



Science
EXCHANGE

Elizabeth Iorns, Ph.D.
Co-Founder

Science Exchange is an online marketplace for science experiments

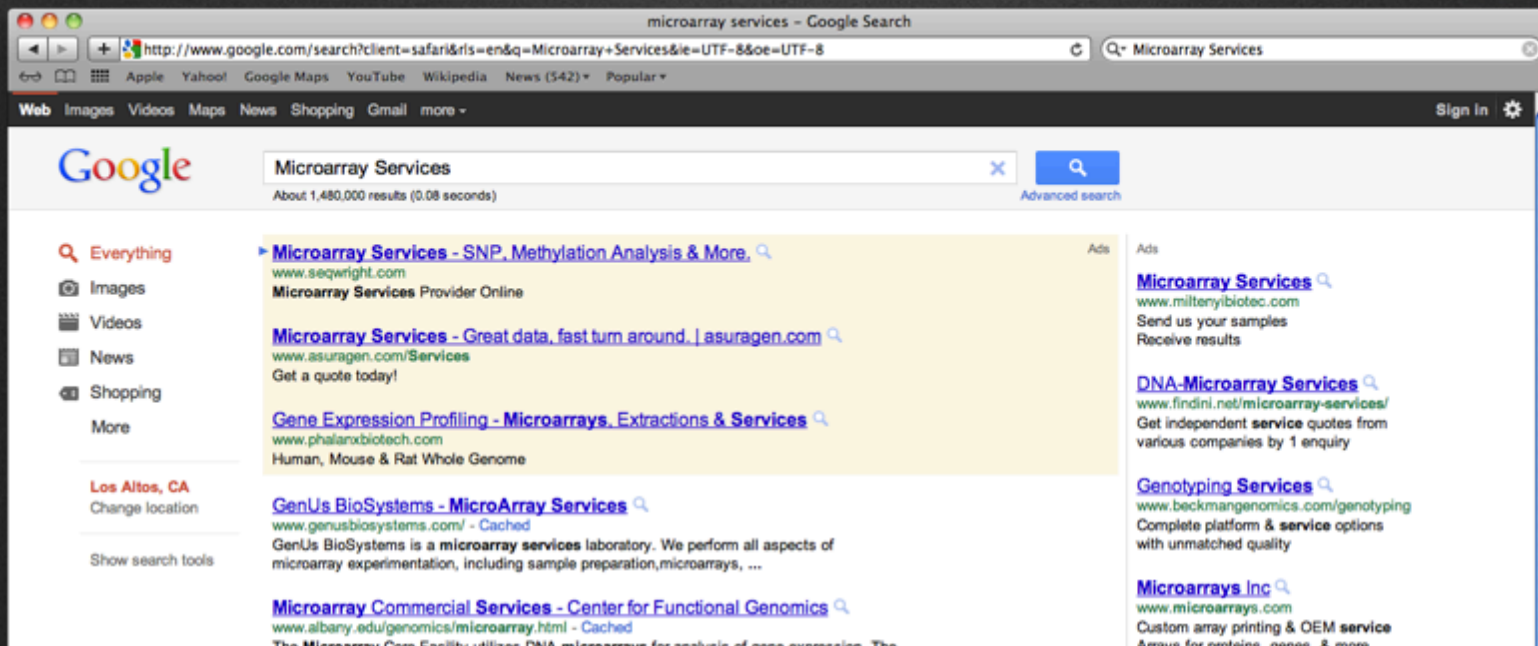
Why did we build Science Exchange?

- ➔ personal experience as a researcher
- ➔ major increases in multi-institutional co-authored publications
- ➔ broader trends towards increased specialization and multi-disciplinary research

All indicate collaborations and partnerships are becoming increasingly important

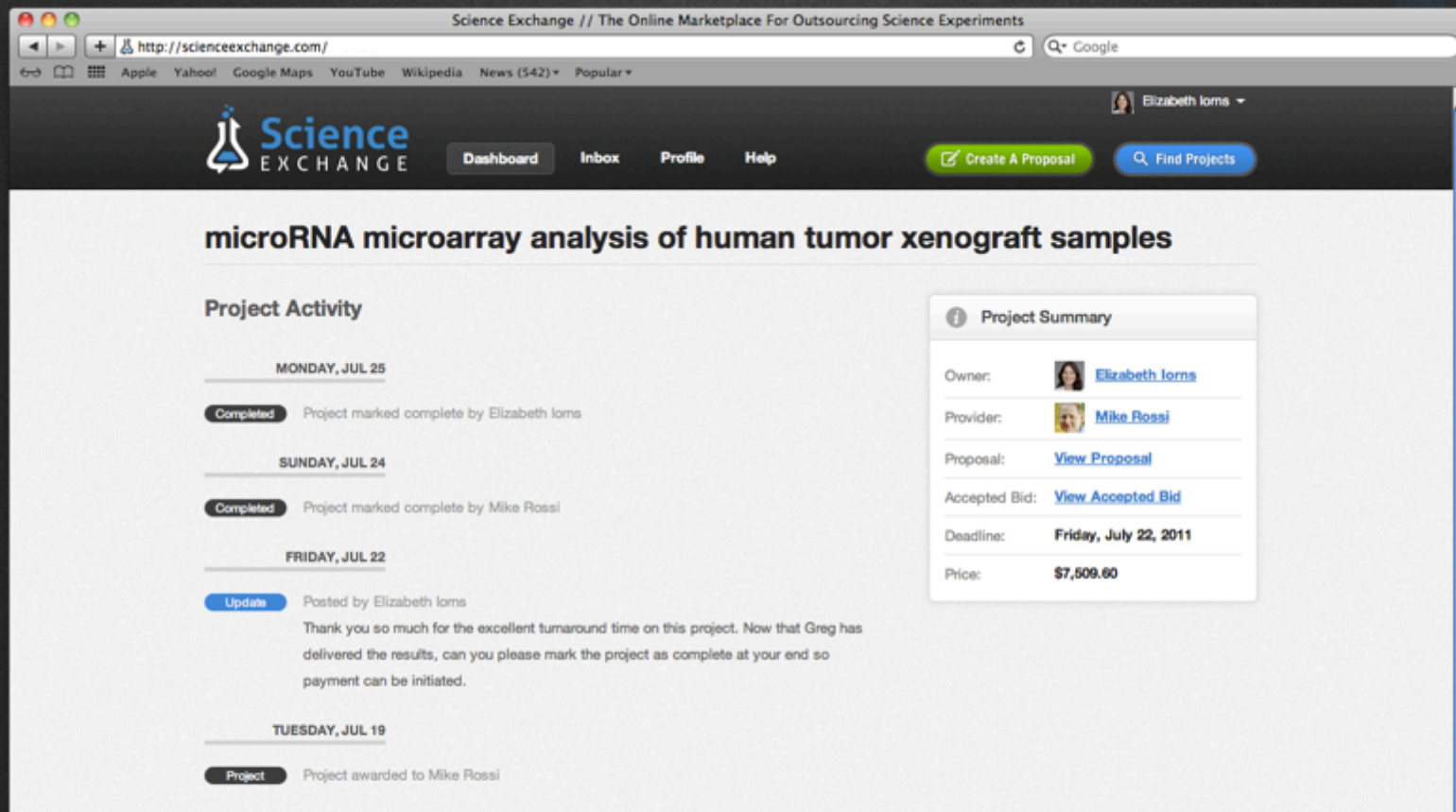
Scientific collaborations and partnerships are currently ad hoc

- ➔ barter to colleagues or network
- ➔ use (suboptimal) internal core facility
- ➔ use Google to find external service provider



Science Exchange makes collaborations and partnerships easy

Science experiments-as-a-service



The screenshot shows a web browser window with the URL <http://scienceexchange.com/>. The page title is "Science Exchange // The Online Marketplace For Outsourcing Science Experiments". The user is logged in as "Elizabeth Iorns". The main navigation includes "Dashboard", "Inbox", "Profile", and "Help". There are buttons for "Create A Proposal" and "Find Projects".

microRNA microarray analysis of human tumor xenograft samples

Project Activity

MONDAY, JUL 25

Completed Project marked complete by Elizabeth Iorns

SUNDAY, JUL 24

Completed Project marked complete by Mike Rossi



FRIDAY, JUL 22

Update Posted by Elizabeth Iorns
Thank you so much for the excellent turnaround time on this project. Now that Greg has delivered the results, can you please mark the project as complete at your end so payment can be initiated.

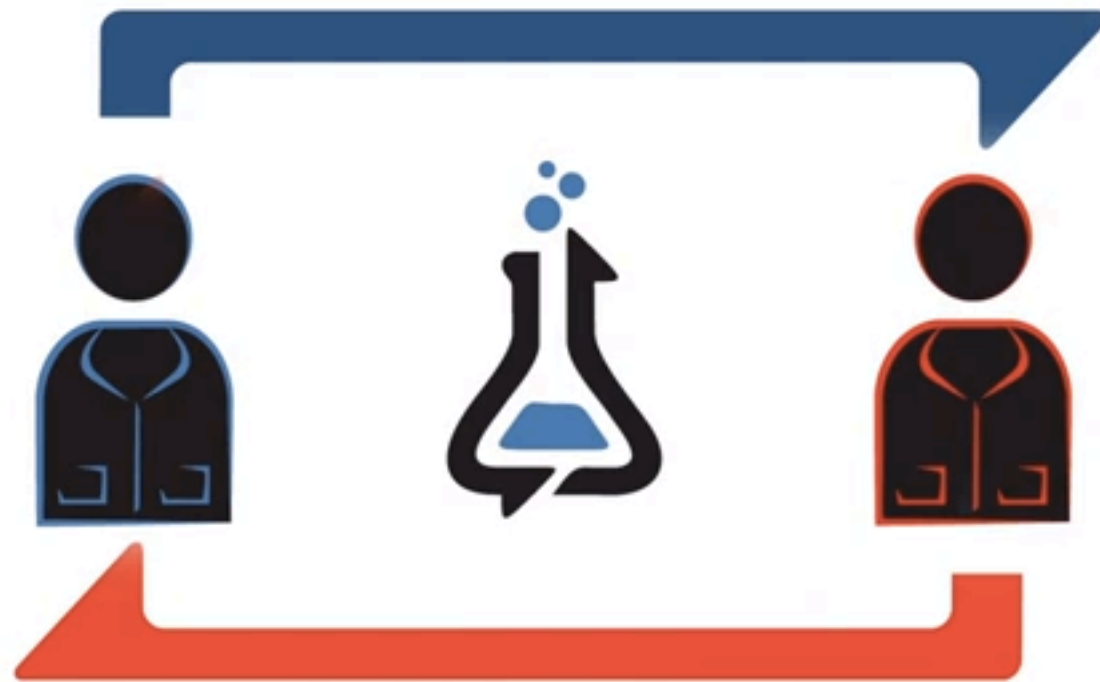
TUESDAY, JUL 19

Project Project awarded to Mike Rossi

Project Summary

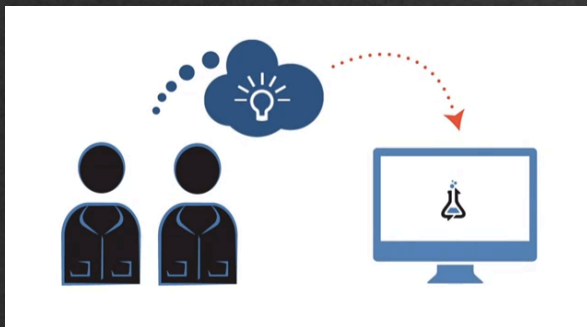
Owner:	 Elizabeth Iorns
Provider:	 Mike Rossi
Proposal:	View Proposal
Accepted Bid:	View Accepted Bid
Deadline:	Friday, July 22, 2011
Price:	\$7,509.60

Science Exchange is about
connecting scientists...



... and making it easy for them to work together

POST A PROJECT



BID ON PROJECTS



EVALUATE & CHOOSE



PLUS:

- ▶ PROJECT MANAGEMENT
- ▶ PAYMENT PLATFORM

“eBay for Science”?

An eBay for science : Nature News

http://www.nature.com/news/2011/110819/full/news.2011.492.htm Reader

Google Gmail UMail Facebook Wikipedia GMaps Blog theBench EI Finance MIT News Popular Tools Tag

naturenews

nature news home news archive specials opinion features news blog nature journal

comments on this story

Published online 19 August 2011 | Nature | doi:10.1038/news.2011.492

News

An eBay for science

The creator of a marketplace for scientific research explains how it could transform the enterprise.

Zoë Corbyn

Last week, Science Exchange in Palo Alto, California, launched a [website](#) allowing scientists to outsource their research to 'providers' — other researchers and institutions that have the facilities and equipment to meet requesting scientists' needs. *Nature* asked the company's co-founder, researcher-turned-entrepreneur Elizabeth Iorns, how the website works, and what an online marketplace for experiments could mean for the future of research.



Elizabeth Iorns.

What is Science Exchange?

It is an online marketplace for scientific experiments. Imagine eBay, but for scientific knowledge. You post an experiment that you want to outsource, and scientific service providers submit bids to do the

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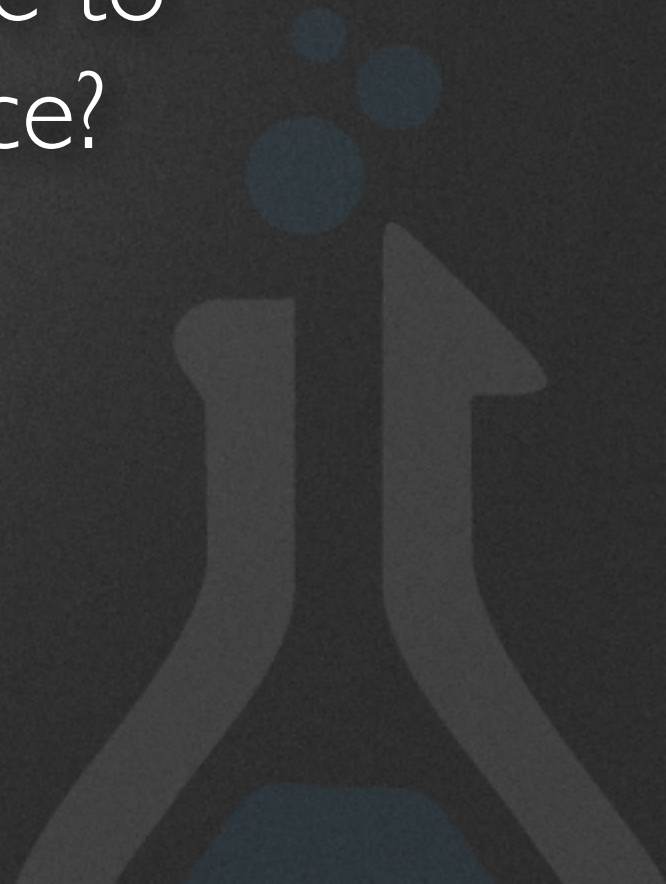
“eBay for Science”?



- made it easier for consumers to trade second-hand goods
- dramatically increased size of market for second-hand goods

- hoping to make it easier for scientists to form collaborations and partnerships
- hoping to dramatically increase amount of collaboration in science

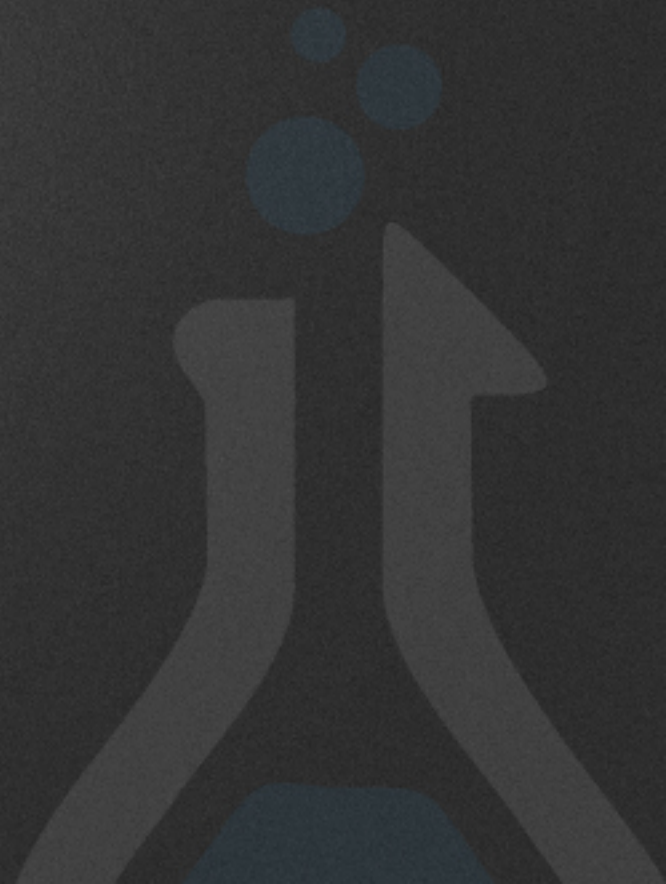
So what does this have to
do with Open Science?



Open Science often characterized as getting scientific data into the public sphere ASAP

Some key principles of Open Science...

- ➔ Transparency
- ➔ Access
- ➔ Efficiency
- ➔ Reproducibility



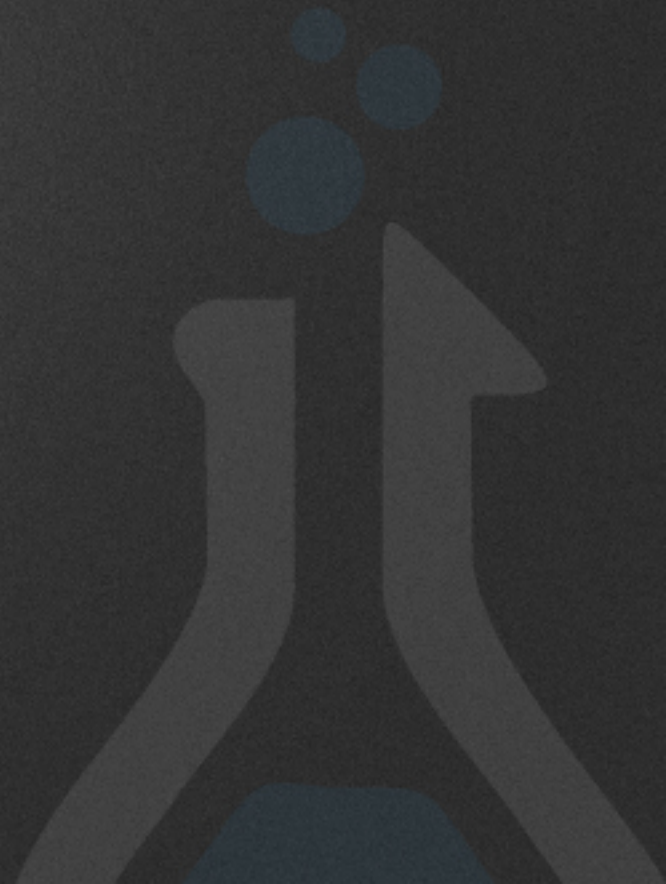
...are also key principles of Science Exchange

➔ Transparency ✓

➔ Access ✓

➔ Efficiency ✓

➔ Reproducibility ✓



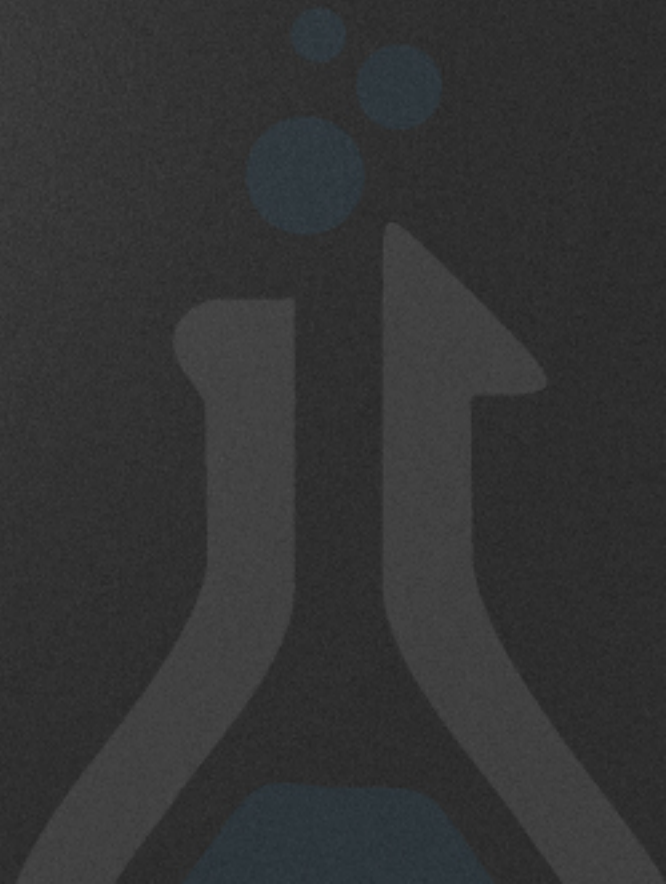
Some key principles of Science Exchange

➔ Transparency ✓

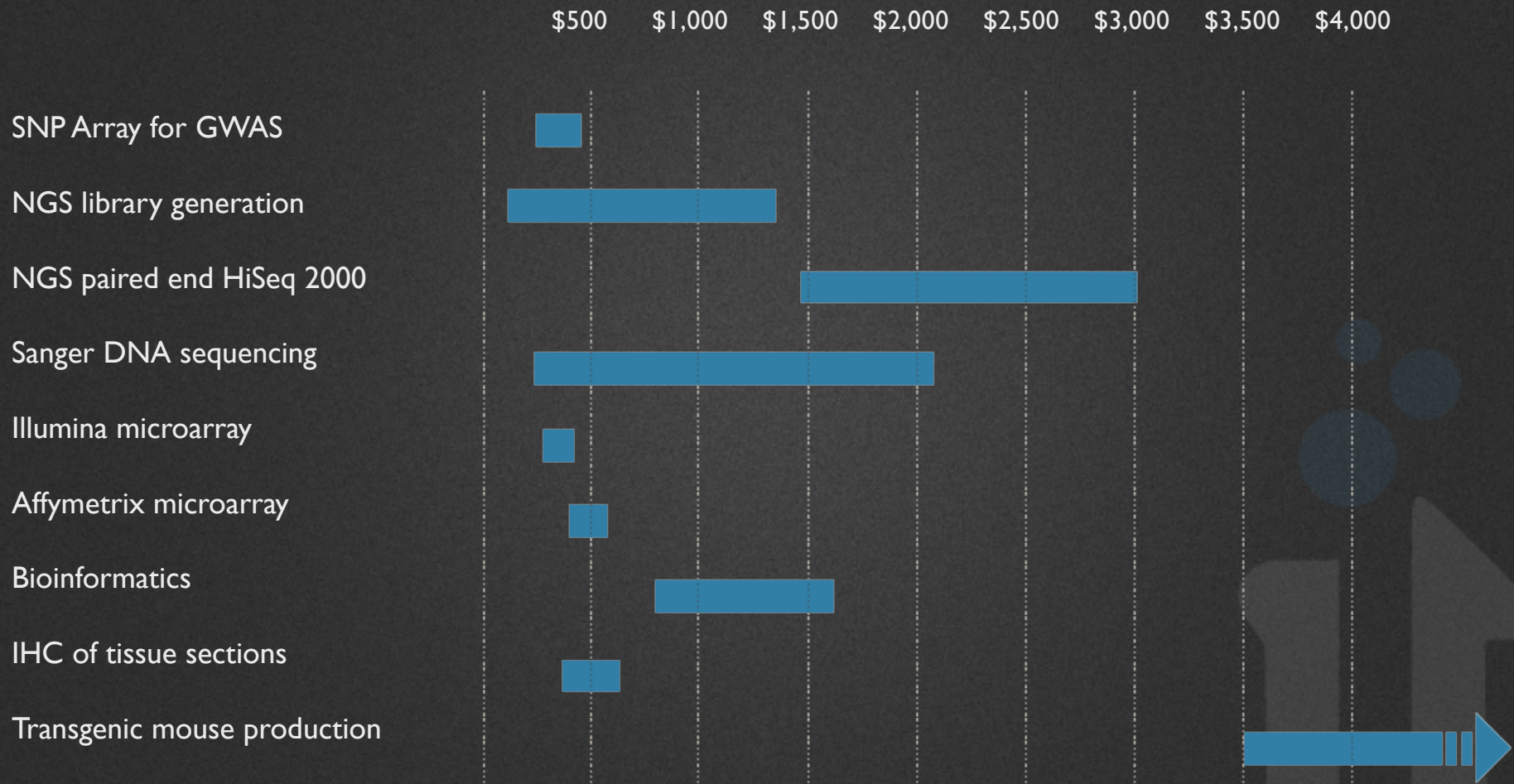
➔ Access ✓

➔ Efficiency ✓

➔ Reproducibility ✓



Transparency



Scientists are not aware of these price differences

Transparency

“BY USING SCIENCE EXCHANGE WE WERE ABLE TO SAVE HALF THE COST ON THIS PARTICULAR TYPE OF EXPERIMENT”



Transparency

Science Exchange can bring transparency allowing everyone to know what experimental expertise and equipment is available and how much it costs

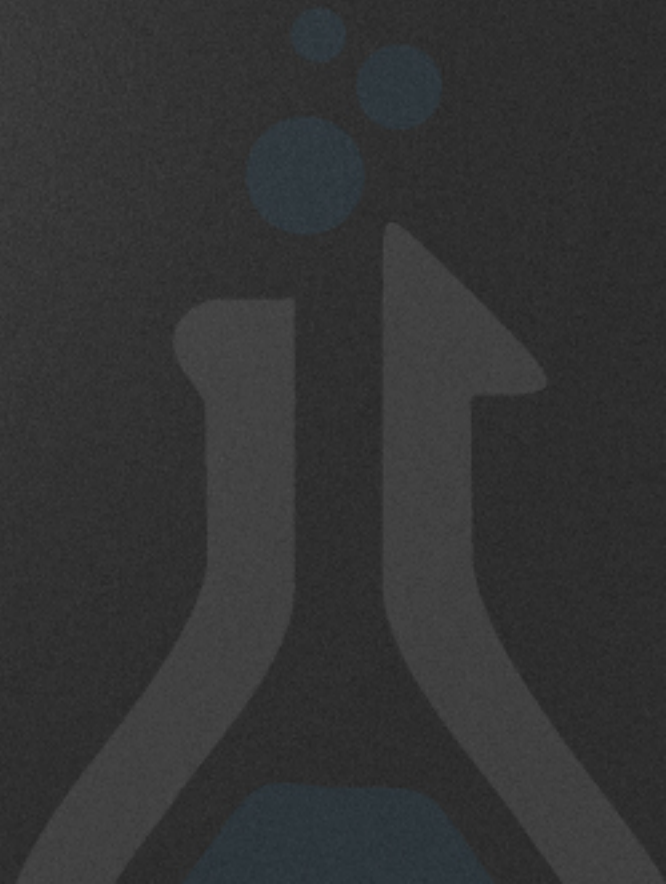
Some key principles of Science Exchange

→ Transparency ✓

→ Access ✓

→ Efficiency ✓

→ Reproducibility ✓



Access

You can access specialized expertise for pretty much any type of experiment:

production of viruses for transduction experiments

GENERATION OF STABLE CELL LINES

protein production

behavioral studies and neurological studies

etc etc etc...

acquisition of tissue for studies on clinical samples

generation of transgenic mice

conduction of animal studies including xenograft studies

Experiments benefit from the input of specialists

Access

Science Exchange allows access to the wide range of experimental services offered by specialists in the research community

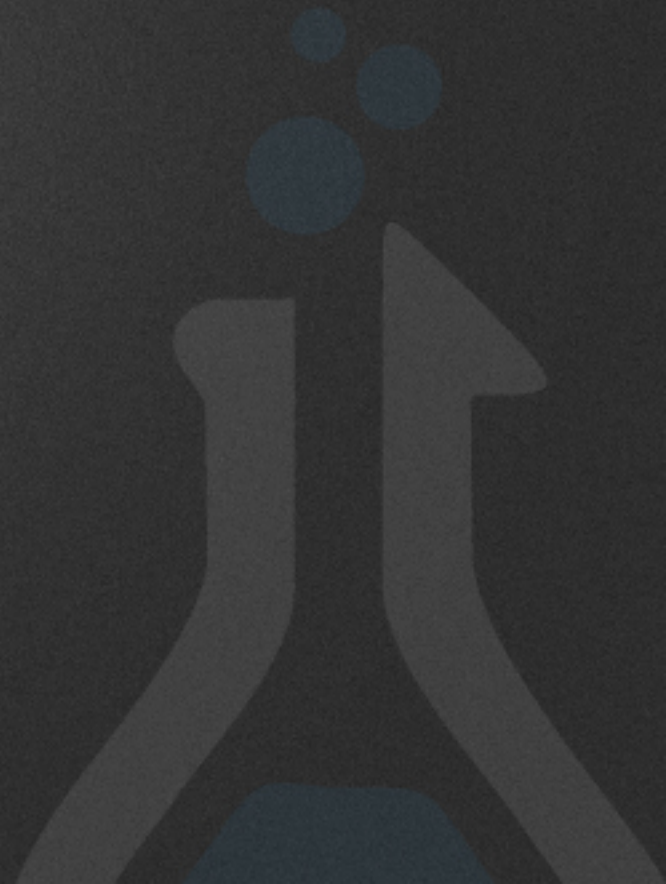
Some key principles of Science Exchange

→ Transparency ✓

→ Access ✓

→ Efficiency ✓

→ Reproducibility ✓



Efficiency

- ➔ the utilization of specialized experts rather than inefficient attempts to be jack-of-all-trades
- ➔ major efficiencies can be gained from specialization
 - ➔ not having to buy specialized equipment
 - ➔ not having to learn complicated one-off technique

Many scientists believe it will be cheaper to do any experiment in own lab - this is not the case!

Efficiency

Bill for DIY TA cloning of PCR products

TOPO TA cloning kit (20 rxn).....	\$460
PCR (100 rxn).....	\$78
Ligase (30 rxn).....	\$99
Competent cells (10 rxn).....	\$217
Miniprep kit (50 rxn).....	\$84
Restriction enzyme (100ul).....	\$53
Agarose gel (50g).....	\$265
Ethidium bromide etc, etc, etc, etc....	
Total cost.....	\$1,000's
Total cost (per rxn)	
.....	\$55

vs.

\$31
per rxn
outsourced

Efficiency

*Science Exchange allows
efficiencies to be gained from
specialization*

A decorative graphic in the bottom right corner of the slide. It features two stylized human figures in a light blue color, positioned as if they are interacting or exchanging. Above the figures are several circular bubbles of varying sizes, also in light blue, suggesting a network or exchange process.

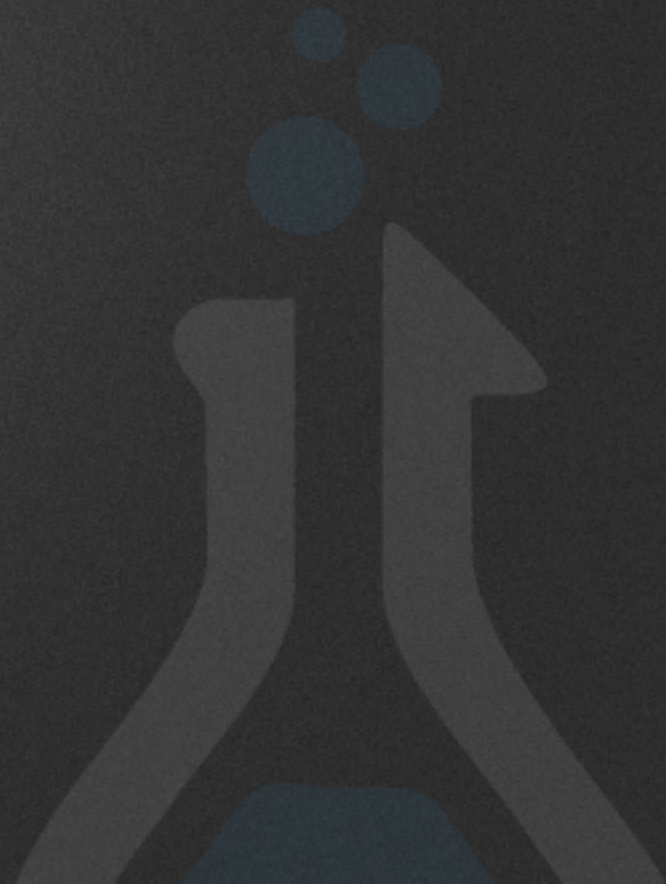
Some key principles of Science Exchange

→ Transparency ✓

→ Access ✓

→ Efficiency ✓

→ Reproducibility ✓



Reproducibility

- ➔ the cornerstone of scientific research
- ➔ independent rating system promotes high quality data
- ➔ replication of key data at multiple sites can eliminate non-reproducible data
- ➔ future requirement from funding agencies and publishers?

Reproducibility

*Science Exchange promotes
reproducibility of research data*

A decorative graphic in the bottom right corner of the slide. It features a stylized microscope with a blue lens and a grey body. Above the microscope, there are several blue circles of varying sizes, resembling bubbles or data points. The entire graphic is rendered in a semi-transparent, light blue color against the dark background.

Let us know how we can
help foster Open Science
through Science Exchange?

founders@scienceexchange.com



Science
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