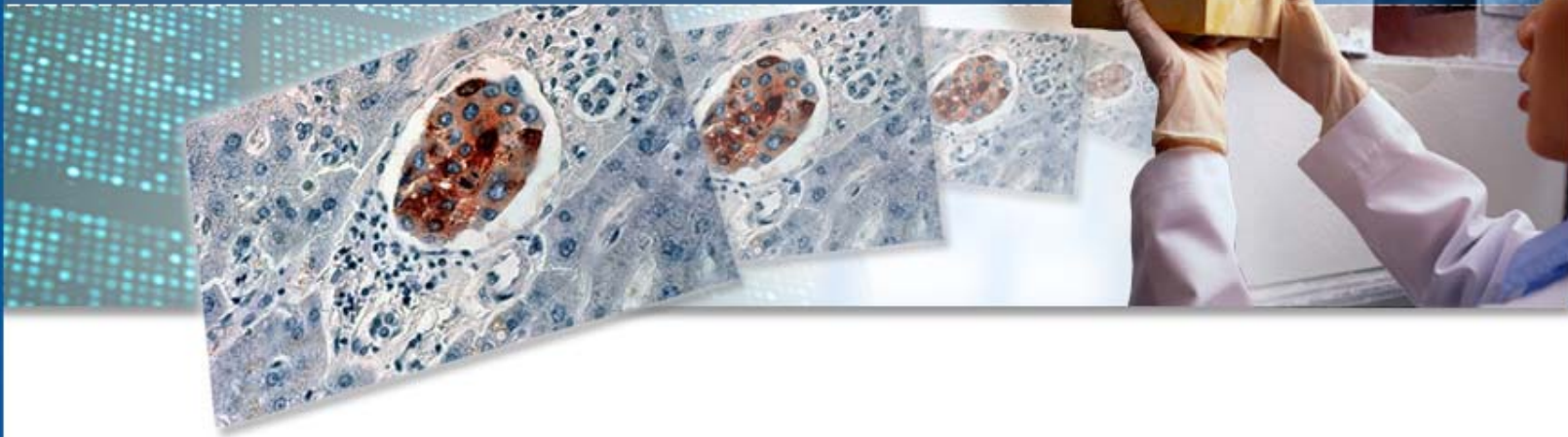


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## **Welcome to the 2012 BRN Symposium!**

Helen M. Moore, PhD

# Welcome!

- The BRN Symposium is still growing!
  - Covers BRN-sponsored investigations and Biospecimen Science investigations all over the world
- 439 registered to attend in person
- 125 registered for the live videocast – hello!
- Who's here?

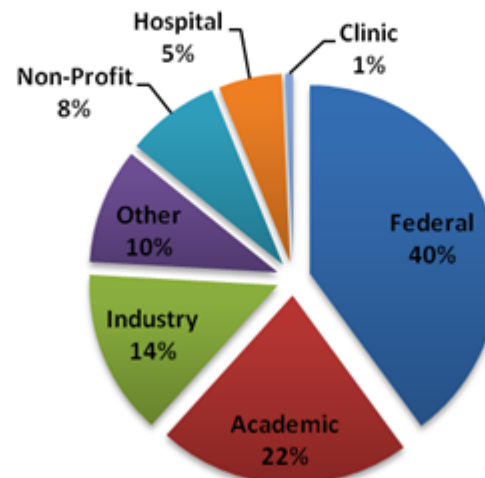
Federal	169
Academic	92
Industry	60
Other	42
Non-Profit	34
Hospital	23
Clinic	3

*Representatives from:*

*-34 U.S. states*

*-14 non-U.S. countries*

2012 BRN Symposium Audience by Sector



...there are some significant obstacles to progress.

- **Lack of standardization of biospecimen collection, processing and storage**
  - Needed to ensure accuracy of research data *and* provide robust testing of patient samples
- **Lack of knowledge about how different methods of biospecimen collection, processing and storage alter the biological picture presented by the specimen**
  - A significant confounding factor in research
  - An issue for us all - academics, government, industry
  - Why we're here today!



# Multiple pre-analytical variables can affect the molecular integrity of the biospecimen

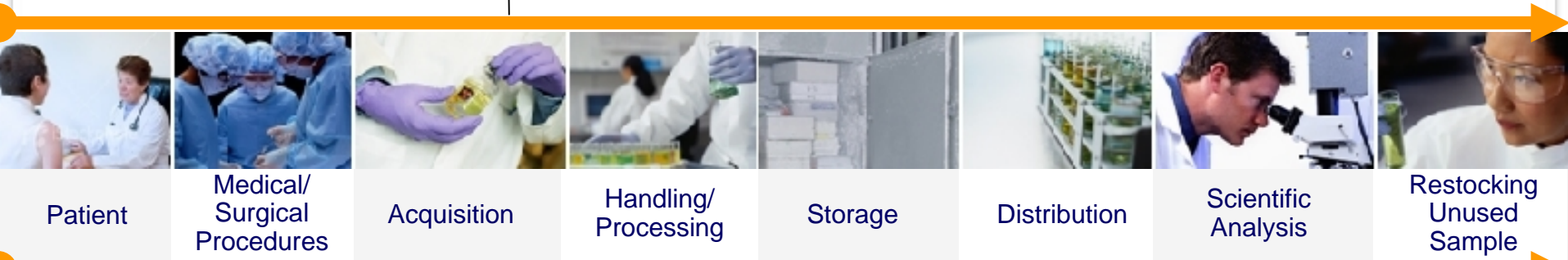
## Variables (examples):

- Antibiotics
- Other drugs
- Type of anesthesia
- Duration of anesthesia
- Arterial clamp time



## Variables (examples):

- Time at room temperature
- Temperature of room
- Type of fixative
- Time in fixative
- Rate of freezing
- Size of aliquots



## *The Lifecycle of the Biospecimen*



## What Are the Issues for Cancer Researchers Utilizing Human Biospecimens?

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- How do I know if the biospecimen in hand is suitable for my research?
- What data do I have about how a biospecimen was collected, processed, and stored?
- Will differing ways of collecting, processing, and storing biospecimens affect my ability to obtain reproducible research results using those biospecimens?



## What Are the Issues for Cancer Researchers Utilizing Human Biospecimens?

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- How do I prospectively collect good biospecimens for my research purpose?
- Will today's biospecimen SOPs, different across different hospitals, allow for advanced molecular testing tomorrow?
- What is the scientific basis of a good biospecimen SOP?

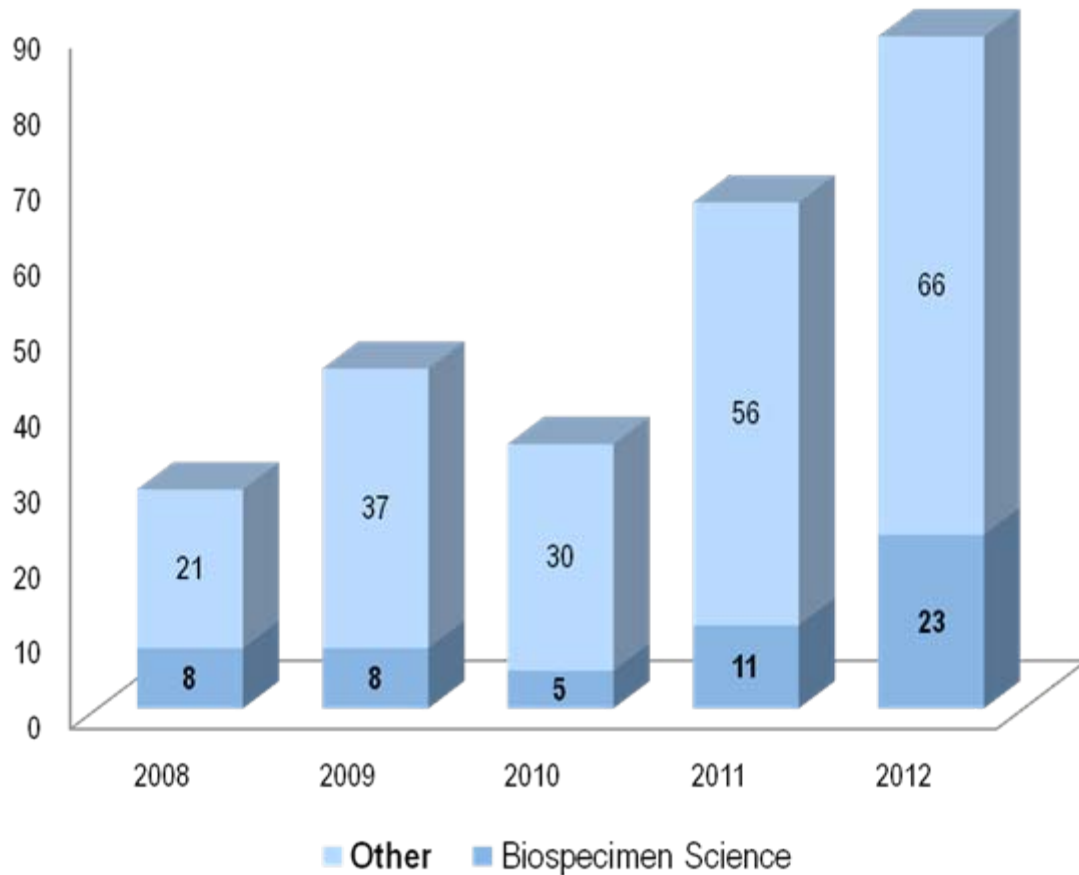


## What is the Opportunity for Biospecimen Science?

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- To enable better, more reproducible cancer research
- To develop better products from that research
- To do so faster, better, more reliably
- To translate better research to better products for patients

# Growth in BRN Symposium Abstracts



## 2012 Abstract Breakdown

### Biospecimen Science:

- 5 Blood and Fluids
- 16 Tissues and Cells
- 2 Purified Analytes

### Other:

- 15 Technology/Protocol
- 7 International Biobanking
- 12 Domestic Biobanking
- 14 Biobanking Informatics
- 5 Quality Management
- 13 Other, including ELSI

89 Total



# Biospecimen Research Database

OBBR Office of Biorepositories and Biospecimen Research

- Curated literature database for Biospecimen Science
- **1100** articles represented

National Cancer Institute  
U.S. National Institutes of Health | www.cancer.gov

OBBR Office of Biorepositories and Biospecimen Research

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### Biospecimen Research Database

Home Search Quick Search Simple Search Advanced Search Experimental Factor Search Curator Login

Search Results

Paper and Study Details

PubMed ID: 16288005 PubMed

Lips Esther H, Dierrsen Jan WF, van Eijk Ronald, Oosting Jan, Eilers Paul HC, Tollenaar Rob AEM, de Graaf Eelco J, van't Slot Ruben, Wilmenga Casca, Morreau Hans, van Wenzel Tom

Reliable high-throughput genotyping and loss-of-heterozygosity detection in formalin-fixed,paraffin-embedded (FFPE) tumors using single nucleotide polymorphism arrays.

Cancer Res. 2005, Vol. 22, Page 10188

Review Paper? No

Purpose of Paper: To determine if genomic DNA isolated from formalin fixed paraffin embedded (FFPE) tissue is applicable for genotype and loss of heterozygosity (LOH) analysis via single nucleotide polymorphism (SNP) arrays.

Conclusion of Paper: Results of SNP and LOH analyses were nearly identical among FFPE and frozen specimens. The authors conclude that genome wide genotyping using FFPE tissue is reliable, producing results that are reproducible with frozen specimens.

Studies

Detail	Specimen: Tissue / Colorectal / Formalin Neoplastic - Carcinoma / Normal /
	Platform: DNA - SNP assay /
	Findings : The occurrence of SNPs in FFPE and frozen matched controls were nearly identical (99.9%). Of the 8 LOH

National Cancer Institute  
U.S. National Institutes of Health | www.cancer.gov

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Overview

Biospecimen Science

**Biospecimen Research Database**

Lifecycle of Biospecimens

BRN Symposia

Learn more

OBBR's mission is to ensure that human research are of the highest quality.

Building a common biorepository infrastructure that science, in order to facilitate multi-institutional, mic studies.

OBBR Quick Links

OBBR Toolbox Multi-Media Funding Opps

Moving Forward

caBIG™ Tools  
The Specimen Resource Locator  
Biospecimen Research Database  
Providing Your Tissue for Research

NATIONAL CANCER INSTITUTE



## Thanks to...

- Andrea Kelly, Rose Li and Associates
- Abstract review team: Jim Vaught, Andrea Kelly, David Litwack, Leah Mechanic, Sherry Schully, Yaffa Rubinstein
- The Biospecimen Research Database team: Kelly Engel, Paige Bass, Sarah Greytak
- The OBBR team, past and present
- The extended team at SAIC-Frederick who work with NCI to develop and manage research

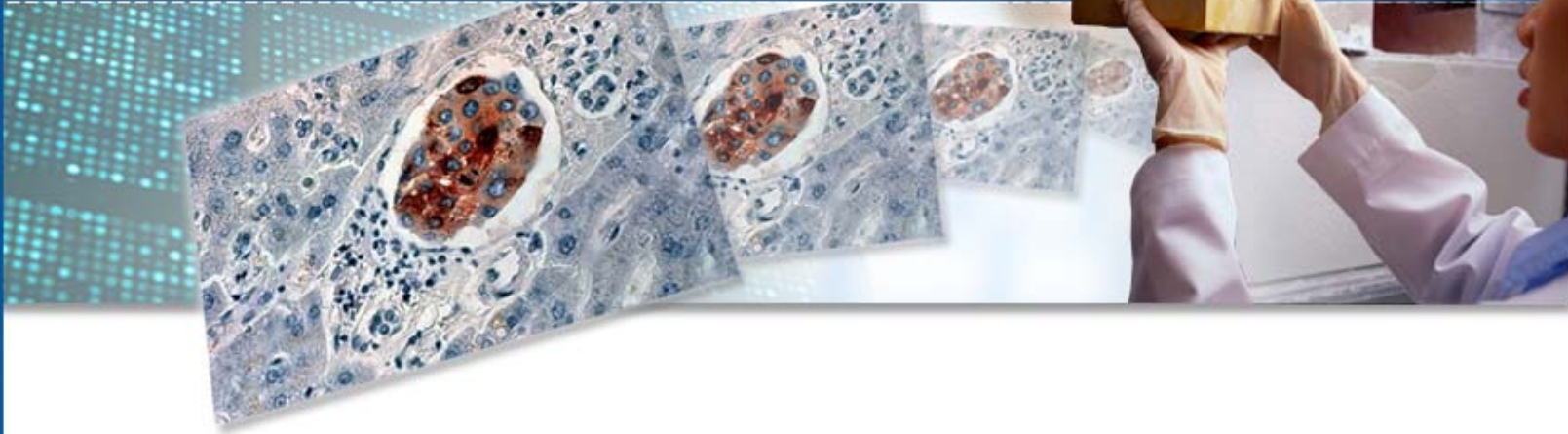


## Listen, talk to each other, learn

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- 28 podium presentations
- Networking:
  - Q&A sessions, breaks
  - “Meet the Experts” today at lunch – 21 topics – sign up!
  - 4 scheduled “Meet the Experts” tables and space for informal meetings – tomorrow morning, 8-9 am
  - Poster session tonight 5:30-7 – and at lunch tomorrow
- New *LinkedIn* BRN Group – for continued biospecimen science networking
- **Have a great meeting!**

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