Creating a Career Path for Shared Research Resources Personnel

A Case Study from Oregon Health and Sciences University

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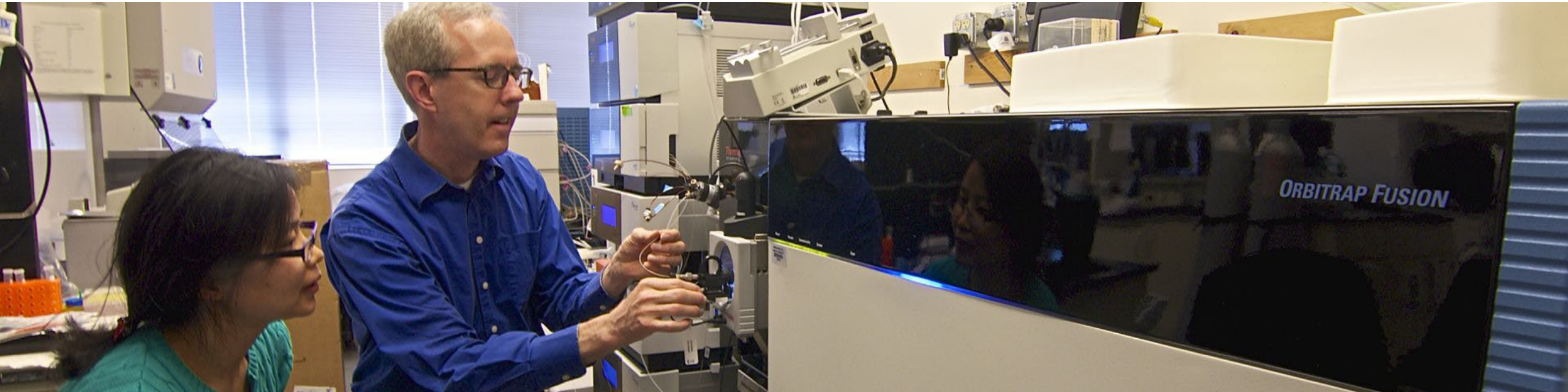
What is a core?

Cores are advanced technology centers and hubs of expert services supporting the research goals of scientists.

Local access to:

- Technology and methodology experts
- Advanced equipment



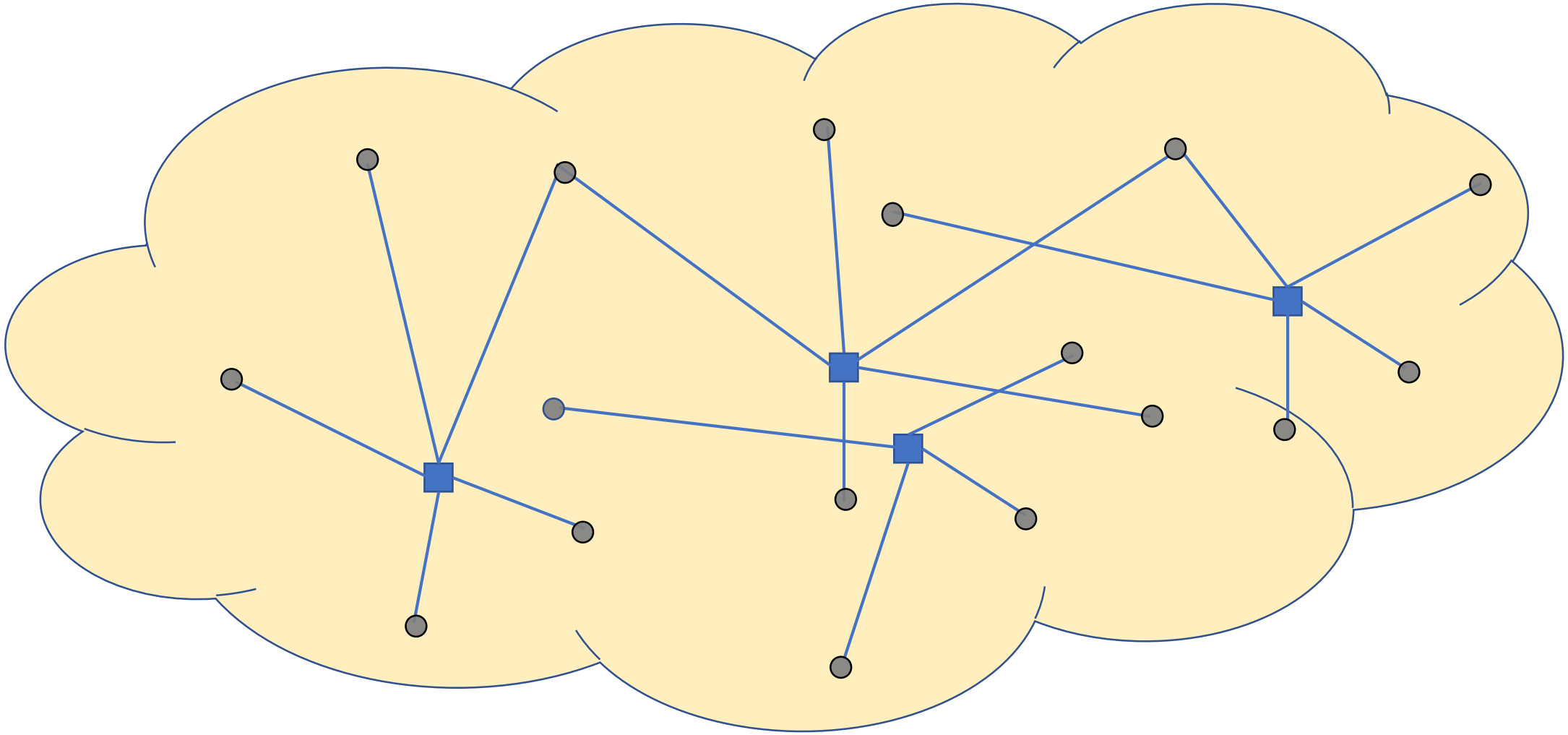
Why do institutions need cores?

Expensive equipment, facilities and the experts are there for everyone to use in an affordable manner.

Highly skilled staff

Charge for services

Cores – Infrastructure for Research Community

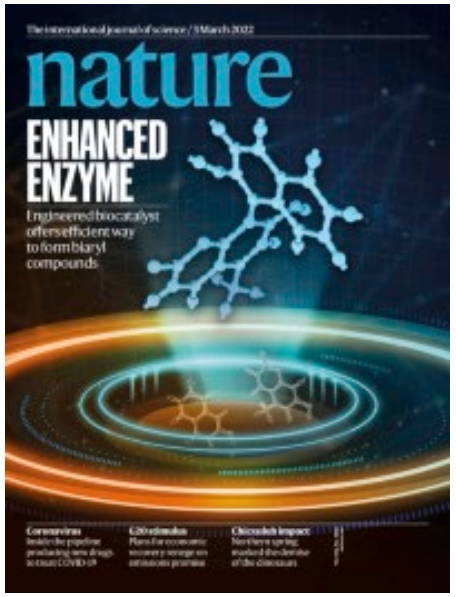


How are core scientists different from traditional research scientists?

General Research Staff Positions

Personnel in academic research positions are initially gaining experience for future opportunities that will further their academic careers

- Research experience
- Publications
- Grant writing



Core Staff Positions

Core staff pursue careers in service and research support, helping academic researchers further their own projects and academic careers.

- Expertise built around specific technologies and methods
- Customer service & collaboration

SRR/Cores Career

Cores classified as general research – became problematic

Cores constitute a distinct service industry within biomedical research

Excellent training on wide variety of projects within a specific scientific discipline

Commercial entities target core staff for recruitment

OHSU core staffing crisis - Flow Cytometry, Proteomics

Core Scientist Job Family

GENERAL FOCUS:

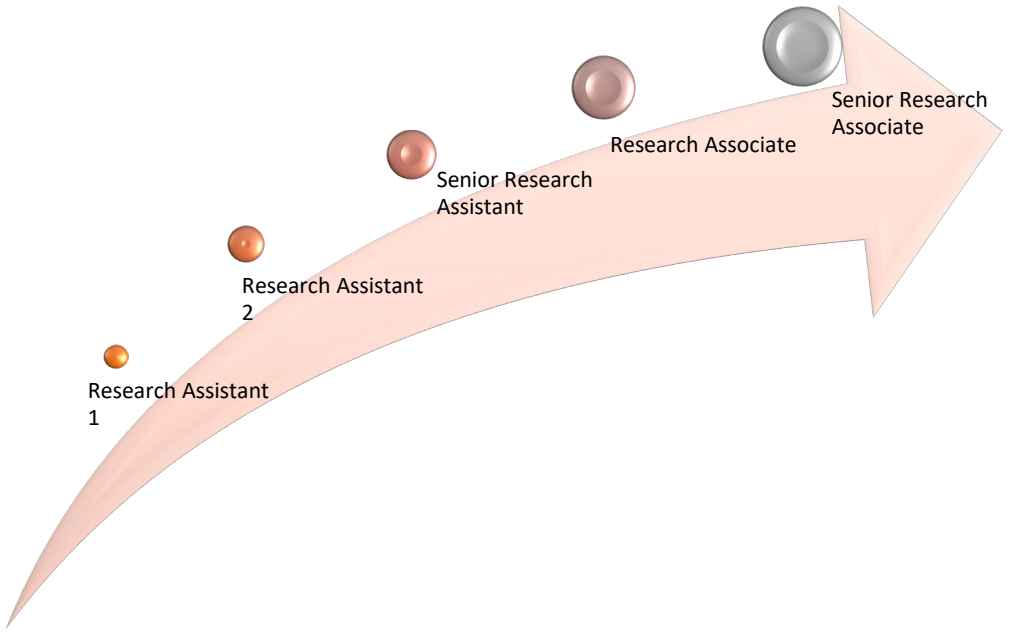
The Core Scientist family provides technology expertise for researchers across campus. Core Scientists are involved with providing service functions in a core that, depending on the core include service projects, assay services, or equipment training. Core management duties include responsibilities for service quality assurance and compliance, project and request tracking, financial duties around recharge mechanisms, and user outreach. Core leadership duties include operational and financial oversight, reporting, staff recruitment, training, and mentoring, and staff and user management.

Cores work at the intersection of research and business.

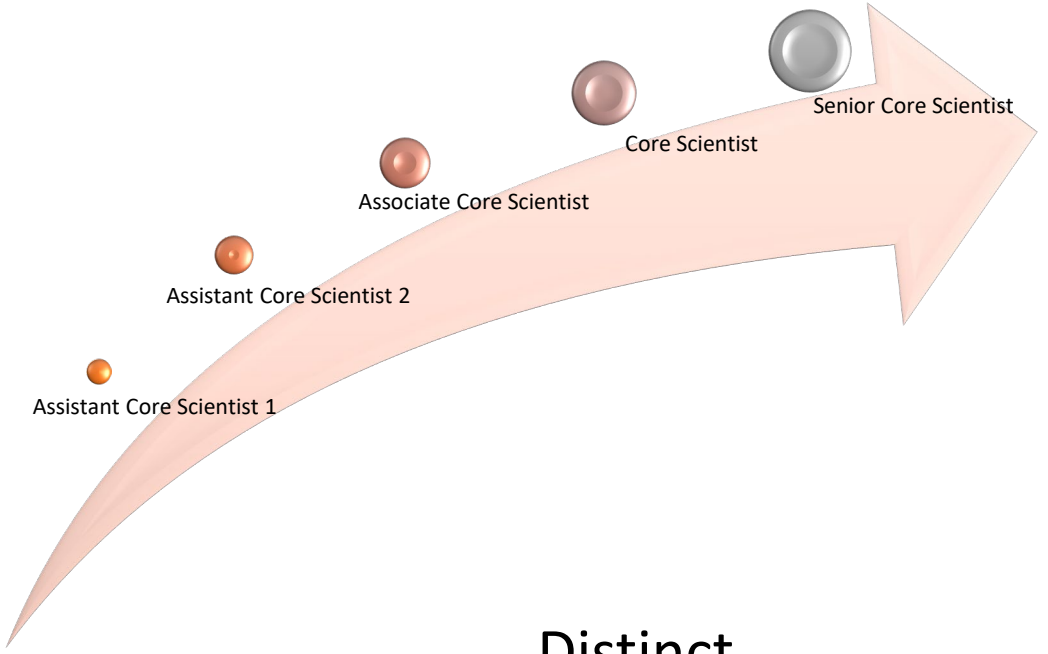
Distinct
Professionalized
Long Term

Core Scientist Job Family

OHSU General Research



OHSU Core Scientist



Distinct
Professionalized
Long Term

Core Scientist Family Minimum Qualifications

Assistant Core Scientist 1

- Bachelor’s degree preferred
- Associate degree in relevant field AND 1 year of relevant experience, OR
- Equivalent in combination of skills, education, experience sets as above or as reflected in the Core Descriptor Matrix

Assistant Core Scientist 2

- Master's degree
- Bachelor's degr
- Associate degre
- Equivalent in co

Associate Core Scientist

- Master's degree in relevant field AND 3 years experience or core-relevant expertise OR
- Bachelor's degree with relevant coursework AND 5 years of relevant experience or core-relevant expertise.

Core Scientist

- PhD in relevant field
- Master's degree in relevant field AND 5 years experience or core-relevant expertise OR
- Bachelor's degree with relevant coursework AND 9 years of relevant experience or core-relevant expertise.

Senior Core Scientist

- PhD AND 3 years relevant experience, OR
- Master's degree in relevant field AND 7 years relevant experience or core-relevant expertise, OR
- Bachelor's degree with relevant coursework AND 15 years of relevant experience or core-relevant expertise.

Assistant Core Scientist 2

GENERAL SCOPE:

Under general supervision, performs various standardized and routine or expert service functions in a core. Performs work of basic to moderate difficulty. May perform some assignments independently.

May include routine duties as directed and under supervision that include maintaining and calibrating equipment: cleaning equipment and facility; monitoring supplies inventory; and performing computer database entries. Follows data management plan. May train users in instrument operation.

MINIMUM QUALIFICATIONS:

- Master's Degree in relevant field OR
- Bachelor's with relevant coursework AND 1 year of relevant experience OR
- Associates in relevant field AND 1 year of relevant experience OR
- Equivalent in combination of skills, education, experience sets as above or as reflected in the Core Descriptor Matrix

Assistant Core Scientist 2

Flow Cytometry

- Understands basic (developing to proficient levels) principles of flow cytometry
- Be facile with computers and has a strong understanding of basic flow cyctometry software, capable of performing analyses of basic to moderate flow cytometry data
- Has developing to proficient skills in analytical flow (minimal oversight may be required for client studies)
- Has developing to proficient skills in cell sorting (minimal oversight may be required for client studies)
- Is able to diagnose and trouble shoot minor instrument/experimental issues
- Meets with researchers and PI's to help start or modify flow cytometry experiments (w/ director)
- Participates in purchasing of laboratory supplies, participates in management of iLab billing
- Reviews and revises existing SOPs
- Trains users to use analytical instruments

Electron Microscopy

- Skilled in operating TEM and SEM.
- Basic knowledge in ultramicrotomy and EM sample preparation techniques.
- Is able to comply fully with radiation safety measures and the use of radioactive material documentation.
- Understands and can explain basic electron microscopy to novice user. Understands and can explain stigmatism and contrast transfer function properties to novice user.
- Can train novice user in ultramicrotomy.

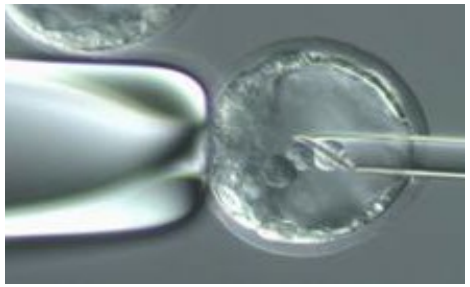
Histopathology

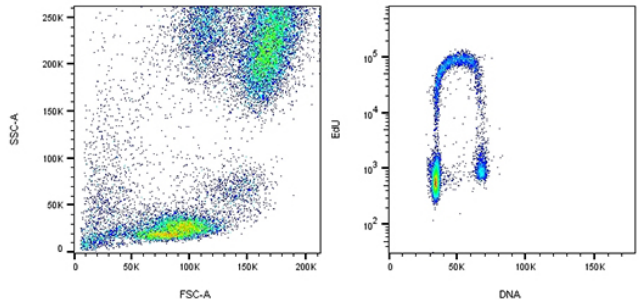
- Cutting microtome sections from FFPE tissues (able to do this without supervision); Processing and embedding tissue;
- Preparing cryostat sections (able to do this without supervision);
- Performing deparaffinization and staining runs; Database entry for work order;
- Perform research Immunohistochemistry (with some supervision);
- Performs basic special staining

Advanced Light Microscopy Core

ADVANCED LIGHT MICROSCOPY CORE (ALMC)	
Assistant Core Scientist 1	Demonstrated experience operating a light microscope and acquiring digital image data in a research setting.
Assistant Core Scientist 2	• Skilled in operating automated widefield, laser-scanning, and spinning disk confocal microscopes. • Understands and can explain basic principles in microscopy to novice user. • Understands and can explain point spreading in fluorescence microscopy and optical sectioning to novice user. • Can train novice user in basic operation of automated, laser-scanning, and spinning disk confocal microscopes. • Can train novice user in basic image analysis using at least one commercial platform supported in the core.
Associate Core Scientist	Assumes proficiency at the Assistant Core Scientist 2 level, plus: • Skilled in operating highly automated imaging platforms and can train users on said platforms. • Skilled in operating microscopes that deploy advanced imaging modalities and can operationally train users on said modalities. • Skilled in operating environmental controls for time-lapse experiments of live samples. • Can train novice user in advanced image analysis using commercial platforms supported in the core. • Understands deconvolution and can deploy it to a variety of images. • Can communicate with inquiring investigators about capabilities and technical features of automated widefield, laser-scanning, and spinning disk confocal microscopes accessible in the core. • Can participate with evaluation of user-provided samples for instrument and analysis platform selection.
Core Scientist	Assumes proficiency at the Associate Core Scientist level, plus: • Understands and can explain technically advanced applications in microscopy to investigators. • Communicates with inquiring investigators about capabilities and technical features of all imaging and analysis platforms in the core as they pertain to their experimental goals. • Can evaluate all platforms in the core for suitability to achieve an investigator's imaging goals. • Can provide advice to investigators as it pertains to sample preparation. • Participates in evaluation of new technologies and instruments. • Assumes responsibilities for maintaining and troubleshooting a subset of imaging systems in the core.
Senior Core Scientist	Assumes proficiency at the Core Scientist level, plus: • Understands multiphoton excitation principle and can train users in operating microscopes with multiphoton lasers. • Skilled in maintaining and troubleshooting most imaging systems in the core. • Can advise investigators on the relative merits of different modalities as they pertain to their imaging projects. • Can identify gaps and participates in development of new imaging services and training materials. • Assists in evaluation of new technologies and their development as new services.

All cores provide services





Technologies, services and costs differ between cores

Some cores require specific skill sets, or even licenses

Salaries differ by technology

Developed salary ranges for cores, and determined proper salary for each core staff member.

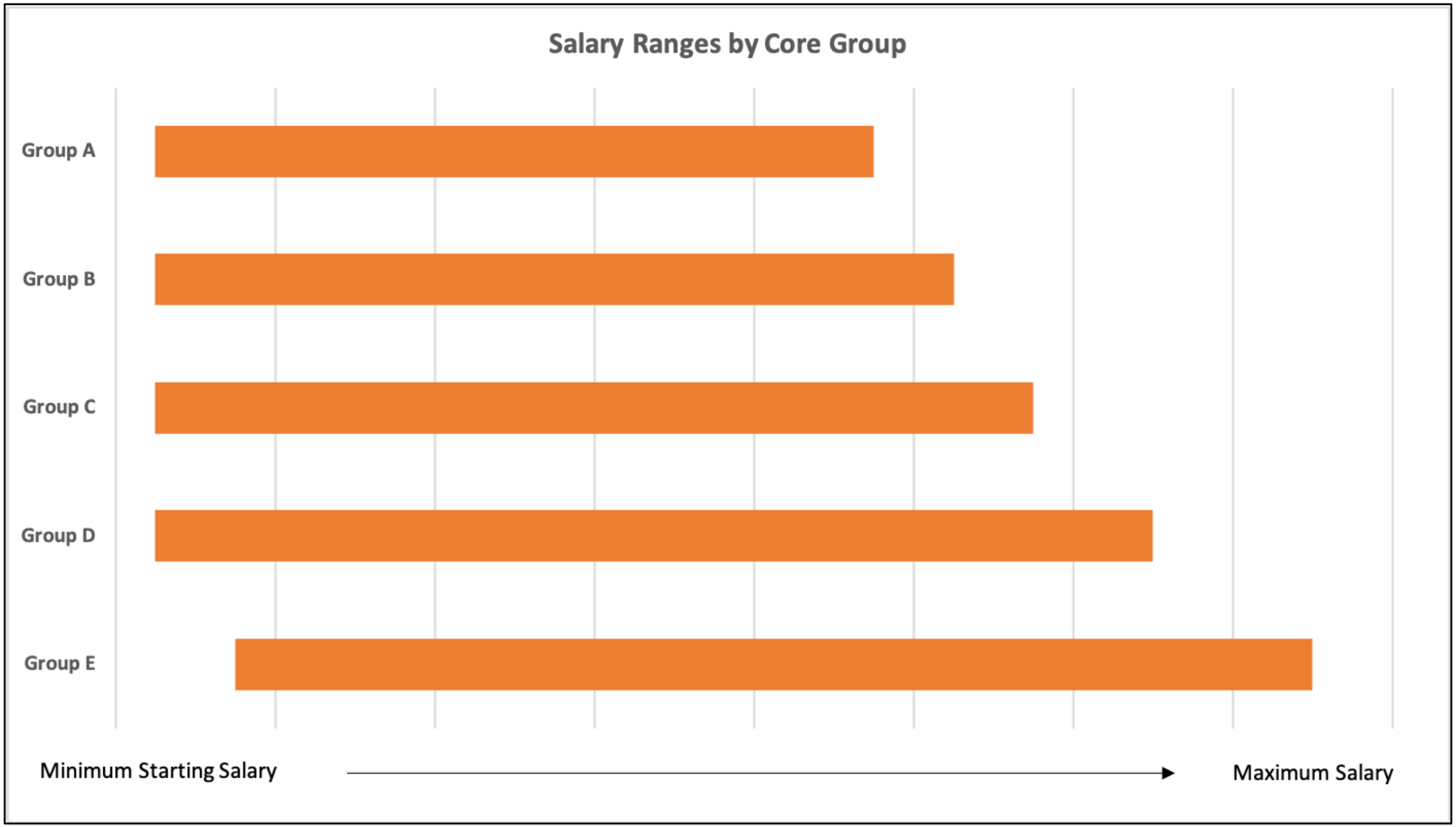
Salary Ranges Associated with Relevant Technology Associated with Core Services

(Numbers for Demo Purposes)

Each approved Core will be assigned to a Core Salary Group by the Core Classifications Work Group.
Approved Cores and assigned salary ranges will be reviewed annually and approved by Research Administration.

For FY22, the approved Cores and assigned salary ranges are as follows:

Core Salary Group	Salary Range	Classification	Approved Core
Core Salary Group A	$40,000 - MIN 100,000 - MAX	Assistant Core Scientist 1 Assistant Core Scientist 2 Associate Core Scientist Core Scientist Senior Core Scientist	
Core Salary Group B	$40,000 - MIN $110,000 - MAX	Assistant Core Scientist 1 Assistant Core Scientist 2 Associate Core Scientist Core Scientist Senior Core Scientist	Core 1 Core 2 Core 3 Core 4
Core Salary Group C	$40,000 - MIN $125,000 - MAX	Assistant Core Scientist 1 Assistant Core Scientist 2 Associate Core Scientist Core Scientist Senior Core Scientist	Core 5 Core 6 Core 7
Core Salary Group D	$40,000 - MIN $135,000 MAX	Assistant Core Scientist 1 Assistant Core Scientist 2 Associate Core Scientist Core Scientist Senior Core Scientist	Core 8 Core 9 Core 10
Core Salary Group E	$50,000 - MIN $150,000 - MAX	Assistant Core Scientist 1 Assistant Core Scientist 2 Associate Core Scientist Core Scientist Senior Core Scientist	Core 11


Salary Ranges by Core Group
Group A
Group B
Group C
Group D
Group E
Minimum Starting Salary
Maximum Salary

OHSU Salary Classifications

Group C

Group	Job Code	Assigned UA Salary Grade	Class Title
Group C	2760U	109.S	Assistant Core Scientist 1
Group C	2761U	110.S	Assistant Core Scientist 2
Group C	2765U	113.S	Associate Core Scientist - C
Group C	2766U	115.S	Core Scientist - C
Group C	2767U	117.S	Senior Core Scientist - C

Group D

Group	Job Code	Assigned UA Salary Grade	Class Title
Group D	2760U	109.S	Assistant Core Scientist 1
Group D	2761U	110.S	Assistant Core Scientist 2
Group D	2768U	114.S	Associate Core Scientist
Group D	2769U	116.S	Core Scientist
Group D	2770U	118.S	Senior Core Scientist

Results

- Retention where we were losing key personnel
- Distinct core career offers long term opportunity with core salaries
- Sense of belonging among core colleagues
- Ability to make changes as the market evolves

Cores HR Administration: OHSU's winding road

Cores HR: Speed Bumps

- Central HR staff turnover
- Institution-wide salary reviews
- Collective Bargaining

Cores HR: Looking Forward

- Continuing education on unique nature of core scientists – Remaining/new HR does not get it.
- Further development of nationwide salary comps

Thank You