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# **Collaboratories for HIV/AIDS Research in Southern Africa**

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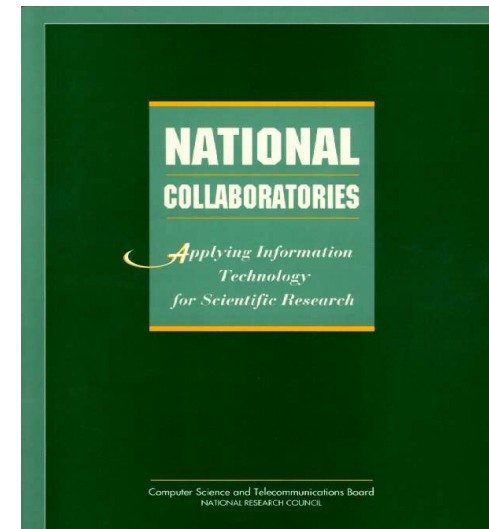
# Organization of Talk

- ▶ Definition of “collaboratory”
- ▶ Lessons learned from past collaboratories
- ▶ Risk mitigation
- ▶ HIV/AIDS research in southern Africa
- ▶ Specific activities
- ▶ Beyond these initial projects



# The Collaboratory Concept

- ▶ **Collaboratory** <-- Collaborate + Laboratory
- ▶ W. Wulf -- “... a ‘**center without walls,**’ in which the nation’s researchers can perform their research without regard to geographical location” (1989)
- ▶ Many collaboratory initiatives
  - ▶ US, EU, etc.





# Definition of a Collaboratory

- ▶ A collaboratory is an organizational entity that **spans distance**, supports rich and recurring **human interaction** oriented to a **common research area**, and provides **access** to data sources, artifacts and tools required to accomplish research tasks.



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An alliance to advance understanding of collaborative research

[www.scienceofcollaboratories.org](http://www.scienceofcollaboratories.org)



# Lessons Learned

- ▶ Collaboration readiness
  - ▶ Experience & attitude about working together
  - ▶ Real need to collaborate
- ▶ Collaboration infrastructure readiness
  - ▶ Technical
  - ▶ Human – adequate technical support
- ▶ Collaboration technology readiness



# Collaboration technology readiness

- ▶ Technologies requiring minimal training
  - ▶ Electronic mail
  - ▶ Electronic mail with attachments
  - ▶ Using repositories
  - ▶ Group calendaring
- ▶ Technologies requiring training in both collaboration and the tools
  - ▶ Creating repositories
  - ▶ Hand-off collaboration
  - ▶ Synchronous collaboration



# Lessons Learned

- ▶ Collaboration readiness
    - ▶ Experience & attitude about working together
    - ▶ Real need to collaborate
  - ▶ Collaboration infrastructure readiness
    - ▶ Technical
    - ▶ Human – adequate technical support
  - ▶ Collaboration technology readiness
- ▶ **All essential for collaboratory success**

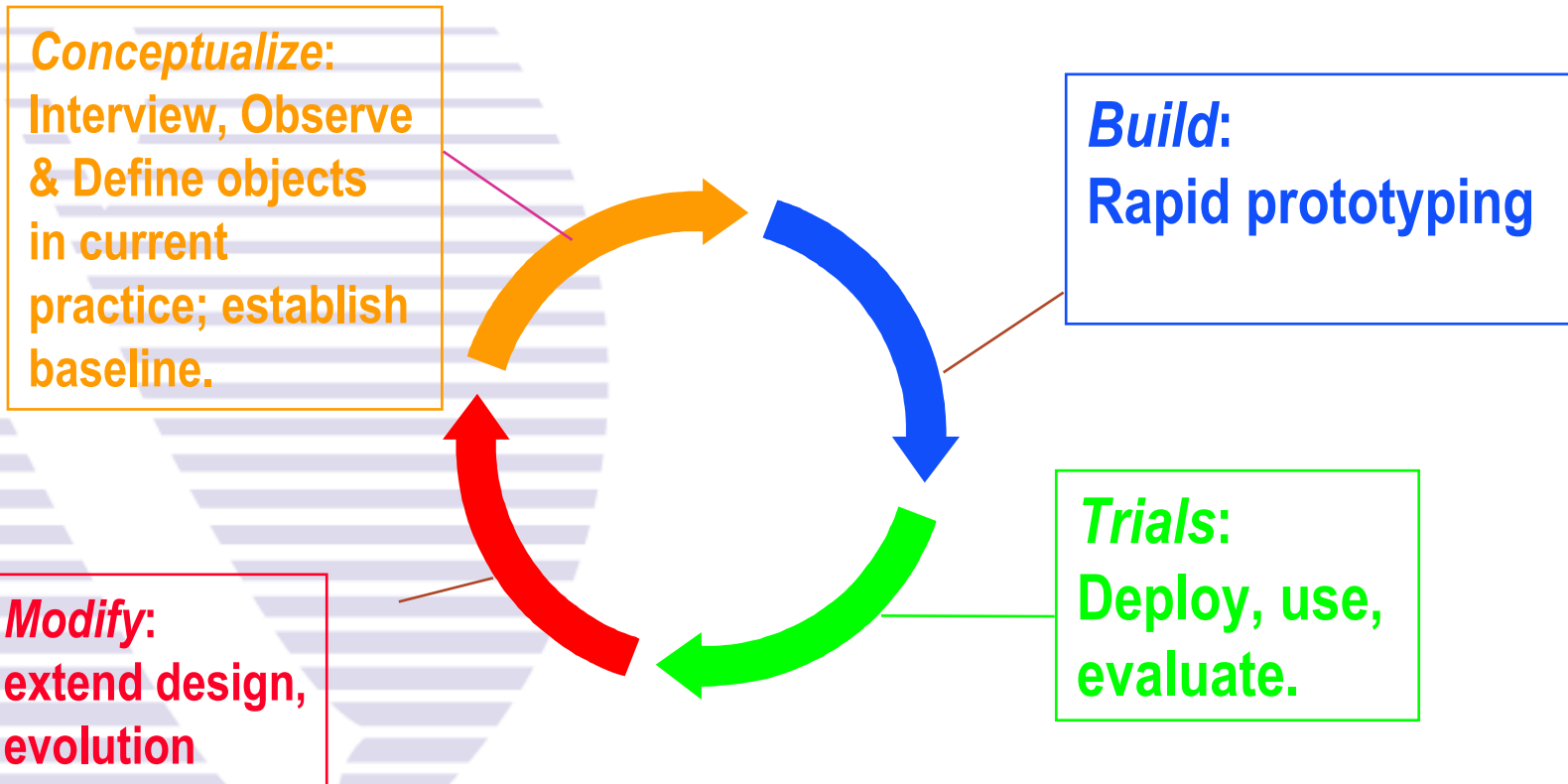


# Risk Mitigation

- ▶ How can we ensure collaboratory success?
- ▶ Two related approaches
  - ▶ User-centered design
  - ▶ Longitudinal evaluation



# User-centered Iterative Rapid-Prototyping Approach to System Design





# Longitudinal Evaluation

- ▶ Continuous evaluation
  - ▶ Surveys, interviews
  - ▶ System usage
- ▶ Examples from our experience
  - ▶ Effects on training & education
  - ▶ Elaboration & maintenance of social networks
  - ▶ Emergence of new organizational forms



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# Challenge: Collaboratories in Africa?

- ▶ Less developed technical infrastructure
- ▶ More mixed experience with relevant applications
- ▶ But very high motivation

# Prior Experience with Distance Education Between US & SA (Cotelco Project)



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- ▶ University of Michigan
  - ▶ Ann Arbor, MI
- ▶ University of the Witwatersrand
  - ▶ Johannesburg, South Africa
- ▶ American University
  - ▶ Washington, DC
- ▶ University of Fort Hare (Joined 2000)
  - ▶ Alice, South Africa
- ▶ Howard University (Joined 2001)
  - ▶ Washington, DC
- ▶ University of Pretoria (Joined 2002)
  - ▶ Pretoria, South Africa





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Prof. Cogburn with class in Pretoria



# Tools that Work

- ▶ Voice conferencing – voice over IP
- ▶ Application sharing – share any relevant work artifact
- ▶ These are the two most powerful collaboration technologies in ANY setting



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Address <http://centra.communitytechnology.org/main/User/Homepage.jhtml?dmy=1051703141327&jrunsessionid=...>

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# Centra

Help Tutorial System Check

**Gary Olson**

My Schedule

- My Schedule
- Event List
- My Profile
- Downloads
- Cleanup Tool

**Leader**

Upcoming	Ongoing	Past
<b>Event</b>		<b>Start Time</b> ▼
5 2003.04.30 IARC Meeting		4/30/03 8:00 AM EDT

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## Centra Symposium - 2003.04.30 IARC Meeting (Main Room)

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### Definition of a Collaboratory

```
graph TD; People --> Information; People --> Instruments; Information --- Instruments;
```

- A collaboratory is a network-based facility and organizational entity that **spans distance**, supports rich and recurring **human interaction** oriented to a **common research area**, fosters contact between researchers who are both known and unknown to each other, and provides **access** to data sources, artifacts and tools required to accomplish research tasks.

Presenters: Matt

Participants: Gary

Agenda: Who Are We, Definition of a Collaboratory, Sampling of C...

Recording

Network: [Progress Bar]

Centra Session between US and SA



# Two Similar Projects in Africa

- ▶ Basic research on the nature of HIV-C
- ▶ Clinical trials
  - ▶ Mother-infant transmission
  - ▶ Antiretroviral (ARV) Therapies
  - ▶ Vaccine candidates
- ▶ Education
  - ▶ Members of the public
  - ▶ Health care workers



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## South Africa

### 1. Project Participants

Partners AIDS Research  
Center, Harvard U

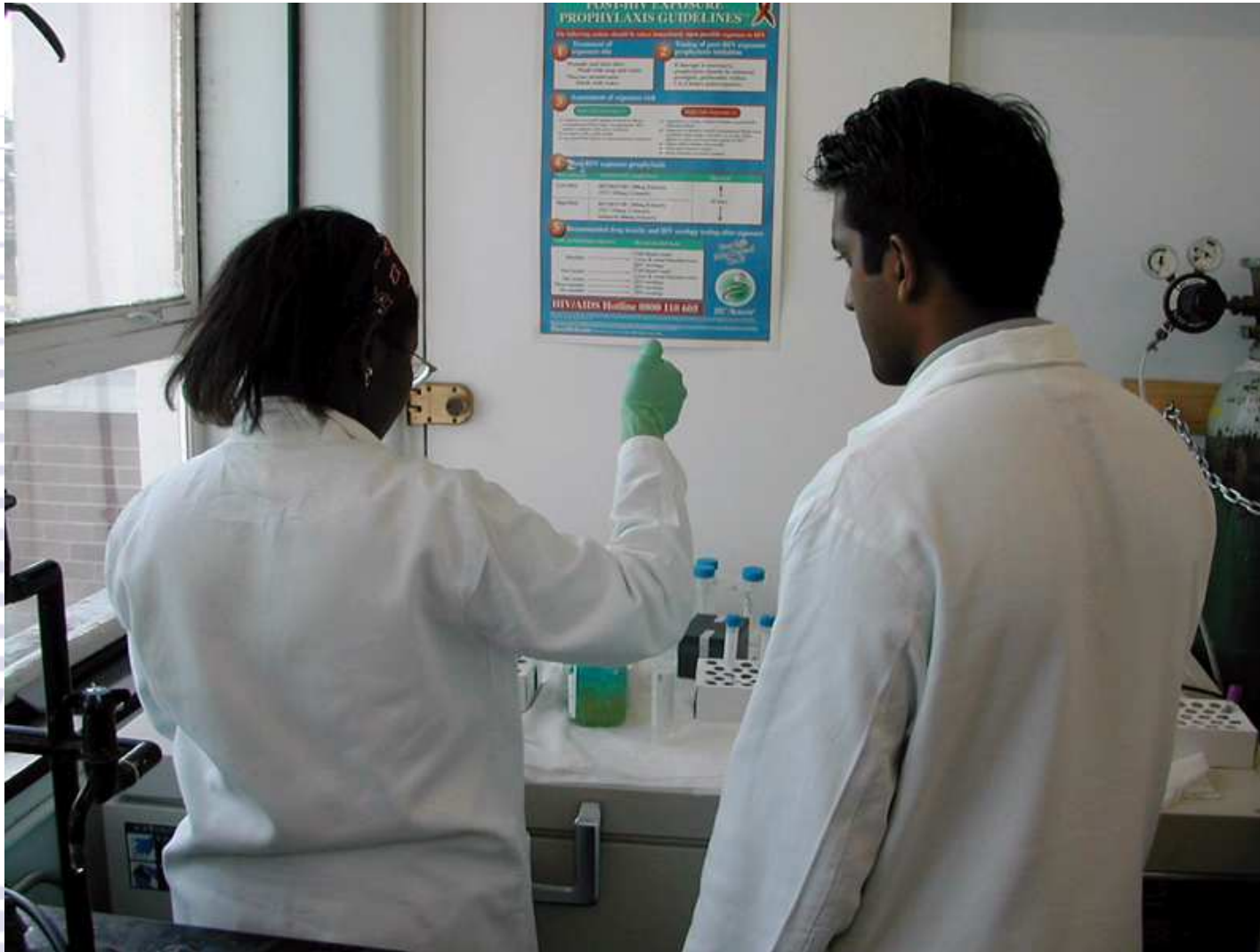
Nuffield Dept. of Clinical  
Medicine, U of Oxford

Nelson Mandela College of  
Medicine, U of Natal, Durban





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Lab in Durban



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Clinic in Soweto

BOTSWANA-HARVARD

PARTNERSHIP

FOR HIV RESEARCH AND EDUCATION



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## 2. Project Participants

**Harvard AIDS Institute**

School of Public Health,  
Harvard University



Ministry of Health,  
Republic of  
Botswana

## Botswana





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BHP Building in Gaborone



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***BOTSWANA - HARVARD***

***H.I.V. REFERENCE LABORATORY***

***OFFICIALLY OPENED  
ON DECEMBER 1st 2001***

***BY***

***HIS EXCELLENCY  
THE PRESIDENT OF THE REPUBLIC OF BOTSWANA***

***Mr. FESTUS GONTEBANYE MOGAE PH,MP***



# Readiness Overview

	Botswana	Durban
Collaboration readiness	High	High
Collaboration infrastructure readiness	Moderate	Moderate
Collaboration technology readiness	Moderate	Mixed



# Specific Activities

- ▶ Facilitate collaboratory deployment
  - ▶ Analysis based on visits to research sites
- ▶ Longitudinal study
  - ▶ Baseline data collection
- ▶ Human capacity development
  - ▶ Training in collaboratory development, deployment, evaluation
  - ▶ Partner with local universities



# What is being supported?

- ▶ Lab meetings
- ▶ Clinical meetings
- ▶ Remote colloquium speakers
- ▶ Our own project coordination with collaborators in the region



# Beyond these initial projects

- ▶ Disseminate concepts throughout region
- ▶ Regional needs for HIV/AIDS research & education
- ▶ Extension to other arenas
  - ▶ Education
  - ▶ Government
  - ▶ Economic development



# Conclusion

- ▶ Collaboratory is new model for distributed scientific research
- ▶ “Readiness” is a key concept
- ▶ User-centered design and longitudinal evaluation can minimize risks
- ▶ Rich opportunities for Africa



# For further information:

- ▶ [iarc.si.umich.edu](http://iarc.si.umich.edu)
- ▶ [www.scienceofcollaboratories.org](http://www.scienceofcollaboratories.org)
- ▶ [www.crew.umich.edu](http://www.crew.umich.edu)
- ▶ [www.cotelco.net](http://www.cotelco.net)
- ▶ Or contact
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  - ▶ [marshan@umich.edu](mailto:marshan@umich.edu)

