fermilab Liaison*** must be identified.

(Note: External users register as members of the *FAST/IOTA Collaboration*, which acts as a general *umbrella organization for administrative purposes*)

**🛠 Fermilab**

# Proposal process



Preliminary discussions and letter of intent (LOI)

Proposal preparation and submission

Scientific and technical reviews

🪐 Fermilab

# 1. Preliminary discussions and letter of intent (LOI)

Project is discussed with interested parties and with Fermilab staff

A **letter of intent** is sent by e-mail to one of the members of the ISC. The LOI is an <u>informal written document</u> (from a few paragraphs up to 4 pages).

The LOI helps define the scope of the experiment, makes the ISC aware of the request, and starts the proposal preparation process.

🔀 **Fermilab**

# 2. Proposal preparation and submission

The **formal proposal** is a detailed written document describing the scientific and technical aspects of the experiment.

The proposal includes:
- title
- personnel
- purpose and methods
- beam conditions
- apparatus and infrastructure
- run plan
- internal and external resources
- supporting documents and other relevant information

A template with instructions is available on the ISC web site:
`cdcvs.fnal.gov/redmine/projects/ifsc/wiki`

The written proposal is sent by e-mail to the ISC. An oral presentation is scheduled to discuss the proposal.

**�??Fermilab**

# 3. Scientific and technical reviews

The **scientific review** is carried out by the ISC. Evaluation is based upon scientific merit, as defined, for instance, by current literature, support of independent experts or relevance to the Fermilab program.

The **technical review** is coordinated by the Head of the FAST Facility Department. It includes safety, feasibility, resource availability, schedule and impact on other projects.

The **outcome** of the reviews may be
- *rejection* — with written motivation
- *deferral* — if more preparatory work is needed
- *approval* — the experiment is included in the experimental program and operations schedule

More information on the *technical review* and on the *path from approval to running* is discussed in →Broemmelsiek's talk

🟦 **Fermilab**

# Approved experiments: documentation and communication

It is expected that approved experiments

- Maintain a **web site** with documents, pictures, data, computer code, internal notes, papers, etc. (Infrastructure at Fermilab is available through Redmine if experimenters choose this option.)

- Give brief and regular **status updates** during the run (~10-min talk, every 2 weeks at Friday IOTA/FAST group meeting)

- **Publish** results as soon as possible (at least one report within 6 months of run). For instance: peer-reviewed papers, conference proceedings, Fermilab Technical Memos, Beams-doc notes, or a combination of these.

🪶 **Fermilab**

# Members of the Committee

Currently:

- **Giulio Stancari** (chair) *Head of the Accelerator Research Department*
- **Dan Broemmelsiek** *Head of the FAST Facility Department*
- **Alexander Valishev** *Head of the Accelerator Science and Technology Sector*

It is expected that membership will be extended to scientists outside Fermilab

Depending on the scope of the proposed experiments, other experts may be consulted occasionally

🎗 **Fermilab**

# Conclusions

The IOTA/FAST facility is dedicated to **research and education in beam physics and accelerator technology**. An active and vibrant **research program has started**. Results are presented at this workshop.

Ideas and **proposals are welcome** — they are the foundation of the scientific program

The **IOTA/FAST Scientific Committee (ISC)** was formed to **review proposals** and to **formulate priorities** for the next runs

**Guidelines** for proposal submission have been published

**Please contact us with questions or comments**

ISC web site: `cdcvs.fnal.gov/redmine/projects/ifsc/wiki`
Proposal guidelines: `Beams-doc-7363`

*Thank you for your attention*

🔀 **Fermilab**