

Global Virtual Research Organizations

FIM4R11

McGill University, Montreal, Quebec – Sept. 18, 2017

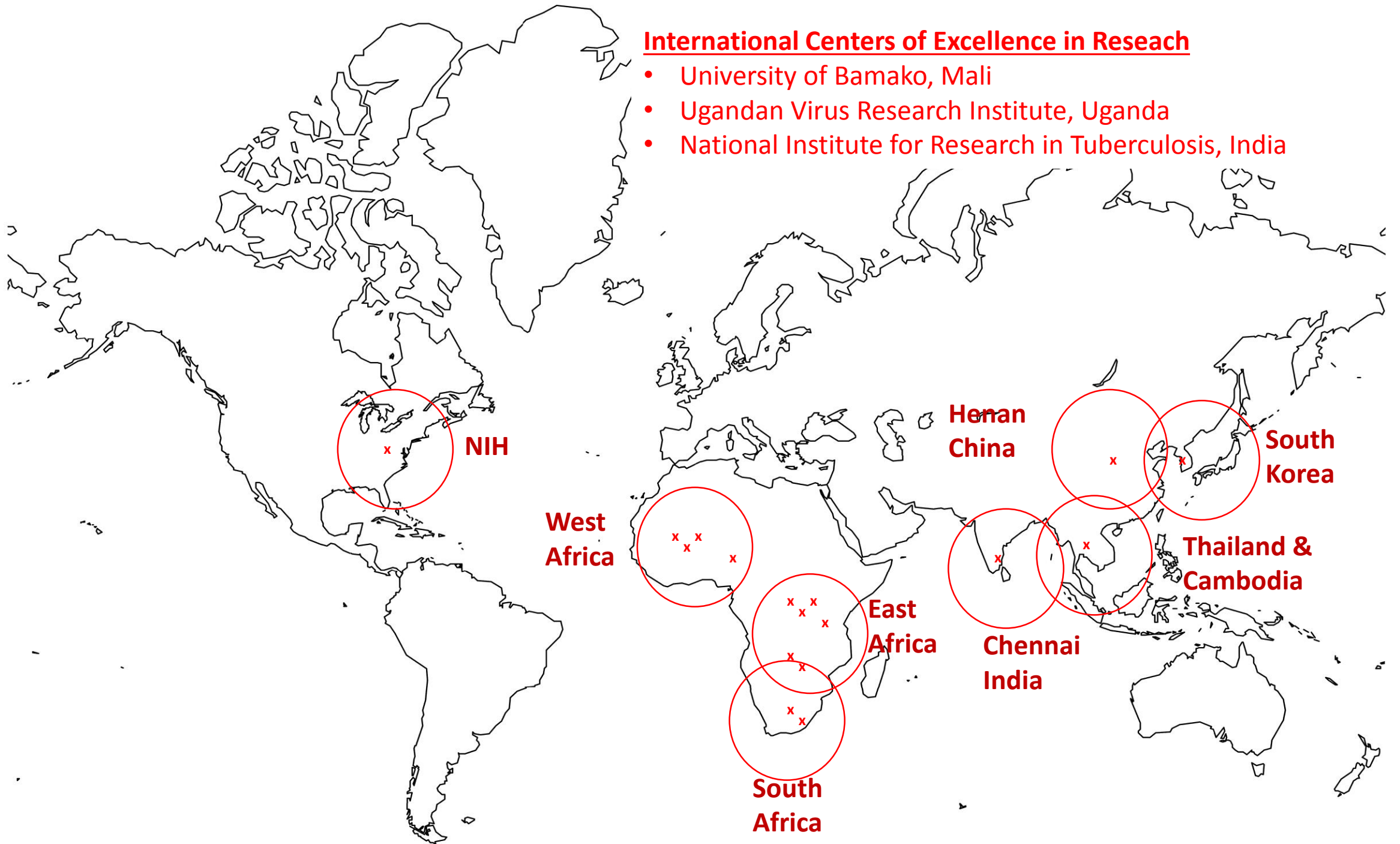
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International Cyberinfrastructure Program

National Institute of Allergy and Infectious Diseases, NIH

International Centers of Excellence in Research

- University of Bamako, Mali
- Ugandan Virus Research Institute, Uganda
- National Institute for Research in Tuberculosis, India



In the beginning we had this idea of a VRO....

- Many services
- Many users from many institutions
- Scientists around the world coming together to work
 - To collaborate
 - To innovate
- They would not need to have new credentials managed by us
- They would bring credentials from their own institution
- We would know them
- And because we knew them, we could group them with their collaborators
- And it was a good idea

NIAID VRO – Milestones and missteps phase 1 & 2

An entity in every pot

- Phase 1 – Distributed Service Providers – 17% success rate
 - Comanage
 - Shibboleth Service Providers – Comanage and SharePoint
 - Shibboleth Identity Providers at the African NIH sponsored centers
 - NIH Sponsored the sites in Mali and Uganda into InCommon
 - ADFS – Custom Attribute Store for SharePoint
 - Eduroam for International Center of Excellence in Research in Mali and Uganda through the local NREN/Trust Federations (WACREN/MaliREN and RENU)

NIAID VRO – Milestones and missteps of phase 1 & 2

One entity to rule them all

- Completed May 2017
- Phase 2
 - SaToSa: IdP-SP Proxy
 - Moved service providers behind the proxy
 - SharePoint
 - REDCap
 - BioLinux servers (OpenStack under development in Uganda)
 - Comanage
 - Internal Only Services
 - AWS
 - Slack
 - Eduroam and IdP for the site in India through INFLIB

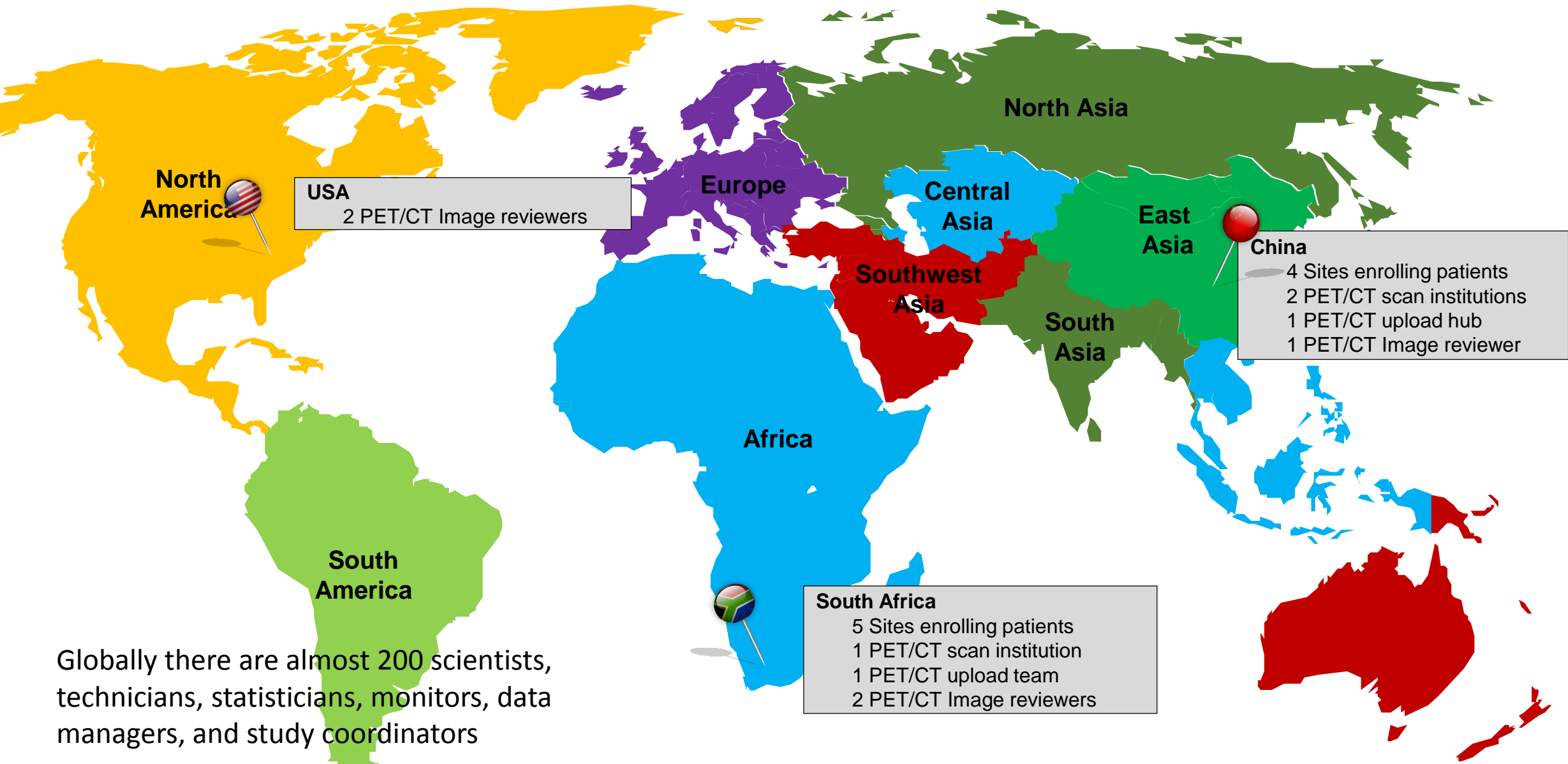
Predict TB

Status of the TB epidemic and MDR-TB crisis - 2016

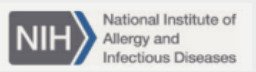


- ❖ 10.4 Million new cases
- ❖ 10% are < 18 years
- ❖ 580,000 new cases of MDR TB
- ❖ 45% of the MDR TB cases are in India, China, and the Russian Federation
- ❖ 1.4 million deaths
- ❖ .4 million TB+HIV deaths

PredictTB: Global footprint



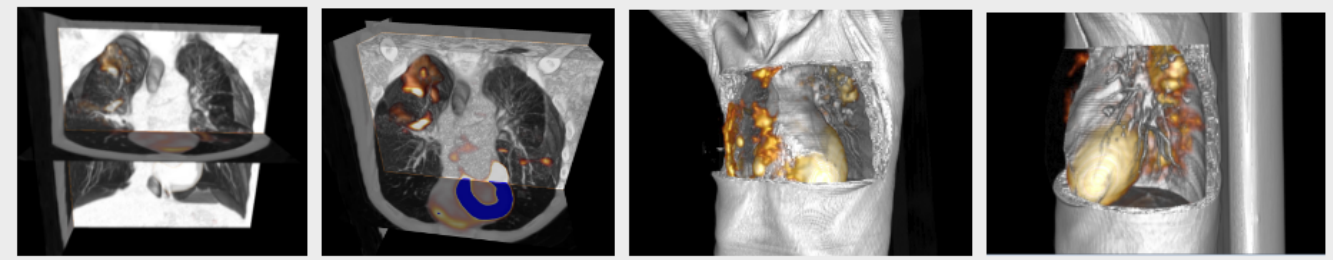
Globally there are almost 200 scientists, technicians, statisticians, monitors, data managers, and study coordinators



PredictTB Space 信息共享空间

Search this site

- Home
- Study Documents
 - 研究文件
- Data Reports
 - 数据报告
- QC Reports
 - 质量控制报告
- Image Reviews
 - 图像审查
- Meetings
 - 会议
- Open DSMB Reports
 - 公开DSMB报告
- Annual Report Forms
 - 年度报告表
- FAQ
 - 经常问的问题
- Links
 - 链接
- Participant Scheduling Database
 - 患者计划数据库
- Action Log
 - 行动项目
- Study Calendar
 - 研究日历
- Team Contact Details
 - 团队联系方式
- EDIT LINKS

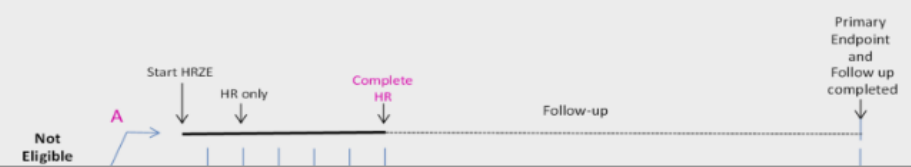


The World Health Organization estimates that the global epidemic of tuberculosis (TB) was responsible for approximately 10.4 million TB cases worldwide in 2015 alone. This high prevalence of TB along with the growing number of drug-resistant cases urgently requires interventions to help shorten the duration of TB chemotherapy.

Shortening treatment for TB has been an important goal for over 30 years. During this time, the treatment duration for drug susceptible TB was successfully shortened from 24 to 6 months. Recent studies that attempted shortening to less than 6 months, however, all failed and thus six months remains the standard treatment duration for drug susceptible TB. Despite this, evidence suggests that most patients do not require such an extensive treatment duration but identifying those cured before 6 months has proven challenging. PredictTB makes use of state-of-the-art tools (specifically, ¹⁸F]-FDG PET/CT imaging and GeneXpert) to identify participants with a lower burden of disease who have a strong early response to treatment, and will test whether treatment can be shortened to 16 weeks in this lower risk cohort. The study hypothesizes that a combination of radiographic characteristics at baseline, the rate of change of these features at one month, and markers of residual bacterial load at the end of treatment will identify patients with tuberculosis who are cured with 4 months (16 weeks) of standard treatment.

PredictTB is a prospective, randomized, phase 2b noninferiority trial, with three study groups:

- a non-randomized higher risk cohort (Arm A), undergoing standard treatment, and
- two groups from a lower risk cohort who are randomized to standard treatment (Arm B) or to shortened treatment (Arm C).



Predict TB – Lessons Learned for VROs

- Enrollment process
 - Incomprehensible to users
 - Conscripted partial solution (for known IdPs)
 - Administrator training
 - Identity Aggregation critical but difficult to understand
- Authentication
 - Working with Federations
 - Working with Academic IdPs
 - Desperately seeking Commercial IdPs (in China)
 - IdPoLR
- Staffing operations vs development
- Confusion in Discovery

New Federation Development

CARSI – CERNET Authentication and Resource Sharing Infrastructure 中文版(Chinese)



NIH

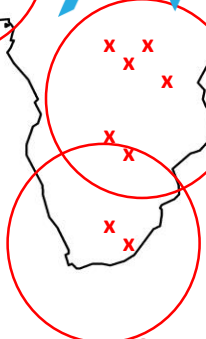


West Africa

WACREN



RENU



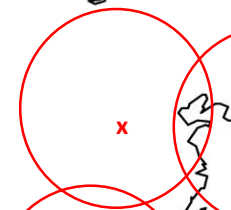
South Africa



Chennai India



Henan China



Thailand & Cambodia

South Korea



NIAID VRO - Discovery

Who am I and where do I come from?



Computer Centre in Gdansk (CI TASK)

Phase 3.5 - Discovery

NIAID Science Forum Login

Please select your login server

Select a previous choice



[National Institutes of Health](#)



[ICER - Mali](#)

SHOW COMMON CHOICES

FIND MY LOGIN SERVER

NIAID Science Forum Login

Please select your login server

SHOW PREVIOUS CHOICES

Select a common choice



[ICER - Mali](#)



[National Institutes of Health](#)



[University of Cape Town](#)



[Google](#)



[ICER - Uganda](#)



[Windows Live \(Hotmail\)](#)



[University of Maryland Baltimore](#)



[NCSA](#)



[Yahoo!](#)



[University of Wisconsin-Milwaukee](#)



[Universität Bern](#)



[University of Florida](#)



[Weibo](#)

FIND MY LOGIN SERVER

Trust and the VRO

- How do we build trust behind the Proxy wall?

Organization Name: **Carnegie Mellon University**

Information URL: <http://www.cmu.edu/>

Number of Entities: 1 IdP; 553 SPs

Identity Provider: [Carnegie Mellon University](#)

Service Providers: [2fa Production](#)
[AB Tech DS Web Application](#)
[ABTech Club Website](#)
[ABTech Tracker Dev](#)
[AC APP Test Environment](#)
[AC application](#)
[ACIS Administrative System](#)
[ACIS dev](#)
[ACR Development System](#)
[ACR Service](#)
[ADFS development server](#)
[AWA Dev](#)
[AWA Development Server](#)
[AWA Production](#)
[AWA QA](#)
[AWA QA Server 4](#)
[AWA QA2](#)
[AWA Server](#)
[Accounts Test](#)
[Accounts service page](#)
[ActiveMQ test environment](#)
[Activities Board Signage App](#)
[Administrative Services Printing](#)
[Administrative Services Web Server](#)
[Advance Web QA server](#)
[Advancement Web Production Server Instance](#)
[Advancement Web Test Server Instance](#)
[Al's Ubuntu Shibboleth Test](#)
[Andrew 3 / RHEL 6 shibboleth configuration testing](#)
[Andrew Health System Service](#)
[Andrew Mailing List Service](#)
[Andrew Metrics server](#)
[Andrew Reporting Development Server](#)
[Andrew Reporting Server](#)
[Andrew Reporting Test Server](#)
[Andrew Web Publishing Development](#)
[Andrew Web Publishing System](#)
[Andy Puppet Test Service](#)

NIH – InCommon Metadata

- <https://www.incommon.org/federation/info/org.html?orgName=National%20Institutes%20of%20Health>

Organization Name: **National Institutes of Health**

Information URL: <http://www.nih.gov/>

Number of Entities: 3 IdPs; 12 SPs

Identity Providers: [ICER - Mali](#)
[ICER - Uganda](#)
[National Institutes of Health](#)

Service Providers: [NIAID ICER Collaboration Manager](#)
[NIAID ICER Collaboration Manager \(development\)](#)
[NIAID ICER-Mali Federation Gateway](#)
[NIAID ICER-Uganda Federation Gateway](#)
[NIAID Science Forum Development Federation Gateway #2](#)
[NIAID Science Forum Federation Gateway](#)
[NIAID Science Forum Federation Gateway \(deprecated\)](#)
[NIAID Science Forum Mobile Data Capture Service \(Development\)](#)
[NIAID Science Forum SharePoint Services](#)
[NIH Dev SP](#)
[NIH SP](#)
[Scien-CV](#)

Published Proxy Services

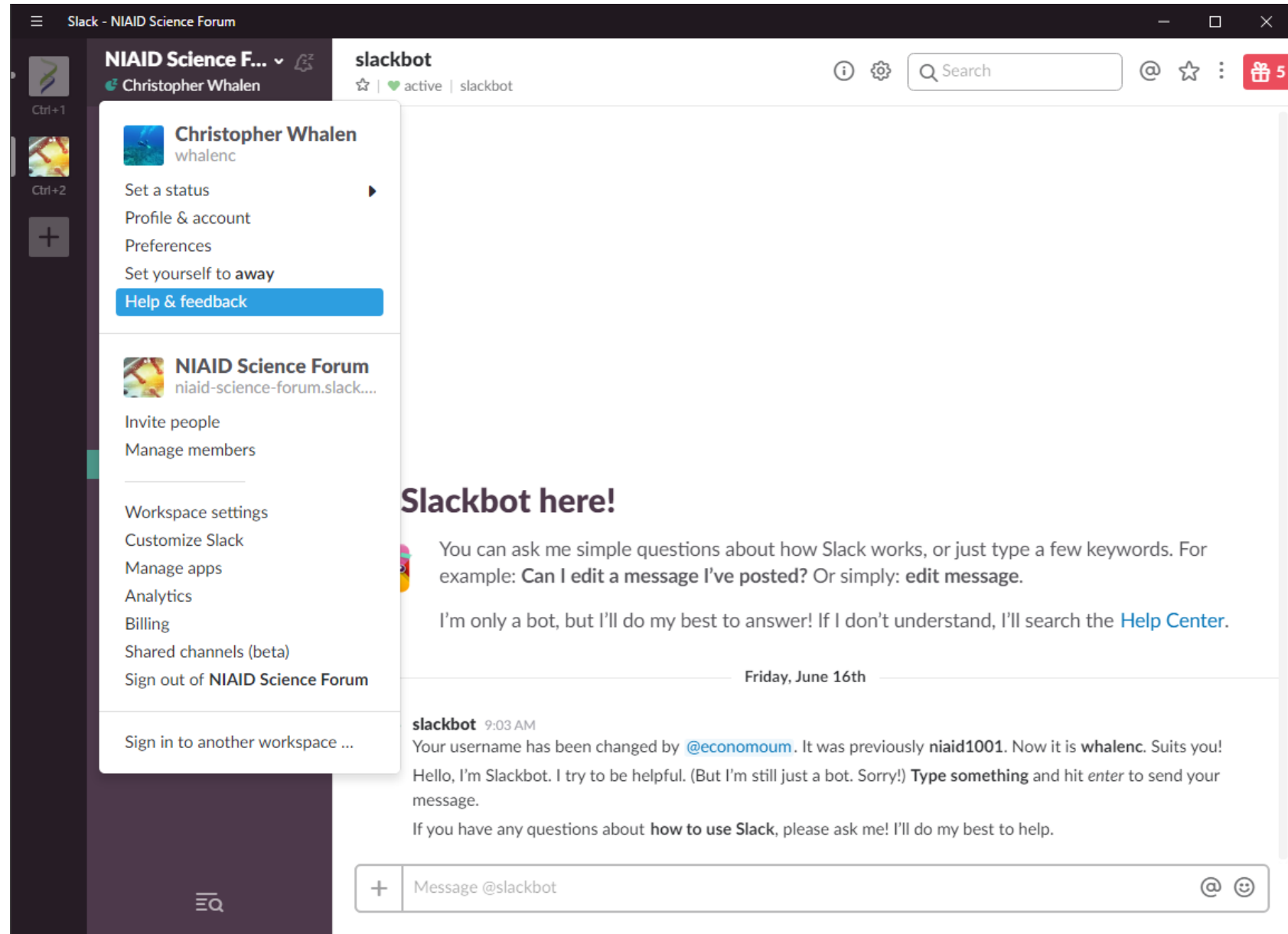
The screenshot shows a web browser window displaying a SharePoint page. The browser's address bar shows the URL: <https://www.scienceforum.sc/SitePages/Service%20Provider%20Information%20for%20federation.scienceforum.sc.aspx>. The page title is "Service Provider Information for federation.scienceforum.sc".

The page content includes a navigation menu on the left with links to Home, Documents, Comanage Registry, Slack Team, ICER-Mali SharePoint, and Site Contents. The main content area features the NIAID Science Forum logo and a search box. The text describes the web application as a SATOSA deployment supporting the NIH/NIAID International Centers for Excellence in Research. It provides the entity ID <https://federation.icer.niaid.nih.gov/satosa> and explains that the deployment acts as a gateway to other web application servers. A list of proxied web applications is provided:

- <https://registration.scienceforum.sc/>
- <https://www.scienceforum.sc/>
- <https://agora.icermali.org/>
- <https://mcap.scienceforum.sc/>
- <https://mcap.icermali.org/>
- <https://mcap.rhsp.org/>
- <https://mcap.nirt.res.in/>
- <https://esurvey.scienceforum.sc/>
- <https://niaid-science-forum.slack.com/>
- <https://console.aws.amazon.com/>
- <https://dashboard.meraki.com/>
- <https://dashboard.panorama9.com/>
- <https://dev.scienceforum.sc/>
- <https://mcap-dev.scienceforum.sc/>
- <https://tableau-dev.ibrsp.org/>

The gateway receives eduPerson Principal Name from a trusted identity provider and sends that attribute to proxied web applications, listed above, as a claim.

What does it mean to have commercial services behind a proxy?



The screenshot shows a Slack interface for the workspace "NIAID Science Forum". On the left, a user menu is open for "Christopher Whalen" (username: whalenc). The menu includes options: "Set a status", "Profile & account", "Preferences", "Set yourself to away", "Help & feedback" (highlighted), "NIAID Science Forum" (workspace name), "Invite people", "Manage members", "Workspace settings", "Customize Slack", "Manage apps", "Analytics", "Billing", "Shared channels (beta)", "Sign out of NIAID Science Forum", and "Sign in to another workspace ...".

The main chat area shows a message from "slackbot" (active) dated "Friday, June 16th". The message reads: "Slackbot here! You can ask me simple questions about how Slack works, or just type a few keywords. For example: Can I edit a message I've posted? Or simply: edit message. I'm only a bot, but I'll do my best to answer! If I don't understand, I'll search the [Help Center](#)." Below this is a timestamp "Friday, June 16th" and another message from "slackbot" at "9:03 AM" stating: "Your username has been changed by @economoum. It was previously niaid1001. Now it is whalenc. Suits you! Hello, I'm Slackbot. I try to be helpful. (But I'm still just a bot. Sorry!) **Type something** and hit *enter* to send your message. If you have any questions about **how to use Slack**, please ask me! I'll do my best to help."

At the bottom, there is a message input field containing "Message @slackbot" and a "5" notification badge in the top right corner.

Acknowledgements

- NIAID

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Jaskiran Singh

- Spherical Cow

Scott Koranda

Heather Flanagan

Benn Oshrin

- Internet2

Ann West

Kevin Morooney

Nick Roy

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Thank you