Research Strategic Plan 2025

Together. Innovate. Impact.

UCSF Department of Radiation Oncology

STATEMENT OF INTENT

In 2024, UCSF Department of Radiation Oncology launched a focused strategic plan for research, a key pillar of our tripartite missions. Given the breadth, depth and diversity of expertise among faculty, the strategic planning process allowed us to create dialogue and input from across the department to identify opportunities and priorities in research. We engaged AMC Strategies consultants to facilitate the process.

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Strategic Framework

MISSION Foster a collaborative, innovative environment that accelerates discovery and transforms patient outcomes.

VISION Together. Innovate. Impact.

GOALS

A short list of measurable imperatives used to assess progress in executing the plan.

1 Culture

2 Infrastructure

3 Talent

4 Visibility & Reputation

5 Signature Programs

6 Particle Therapy

STRATEGIES

Specific actions describing how to achieve the organization's vision and goals.

RECOMMENDED TACTICS

Detailed instructions provided to guide in plan implementation.

Goals

1 Culture

Foster a cohesive research environment, bolstered by a supportive departmental culture, that encourages interdisciplinary collaborations that leverage the expertise of colleagues across the department, UCSF, the University of California, and beyond.

2 Infrastructure

Develop a robust infrastructure to support research across the radiation oncology research spectrum.

3 Talent

Invest in, nurture and develop the department's research talent.

4 Visibility & Reputation

Grow the department's internationally recognized, high-impact research portfolio which will raise the visibility and profile of the department's research - locally, nationally and internationally.

5 Signature Programs

Identify and develop targeted research themes where radiation oncology can best accelerate innovation and impact on cancer care.

6 Particle Therapy

Develop state-of-the-art clinical, technical and particle-based radiobiology research programs for UCSF Proton Therapy Center at Dogpatch.

Research Strategy Organization




SPONSOR

Catherine Park, MD Professor and Chair

EXECUTIVE COMMITTEE

(pictured top, left to right)

Catherine Park, MD
Ke Sheng, PhD
Sue Yom, MD, PhD
Mary Helen Barcellos-Hoff, PhD

PROGRAM SUPPORT

Eric Breedon

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Strategic Plan Timeline

March - September, 2024

STRATEGIC ENGAGEMENT

- Meet with research steering committee

September, 2024

FACULTY RETREAT

- Lightning talks for research themes/platforms were scored

October - December, 2024

STRATEGIC GOALS UPDATED

- Reviewed by executive committee
- Initial prioritization by steering committee, faculty, residents

February - March, 2025

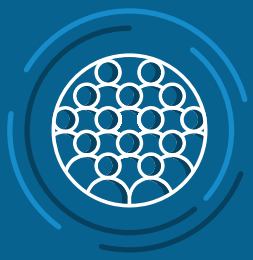
REVIEW & FEEDBACK

- Vice chairs directors
- Research strategy steering committee

March - April, 2025

LAUNCH STRATEGY

- Preliminary assessment of scope of tactics with budgetary lens
- Present strategy at faculty meeting with priorities
- Implementation and ongoing work



GOAL 1 : **CULTURE**

STRATEGY **1.1**

Build a cohesive culture that fosters teamwork, engagement, and trust.

RECOMMENDED TACTICS

1. Make some current meetings in-person or create more in-person interactions for faculty so that we can build closer relationships with one another as colleagues and collaborators.
2. Leverage some of our research meetings, mentorship program meetings, WIPs (Works in Progress) to provide more in-person conversation to build collaboration.
3. Find common places for people to meet in-person on research projects on a regular basis.

STRATEGY **1.2**

Strengthen communication and team building across the department and its multiple sites.

RECOMMENDED TACTICS

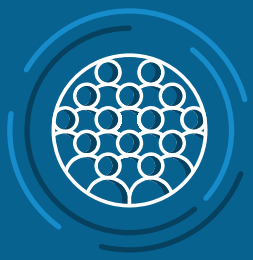
1. Provide more opportunities for in-person meetings across the department and sites.
2. Consider having leadership and faculty offer office hours so that people can drop in for conversations without having to schedule a meeting.

STRATEGY **1.3**

Strengthen research collaborations across the department.

RECOMMENDED TACTICS

1. Create research meetings (WIPs, etc.) around themes or shared interests which could help build synergy around common research interests and goals which could lead to grants, etc. Thematic presentations could help coalesce people into research interests.
   - Form specific interest groups around program project and strategic themes (GOAL 5).
2. Implement low barrier resources to move research projects forward.
3. Focus on early and easy wins on our major departmental research areas. Small wins can build excitement in the department.
4. Improve clinical operations to be more efficient and less distracting (i.e., machine downtime has an impact on research in addition to clinical care).
   - Continue to advocate for critical machine replacements that add redundancy to our systems.
   - Continue to amplify and advocate for a strategic technology acquisition/replacement
   - Implement a more distributive model of leadership and account



GOAL 1 **CULTURE**

STRATEGY **1.4**

Build multidisciplinary, collaborative research across UCSF.

RECOMMENDED TACTICS

1. Create regular forum to invite existing and new collaborators to give research talks
2. Select collaborators to participate in annual research retreats

STRATEGY **1.5**

Strengthen communication and team building across the department and its multiple sites.

RECOMMENDED TACTICS

1. Create regular program for research theme experts to give talks and meet faculty and trainees as visiting professors

GOAL 2 : **INFRASTRUCTURE**

STRATEGY **2.1**

Ensure access to robust resources are available to all researchers in the department.

RECOMMENDED TACTICS

1. Create page (e.g. Wiki or Google doc) with links for resources. Assign specific analyst to manage: requires dedicated effort -> ensure circulated regularly.
   - Example: UCSF grant writing services (e.g., offered through cancer center)
   - Example: Resources available at UCSF e.g., statisticians, EPIC/CTSI (Clinical and Translational Science Institute) people, CRCs (Clinical Research Coordinators), protocol development team, etc.
2. Organize departmental expertise into training/development sessions covering different topics (e.g., half day per month).
   - Example: Grant writing workshops/mentorship
   - Example: Review of data infrastructure and access (e.g., available servers, GPUs, etc.)
3. Mentorship (access to and protected time) for development of trainees, residents, and junior faculty.
   - Provide continuous skill building to enhance mentorship training
   - Articulate expectations as part of formal annual review

GOAL 2 : **INFRASTRUCTURE**

STRATEGY **2.2**

Build a data infrastructure; streamline access and navigation.

RECOMMENDED TACTICS

1. Create a Working Group on Quality of Life (QOL) program (recruit/support will require expertise to build, infrastructure and operationalize).
   - Identify needed resources
2. Provide percent effort for technical expertise of faculty (e.g., protected ‘office hours’ and time to execute).
3. Consider creating a Working Group on computational resources (e.g., servers, GPUs, data storage, etc.).

STRATEGY **2.3**

Enhance research administrative infrastructure and processes.

RECOMMENDED TACTICS

1. Strategically recruit to enhance research infrastructure.
- Data and computational infrastructure
  - Programmer
  - Database manager (e.g. treatment plan data, etc.)
  - Data analyst (e.g. setting up queries, etc.)

2. Determine time/effort of existing roles at UCSF for radiation oncology projects.
- Example: data scientists (e.g. multi-omic analysis)
- Example: database managers in radiology for imaging data

3. Leverage existing clinical roles in department for research effort.
- Example: 20% research effort / time for:
  - Dosimetrists (specific ask for future proton center = proton research dosimetrist)
  - Therapists
  - Nurses
  - MR technologist

4. Provide collaboration and workspace for department.

GOAL 3 : **TALENT**

STRATEGY **3.1**

Attract, recruit, and retain the highest-caliber research faculty, staff, and trainees.

RECOMMENDED TACTICS

1. Continue to identify areas of strategic priority for recruitment; work with research teams to identify candidates and areas of gaps to fill
2. Integrate staff into associated research meetings to enhance engagement, alignment of work and camaraderie
3. Enhance outreach efforts to prospective residents, trainees and students

STRATEGY **3.2**

Facilitate effective mentoring and career development opportunities for the department's researchers, staff, and trainees. (OVERLAPS WITH STRATEGY 2.1)

RECOMMENDED TACTICS

1. Focus group training for mentorship.
2. Take advantage of current UCSF mentorship resources, trainings, and other programs which can enhance our faculty's mentorship knowledge and skill sets.
3. Structuring the mentor/mentee match.

From Strategy 2.1

Mentorship (access to and protected time) for development of trainees, residents, and junior faculty.

- Provide continuous skill building to enhance mentorship training
- Articulate expectations as part of formal annual review

GOAL 3 : **TALENT**

STRATEGY **3.3**

Continually provide opportunities for building effective mentoring skills.

RECOMMENDED TACTICS

1. Engineer a more balanced approach to distribution of clinical responsibilities to allow more participation in research opportunities across the faculty
2. Increase opportunities for faculty to foster research collaborations:
   - Address uneven distribution of leadership and opportunities for research discussion.
3. Enhance interdisciplinary integration of clinical, physics, and basic research projects.
   - Fully integrate the sundry skills and talents in the department.
4. Provide pilot funding mechanisms (e.g., tract) to expand the talent/opportunities to build a group.
5. Foster collaboration between disease sites.
6. Build on expertise in technology and its applications.
7. Establish interest pods—academics, oncology practice, and research.

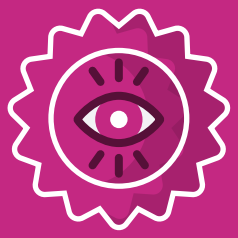
GOAL 4 : **VISIBILITY & REPUTATION**

STRATEGY **4.1**

Elevate the department's visibility and reputation across UCSF.

RECOMMENDED TACTICS

1. Recruit a communications program analyst to implement a more comprehensive and strategic communications.
2. Communicate the department's successes and faculty achievements.
3. Provide more robust communications about faculty achievements to the cancer center and UCSF publications.
4. Enhance the department's visibility and network.
   - Publish a newsletter targeting all external stakeholders including alumni
   - Publish newsletter and annual reports.
   - Provide support and resources for networking events.
   - Cultivate alumni engagement.
   - Employ more effective use of social media. Consider hiring a dedicated social media and communications staff member to help publicize news and communications from our department.
5. Promote the department's vision and strategic plan; include faculty and research highlights.
6. Encourage faculty to increase engagement in cancer center committees and programs.
7. Increase department representation on disease-site groups.



GOAL 4 : **VISIBILITY & REPUTATION**

STRATEGY **4.2**

Narrate and amplify the existing areas of research excellence across the department. (OVERLAPS WITH STRATEGY 4.1)

RECOMMENDED TACTICS

1. Create a communication/portfolio that summarizes and highlights department research programs and their programs outside the department.
   - CNS disease site group portfolio, that also shows the multiple programmatic areas within the BTC.
   - GU/prostate disease site—show the multiple cross-disciplinary and department collaborations (e.g., urology, cancer departments).
   - Physics Division Research strengths: AI machine learning, mathematical modeling, imaging registration, detection, and prediction.
   - Basic/Translational Research: immunomodulatory and immune therapy.
   - Clinical Trials: showcase cooperative group and IIT's.
   - Update these annually for distribution to UCSF campus wide and UCSF cancer communications.

GOAL 4 : **VISIBILITY & REPUTATION**

STRATEGY **4.3**

Position the department as a national and global leader in radiation oncology.

RECOMMENDED TACTICS

1. Nominate faculty for awards, honors and leadership roles on prestigious national and international committees.
2. Invite renown faculty for visiting professorships, fellowships and exchanges, both internally and externally (OVERLAPS with Strategy 1.4, 1.5) .
   - Define a nomination process for external visiting professors; one clinical/physics and basic scientist per year.
   - Promote professional collaborations and exchange.
3. Improve communication about award and nomination opportunities to faculty, fellows and residents.
4. Play a greater leadership role in and strengthen collaboration with the cancer center.
5. Continue to sponsor an annual symposium highlighting innovations in the department
6. Encourage residents and faculty in to pursue leadership positions in national professional societies.

STRATEGY **4.4**

Expand and diversify funding sources, including philanthropic support.

RECOMMENDED TACTICS

1. Share patient success stories and cases broadly.
2. Expand multi-PI grants.
3. Work with foundation representatives for RO as well as for disease site groups

GOAL 5 : **SIGNATURE PROGRAMS**

STRATEGY **5.1**

Develop and grow targeted signature programs identified using a criteria-based, peer-reviewed and scored process that is refreshed annually.

RECOMMENDED TACTICS

1. Create opportunities for departmental faculty to engage in clinical trials development and increase patient enrollment.
   - Organize regular retreats focused on clinical trial research for trainees and faculty, promote interdisciplinary collaborations.
   - Embed CRC's in disease site groups to routinely review eligible patients for enrollment.
   - Create more streamlined, universal consent processes.
2. Create clinical database that is accessible to all faculty for feasibility/retrospective studies.
   - Organize and support computational experts who can address large data set analysis for basic/translational/modeling research needs.
   - Recruit/train a data scientist navigator/wrangler—someone who gains knowledge and facility to gain access to various data sources; develops relationships with various owners of data.
   - Recruit computational biologist expertise that have bandwidth to work on new collaborations.
3. Support Deformable Image Registration and MRI research across multiple clinical research.
   - Enhance awareness and opportunities for incorporation into trials and grants.

GOAL 5 : **SIGNATURE PROGRAMS**

STRATEGY **5.2**

Identify a group of stakeholders with required scientific expertise to agree on a theme for program project development and submission.

RECOMMENDED TACTICS

1. Create a series of discussions that will:

- Identify a scientifically impactful research theme(s) that have a framework for program project (executive team to weigh proposals and make final decisions)
- Confirm stakeholders' commitment to project development and determine leadership/ governance of the project
- Retain administrative support through cancer center and department to support process
- Identify RFA or specific timeline for submission
- Identify resources needed to build up gaps in: collaborative science, core functionality, expertise

GOAL 5 : **SIGNATURE PROGRAMS**

STRATEGY **5.3**

Facilitate inclusive opportunities for innovative multidisciplinary collaborations and novel data generation that will have impact on areas of thematic strength and growth.

RECOMMENDED TACTICS

1. Executive committee to create venues and approaches to enhance collaborative science in strategic themes
   - Identify a scientifically impactful research theme(s) that have a framework for program project (executive team to weigh proposals and make final decisions)
2. Possible approaches
   - Seed funding
   - Annual lightning talks at faculty retreat

GOAL 5 : **SIGNATURE PROGRAMS**

STRATEGY **5.4**

Support platforms that will allow robust engagement through clinical trials, data resource/analytics, and imaging modalities.

RECOMMENDED TACTICS

1. Create opportunities for departmental faculty to engage in clinical trials development and increase patient enrollment.
- Organize annual retreat focused on clinical trial research for trainees and faculty, promote interdisciplinary collaborations.
- Embed CRC's in disease site groups to routinely review eligible patients for enrollment.
- Create more streamlined, universal consent processes.

2. Create clinical database that is accessible to all faculty for feasibility/retrospective studies.
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3. Support Deformable Image Registration and MRI research across multiple clinical research.
- Enhance awareness and opportunities for incorporation into trials and grants.

GOAL 6 : **PARTICLE THERAPY**

STRATEGY **6.1**

Develop facilities to enable state-of-the-art clinical and technical research in radiobiology/radioimmunology.

RECOMMENDED TACTICS

1. Provide dedicated space at the Dogpatch for physics clinical developmental researchprogram
2. Provide dedicated space for clinical computational data modeling with data warehouse
3. Create programmatic framework for clinical research with goal to enroll every patient in a trial or registry
   - Develop infrastructure and process for robust prospective data collection
   - Identify needed resources that will enable workflow
   - Develop strategy for involvement in proton collaborative research networks and trials
   - Develop strategy for disease site specific opportunities
4. Strategically recruit in areas of:
   - Patient reported outcomes and quality research

STRATEGY **6.2**

Support infrastructure for basic and translational RPT and proton research at Dogpatch.

RECOMMENDED TACTICS

1. Provide infrastructure for cell-small animal-based research at Dogpatch.
- Create a lab that can be used by multiple research groups for specific experiments using proton beam.
  - Lab will have tissue culture, and processing infrastructure, basic wet lab equipment.
  - Ensure small animals can be housed for proton and particle research
  - Develop strategy for managing facilities and protocols

2. Support continued investigations in proton/particle dosimetry solutions.
- Electronic circuit-based sensors
- Monte-Carlo based modeling of particles
- CT-imaging based technology

GOAL 6 : **PARTICLE THERAPY**

STRATEGY **6.3**

Build a research-oriented clinical data infrastructure to enroll every patient on an interventional or non-interventional clinical study.

RECOMMENDED TACTICS

1. Support clinical trial infrastructure for proton specific clinical trials.
2. Create a robust prospective registry with data capture of all patients.
   - Umbrella consent form
3. Build expertise and infrastructure for patient reported outcomes studies.
   - Support and/or recruit PI with expertise in patient reported outcomes.
   - Create culture of capturing PRO data on each patient as clinical workflow.
4. Embed CRCs in clinic as part of clinical assessment and follow up.

Steering Committee Top 3 Priorities

The Research Strategic Plan Strategies were ranked by 14 survey participants according to priority, ease and impact. Three Strategies were among the top selected by steering committee members in all categories.

STRATEGIES	RANKING		
	PRIORITY	EASE	IMPACT
1.1 Build a cohesive culture that fosters teamwork, engagement, and trust.	57.1%	57.1%	78.6%
1.2 Strengthen communication and team building across the department and its multiple sites.	50%	100%	57.1%
1.3 Strengthen research collaborations across the department.	35.7%	78.6%	35.7%
1.4 Build multidisciplinary, collaborative research across UCSF.	14.3%	42.9%	42.9%
1.5 Foster research collaborations with external partners.	14.3%	64.3%	21.4%
2.1 Ensure robust, accessible resources are available to all researchers in the department.	64.3%	35.7%	50%
2.2 Build a data infrastructure; streamline access and navigation.	42.9%	42.9%	50%
2.3 Enhance research administrative infrastructure and processes.	78.6%	78.6%	57.1%
3.1 Attract, recruit, and retain the highest-caliber research faculty, staff, and trainees.	64.3%	71.4%	85.7%
3.2 Facilitate effective mentoring and career development opportunities for the department's researchers, staff, and trainees. (Overlaps with Strategy 2.1)	50%	57.1%	50%
3.3 Provide the necessary research protected time for faculty to build successful research programs.	64.3%	71.4%	50%
4.1 Elevate the department's visibility and reputation across UCSF.	50%	64.3%	28.6%
4.2 Narrate and amplify the existing areas of research excellence across the department. (Overlaps with Strategy 4.1)	57.1%	14.3%	50%
4.3 Position the department as a national and global leader in radiation oncology.	64.3%	21.4%	64.3%
4.4 Expand and diversify funding sources, including philanthropic support.	35.7%	35.7%	42.9%
5.1 Develop and grow targeted signature programs identified using a criteria-based, peer-reviewed and scored process that is refreshed annually.	21.4%	71.4%	14.3%
5.2 Identify a group of stakeholders with required scientific expertise to agree on a theme for Program Project development and submission.	42.9%	42.9%	35.7%
5.3 Facilitate inclusive opportunities for innovative multidisciplinary collaborations and novel data generation that will have impact on areas of thematic strength and growth.	28.6%	42.9%	64.3%
5.4 Support platforms that will allow robust engagement through clinical trials, data resource/analytics, and imaging modalities.	57.1%	35.7%	64.3%
6.1 Develop facilities to enable state-of-the-art clinical and technical research in radiobiology/radioimmunology.	42.9%	7.1%	35.7%
6.2 Support infrastructure for basic and translational RPT and proton research at Dogpatch.	57.1%	35.7%	57.1%
6.3 Build a research-oriented clinical data infrastructure to enroll every patient on an interventional or non-interventional clinical study.	57.1%	14.3%	57.1%

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