# Biomedical Informatics Shared Resource

RUTGERS
Cancer Institute
of New Jersey
**RUTGERS HEALTH**

NCI | Comprehensive Cancer Center
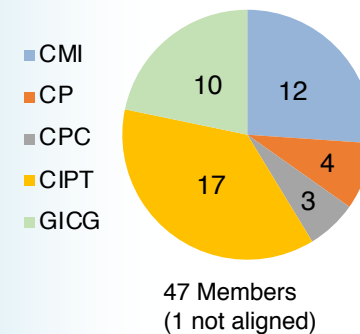A Cancer Center Designated by the National Cancer Institute

## Aims

- The BISR offers services that analyze multi-dimensional data sets, including genomic analyses and high-resolution imaging, through the development and implementation of machine-learning technologies in high-performance computing environments

- Through our extensive nationwide collaborations we are establishing CINJ as a leading resource in medical informatics by augmenting the Clinical and Research Data Warehouse (CRDW) capabilities to automate extraction, mapping, warehousing, and mining of data

## Research Program Support (2018–2022)



Pie chart legend:
- CMI — 12
- CP — 4
- CPC — 3
- CIPT — 17
- GICG — 10

47 Members
(1 not aligned)

### Publications

| | |
|---|---|
| Total | 145 |
| Co-Authored | 28 |
| IF>10 | 17 |

### Peer-Reviewed Grants

| | |
|---|---|
| All | 18 (2T) |
| NCI | 14 (2T) |

## Attachments available

- Publications
- Grants
- 5-year user list
- FY23 Advisory Committee Presentation
- FY21 – FY23 Advisory Committee Action Items
- FY21 – FY23 Advisory Committee Notes

- CY20 – CY22 Satisfaction Survey Action Items
- CY22 Usage
- Submitted Research Strategy
- Submitted Aims
- Submitted SRM Research Strategy

## Scientific examples to be shown

- J Med Chem, 2021 64(1):890-904
- Int J Comput Assist Radiol Surg, 2021 Feb;16(2):197-206
- J Pathol Inform, 2022 Jan 5;13:5
- Cancer Res, 2021 Nov 1; 81(21): 5523–5539
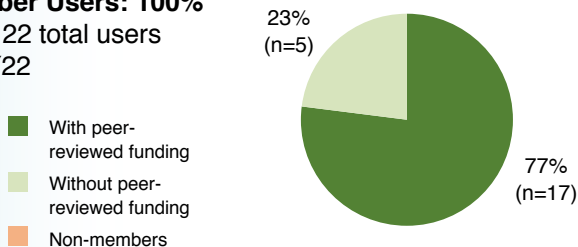
## Services & Innovation

### New

- Design, develop and optimize high-throughput processing and evaluation of digitized microscopy, radiologic imaging studies, genomics, and clinical correlates using cloud and supercomputing resources

- Automate extraction, mapping, warehousing, and mining of data originating from EMRs, clinical trials management systems, NGS studies, and pathology & radiology image archives

- Develop and optimize computational cutting-edge decision support algorithms, methods, and strategies to guide choices in treatment and therapy planning
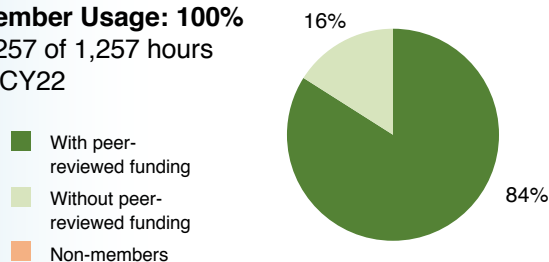
### Continuing

- Design and perform next-generation sequencing analysis to classify tumors and identify putative cancer driver genes, oncogenes, tumor suppressors, and genetic pathways

- Offer advanced multispectral imaging, color-decomposition and quantum dot conjugate technology to facilitate whole-slide, fluorescence, & advanced digital microscopy applications

- Provide advanced training, workshops, seminars, and educational programs for members, trainees, and more broadly the Rutgers community

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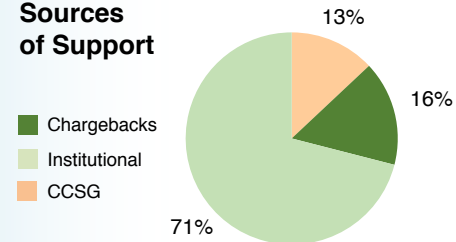
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## Utilization & Management

**Member Users: 100%**
22 of 22 total users in CY22

- With peer-reviewed funding
- Without peer-reviewed funding
- Non-members

23% (n=5)
77% (n=17)

**Member Usage: 100%**
1,257 of 1,257 hours in CY22

- With peer-reviewed funding
- Without peer-reviewed funding
- Non-members

16%
84%

**Sources of Support**

- Chargebacks
- Institutional
- CCSG

13%
16%
71%

FY24 Chargeback target: 20

### Satisfaction Survey for CY22 services

80%

- Satisfied (4)
- Dissatisfied (1)
- Neutral (0)
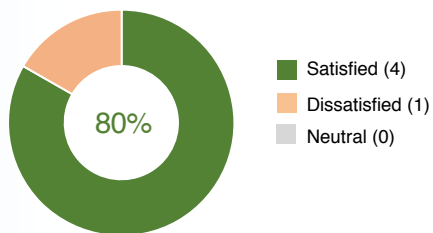
Participated: 5 of 22 members (23%)

### Organization & Governance

**BISR**

8.0 FTE

**SRACs**
- Advisory Committee meets annually
- Discusses operational and scientific progress
- SRM supports organization

**SRM**
- SR Faculty Directors report to the ADSR
- SRM tracks and supports SRAC recommendations, productivity, service development, outreach

**CINJ Director**
- RLC
- Finance & Admin
- EAB