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THE DOSSIER

The Digest On CCR Staff Scientists and Staff Clinicians: Information, Employment and Research

From the Editor's Desk

Dear Colleagues,

Wishing you all the best for 2026!

First and foremost, I sincerely thank each of you for your dedication, perseverance, and hard work, which continue to drive cancer research forward, improve health outcomes, and ultimately save lives. It is a privilege to work alongside such a talented and committed group of colleagues at the Center for Cancer Research (CCR), National Cancer Institute (NCI).

I would also like to extend my profound appreciation to all contributing writers, editors, and members of the Editorial Board for their enthusiasm and teamwork in bringing together the 51st issue of the *DOSSIER*. This issue features a message from our CCR's Acting Co-Directors, Dr. James Gulley and Dr. Carol Thiele, along with the Scientific Director for Clinical Research, Dr. Deborah Citrin. It also includes an article on existing grants and external funding opportunities for Staff Scientists and Staff Clinicians (SS/SC), a highlight of newly available resources from the CCR Collaborative Bioinformatics Resource (CCBR) in the Core Corner, updates on the SS/SC Displacement Policy, including strategies for preparing for and navigating SS/SC displacement, a spotlight on two CCR Principal Investigators in the PI Corner, and research highlights from both a Staff Clinician and a Staff Scientist in the Author Corner.

This issue includes coverage of the 2025 Annual Professional Development Meeting, held on December 15, 2025, at the NCI campus in Shady Grove, Maryland. I extend my heartfelt appreciation to the Professional Development Committee for organizing such an impactful meeting, which fostered meaningful discussions, professional growth, and opportunities to strengthen connections across our NCI community. A full report and selected photos from the meeting are included in this issue.

On behalf of the Editorial Board, I wish you a very successful 2026. May the year ahead be filled with continued success, exciting opportunities, meaningful collaborations, and progress toward our shared mission.

Brajendra Tripathi, Ph.D.
Editor-in-Chief

Happy New Year 2026

A Note From The CCR Acting Co-Directors

Dear Staff Scientists and Staff Clinicians,

In 2026, we want to take a moment to express our sincere gratitude for your dedication, hard work, patience and resilience through the changes of last year.

We are increasingly confident that CCR is on a solid path toward sustained stability. We have met with our new NCI director, Dr. Tony Letai and we are encouraged that he has expressed strong support for the intramural program. While we still do not have final budget numbers, PIs have been advised to plan for at least a level budget compared to last year.

Clear and timely communication remains a priority for us. Official guidance flows from the Department of Health and Human Services (DHHS) to NIH, then to NCI and then to CCR. We share policies as soon as they are conveyed to us from NCI leadership. Our "All Staff" email messages are archived on CCR Central, which is a great place to check before seeking more information. Within CCR, your sources of information should be your direct supervisor, your lab/branch chief and your CCR deputy director, in that order.

To support you further, we continue to monitor the AskCCR email box daily, and we will provide responses to your questions as promptly as possible.

We would like to mention the accompanying article in this Issue from CCR's grants coordinator, Meredith Metzger, Ph.D., which highlights available grant and funding opportunities for SS/SC, from both within NIH and from external funding sources. We hope this resource supports you in planning and advancing your scientific goals.

Thank you once again for everything you have done during this challenging period. Your commitment to our mission and to one another has been unwavering, an inspiring anchor of stability in these uncertain times. Thank you all for what you do every day. It truly makes a difference.

Carol J. Thiele. Ph.D.
Acting Co-Director

James L. Gulley M.D.
Ph.D. Acting Co-Director

Deborah Citrin M.D.
Scientific Director
Clinical Research

Grants 101 for CCR Staff Scientists/Staff Clinicians

Contributed By: Meredith Metzger, Ph.D., CCR Grants Coordinator

All CCR staff are encouraged to explore external funding opportunities, such as grants. These offer important opportunities for supplemental resources to support new research projects or collaborations and provide outside recognition for your work to support your career development. However, NCI is bound by federal law and regulations that may restrict the acceptance of external funds.

Here, I hope to provide you with information on applying for outside funding that will be of relevance to SS/SC. This should give you some background on the receipt of grants by NCI, describe CCR resources for grant applications and the requisite approvals for applying, and share tips and tricks for preparing a grant application.

Grant Funding = A Conditional Gift to NCI

NCI's congressionally appropriated budget can only be supplemented in specific ways: through CRADAs, royalties, interagency transfers, donations to NCI, and what are called conditional gifts. Grant funding is considered a conditional gift, meaning that it is funding ("gift") to NCI that is restricted to support a specific project, lab, and PI.

Federal law and NIH and NCI policies govern NCI's acceptance of conditional gifts. NCI staff cannot accept grant funding from industry/pharma, from NIH/NSF extramural grants (including ARPA-H), or from any institute that themselves receives NIH extramural funding. This largely limits eligible funding sources to non-profit or professional organizations. Furthermore, to receive funds most funding agencies require NCI to sign an award agreement that dictate the terms of the award. NCI cannot accept terms involving liability or indemnification, publication restrictions, or a requirement to provide intellectual property rights, such as royalties or licensing. Unfortunately, NCI legally has no flexibility on many of these issues, so if these terms cannot be modified, we will not be able to accept the award. Also, some funding agencies are just not interesting in providing grants to individuals working in government-funded laboratories.

Finding a Funding Opportunity

How, then, can you find a funding opportunity without concern for these issues? CCR researchers can consult CCR's list of Approved Outside Funding Sources. Here, we have pre-vetted many outside funding sources to give you a list of acceptable funding sources and, as much as possible, avoid complications with accepting funding. If you are interested in a funding source not found on the list, please email NCICCRGrants@mail.nih.gov to determine if you can apply to that funding opportunity at least one month in advance of the potential application deadline.

Eligibility Considerations for SS/SC

Often, the PI on a grant does not have to be a CCR PI. If a funding agency deems a Staff Scientist/Staff Clinician as eligible to serve as the PI on a grant, CCR will also allow it with your CCR PI's approval. It can be challenging to determine whether SS/SC are eligible to be the grant PI, though. I suggest you first look in the award eligibility information for language such as the following: investigators at all academic/career levels, investigators at or above the level of postdoc, investigators at or above the level of Instructor, investigators with a faculty-level appointment, investigators at or above the level of Assistant Professor (or equivalent), individuals with the skills, knowledge, resources necessary to carry out the proposed project, or individuals with a paid appointment at an academic institution. SS/SC would generally not be eligible for funding opportunities that require the PI on the grant to be an independent investigator, an investigator with independent resources, or a tenured or tenure-track investigator. If you are unsure of whether you are eligible for a funding opportunity, please email NCICCRGrants@mail.nih.gov for guidance.

Before You Start Writing…Plan Accordingly

Once you pick a funding opportunity to apply for, locate the "Request for Applications" (RFA) or any other application instructions. You will want to read these carefully. Make note of the submission deadline and whether there are a required "Letter of Intent/Pre-Application" and its submission deadline.

You will also want to determine how and where the application is submitted. Submissions methods can vary from "email a merged PDF" to using complicated submission portals that require institutional submission or signatures. If it is the latter, make sure you can log into the submission platform and initiate your application well in advance.

The RFA will also list all the forms and documents required for the submission. Some grants require only a short research proposal, but others may want a much lengthier proposal with many different supporting documents. It is important to remember that you will be responsible for preparing your application in its entirety. I suggest you make a timeline with deadlines for completing each portion of the application. Also, make note of any application components, such as letters of recommendation or institutional letters of support, that need to come from someone other than you. Ensure you request these well in advance of the deadline.

Often the RFA will also include the funding agency's mission, scientific priorities, and any specific topic areas for the current award. This information, coupled with the budget and duration of funding for the award should be used to determine the scope of the specific aims for your research project. Some will also list the review criteria, which can be helpful to have in mind as you write your proposal.

It can be difficult to prepare a grant application while also working in the lab or clinic. You might find it helpful to block out time in your schedule every day to work on the application. I also advise that you start preparing your application as early as possible. It will almost always take longer than you think!

Don't Forget CCR Approval

Submission of any LOI, pre-application, or grant application for external funding to support any research proposal requires institutional review and approval prior to submission. This occurs through the **CCR Grant Submission Approval Process**, which should be completed no later than one week in advance of the LOI or full application deadline. The paperwork requires signature of your CCR PI and Lab/Branch Chief, so please plan accordingly.

Developing Specific Aims

Developing your specific aims is probably the most important part of preparing a grant. To start, define a problem or significant gap in knowledge in your field of expertise, in the context of the funding source's scientific priorities. Generate a central hypothesis around this gap or problem. This ideally will not be incremental in nature but will change the field or open new area of research. Your specific aims will then be the experimental basis to test this hypothesis. Each aim should be related to your central hypothesis, but they should be independent of one another to ensure that failure of one aim does not lead to failure of the entire project. They also should be realistic, based on preliminary data, and feasible to accomplish in the time and with the money that the award is offering.

Once you have drafted your specific aims, consider whether you have the expertise and resources needed to complete them. If you do not, find collaborators who do. This could be your CCR PI, someone else in your Lab/Branch, CCR, NCI, or NIH. You will need to have your aims reviewed by your CCR PI, but you will also want to send them to as many other colleagues as you can for their valuable input. You may choose to wait to share them until you have developed them, but getting input on them early can keep you from wasting time on something that others may point out has significant issues.

Writing the Full Research Proposal

The length guidelines provided by the funding agency for your research proposal will dictate how much detail you can provide. A general framework is to start with a "big picture" introduction that establishes the significance of your field. Provide background on what is known, leading to what is unknown: scientific gap in knowledge your aims will address. Then, describe your specific central hypothesis and lay out your specific aims that will test this hypothesis.

Give each aim a title and its own separate paragraph. You may also want to include a figure of your aims. It is important to provide details on the experimental approach, anticipated outcomes, and what you anticipate will be learned or accomplished from each aim. You can include alternatives in case the aim/method doesn't work as described.

End with a summary paragraph that brings together what you will learn from completing the aims and how this addresses your central hypothesis. This is also a good place to describe why your proposal is new, different, or innovative. You can also highlight the impact it would have on the field, how it may lead

to further studies, new technology, or approaches, or ultimately impact human health or disease.

The Grant Budget

The grant budget is where you will describe to the funding agency how you would spend their money! In many cases, they will also need a budget justification to detail the expenses. Budgets are typically broken up by category of expenses: Personnel, equipment, travel expenses, publication costs, supplies and services, etc. All categories may not be allowed by the funding agency, so consult the RFA for restrictions.

Please note that SS/SC cannot request funding to cover your own salary. Funding can be requested for new non-FTE (postdoc or postbac) staff dedicated to the project, but the grant budget must fully cover their stipend and insurance costs. For a postbac, 1-2 years of funding must be provided; for a postdoc, there must be at least 3 years of funding. At the time of the award, your CCR PI will also need to seek CCR approval to hire new staff. The ability to bring on personnel requested in grant budgets is ultimately dependent on policies and restrictions at that time.

It is important to show the funding agency that you have been thoughtful in preparing your budget. Even for routine lab supplies or kits, list those you intend to purchase, the unit cost, and number needed. Get detailed cost estimates for any core services or contracted services you will need. The budget information you provide will help reviewers or the funding agency evaluate whether the budget is reasonable for the project you are proposing and a responsible use of their funding.

Other Common Documents

Funding agencies may ask for your biosketch, often in an "NIH format." This is different than a generic C.V. and you can use NHLBI's SciENcv to generate a properly formatted biosketch. Reviewers will generally use the information in your biosketch (and the biosketch of any collaborators) to assess whether you and your team have the expertise and experience needed to carry out the proposed work. Another common requirement is facilities, equipment, and other resources document. This will describe all the resources available to support the project. It generally starts by describing the research environment at the institutional (NIH/NCI) level and then goes into more specific details of any CCR, Lab/Branch, or PI lab resources and equipment that are available and would be needed to carry out the project. This is used to determine whether the institution can support the proposed work.

General Application Tips

Reviewers may have a lot of applications to review, so you want to make it as easy as possible for them. Try to simplify your writing and make sure your proposal is approachable to someone who is not an expert. You may find additional information on the nature of the reviewers and any review criteria in the RFA. Use headings to organize your proposal, use reasonable fonts (even in figures!), and try and leave some white space on the page. Check carefully for any typos or grammatical errors before you submit the application.

Decisions and Awards

After submission, the timeline for review will vary by funding agency. The dates for review and funding notifications may be listed in the RFA. If your proposal is not funded, carefully consider any reviews you receive back. Does it make sense to reapply to the same funding opportunity next year, or should you consider trying somewhere different? Do they suggest your project could be improved by additional preliminary data or expertise? Unfortunately, most grants are very competitive, so prepare yourself to have to resubmit or submit to a new funding opportunity. If your proposal is funded, conditional gifts to NCI undergo a multi-step review and approval process before receipt, so it can take some time to receive funding. Your Lab/Branch's administrative officer (AO) will mediate this process. Typically, the grant funding will be in a separate account under your PI's budget. You will typically need to provide detailed spending and progress reports to the funding agency. Completing this on time will ensure that funding agencies want to continue to provide funding to you for subsequent budget years and to NCI in the future.

Conclusions

Applying for grants may seem daunting, since it is very different from working in the lab or clinic, or writing a manuscript. But with careful preparation, CCR applicants are successful at getting funded. If applying for a grant is something you are considering, I encourage you to reach out to NCICCRGrants@mail.nih.gov with any questions.

Getting to Know Our New SS/SC

Section Editor: Yoshimi Greer, M.D. Ph.D. (SS)

Satheesh Sengodan, Ph.D.
Staff Scientist
Mouse Cancer Genetics Program

Research focus

Women carrying BRCA1 or BRCA2 mutations have a 70–80% lifetime risk of developing hereditary breast cancer. Until recently, it has remained unclear how BRCA2-deficient tumors arise from normal breast tissue, given that loss of heterozygosity (LOH) of BRCA2 is typically lethal to normal cells in mutation carriers. My research aims to identify and characterize genetic interactors of BRCA2 whose activation or loss can rescue BRCA2-normal cells following LOH. Understanding these interactions may help explain how BRCA2-mutant tumors emerge in breast tissue.

How did you choose your career?

Although I began my early research career studying the tropical disease leishmaniasis, I shifted my focus to breast cancer during my doctoral training in 2012, motivated by the significant global impact of hereditary breast cancers linked to BRCA1/2 mutations. My doctoral work centered on the hormonal influences driving BRCA1-associated hereditary breast cancer. In 2018, I joined Dr. Shyam Sharan's laboratory, where I continued to investigate the origins and development of BRCA2-associated breast cancers.

What could be the impact of your research?

Delineating the development of BRCA2-related breast cancer is essential not only for understanding its biology but also for improving treatment strategies for this particularly aggressive hereditary cancer, which often affects young women during their reproductive years.

Event Report: Highlights from the 2026 Professional Development Meeting

The Professional Development Committee works toward the goals of identifying and establishing opportunities for the professional development and career advancement of SS/SC at the NCI CCR and DCEG. Each year, the committee organizes a workshop with a theme focused on SS/SC to further enhance their knowledge and expertise.

This year's Professional Development Meeting was held as a hybrid meeting on December 15, 2025, at the NCI Shady Grove in Rockville, MD. The committee arranged refreshments and coffee for all the attendees. The morning session began with the welcome address by Dr. Balamurugan Kuppusamy, Chair of the Professional Development Committee, and stimulating opening remarks by Dr. James Gulley, Acting Co-Director and NCI Clinical Director, CCR, NCI.

The next session followed with presentations by Dr. Debananda Das, who spoke about Molecular Modeling Tools, and Dr. Stevenson Nelson on Chatbots at NIH. Their presentations overall encouraged the SS/SC community to come up with innovative ideas and questions and how these software packages and/or tools can be used in their research. Dr. Chanelle Case Borden, Branch Director, Office of Training and Education, highlighted SCEP program opportunities to the SS/SC community. We were also joined by Dr. Meredith Metzger, CCR Grants Coordinator who detailed resources available to SS/SC for exploring grant opportunities, important considerations when applying for grants and strategies to improve success. To enrich communication skills, we organized sixty-second presentations (Elevator Pitch), which were well received. Additionally, Drs. Swati Choski (NCI), and Hiromi Imamichi (NIAID), staff scientist organization representatives of the Assembly of Scientists (AOS), NIH, shared updates on initiatives of the NIH SSO. This was followed by presentations and updates from the current co-chairs of the NCI SS/SC Organization Drs. Lisa Jenkins, Ravi Chalamalasetty, Nicolas Cuburu and Xue Zhi Zhao, The DOSSIER Editor-in-Chief Dr. Brajendra Tripathi and the 2026 SS/SC Annual Retreat co-chairs, Drs. Daniël Melters and Kellsye Fabian.

In the afternoon session, Dr. Cynthia Masison, Executive Secretary for the CCR Staff Scientist Quadrennial Review Committee, and Mrs. Rena Rodriguez, Deputy Director in the NCI Office of Management and Acting Director in the NIH Office of Intramural Research (OIR) presented updates on the quadrennial review process, HR actions and displaced staff scientists. A panel discussion by SS/SC alumni, Drs. Christophe Marchand, Chi Ping Day, Masaki Terabe, and Noemi Kedai were held. These former CCR SS shared their experience in their transition to intramural and extramural tenure track investigators, and industry jobs.

To conclude the workshop, vibrant closing remarks were presented by Dr. Anthony Letai, Director, NCI. Overall, the Professional Development Meeting was filled with many presentations and discussions focused on enriching SS/SC professional growth and career development. Moreover, it serves as a forum to discuss the exciting opportunities and resources available to SS/SC community. We thank NCI/CCR leadership, the Center for Cancer Training team, Ms. Angela Jones, and Ms. Maria Moten, and AV team staff Mr. Randy Melton for their enormous support.

Members of the Professional Development Committee

Balamurugan Kuppusamy, Chair
Abdul Waheed
Acong Yang
Brajendra Tripathi
Cynthia Masison
Dale Lewis
Haydar Bulut
Imran Khan
Nicolas Cuburu
Noriko Sato
Sabina Kaczanowska
Snehal Gaikwad
Sudheer Kumar Gara
Sukhbir Kaur
Xue Zhi Zhao

Photos Courtesy: Dale Lewis

NCI Director Dr. Anthony Letai and CCR Acting Director Dr. James Gulley address SS/SC.
Scientists at the professional development meeting discuss important topics on cancer research and career development.









Scientists at the professional development meeting discuss important topics on cancer research and career development.

THE DOSSIER

Refresher of the Staff Scientist Displacement Standard Operating Procedure (SOP)

The Staff Scientist position was created to enable faculty-level doctoral scientists to work with Principal Investigators (PIs) in support of the NCI mission. These appointments are time-limited and renewable, intended to support the work of a PI or a Core. For various reasons, a lab or core may close, resulting in the displacement of Staff Scientists regardless of their performance or dedication. Such displacement can cause significant anxiety, stress, and uncertainty, affecting both the scientific career and home life of the Staff Scientist. Moreover, when displacement occurs, Staff Scientists may be mid-career or beyond, making it seem difficult to find an appropriate position that matches their extensive expertise and specialization.

The past year has brought considerable uncertainty, including the retirement or departure of several PIs. As a result, many Staff Scientists are transitioning to other labs or core facilities. To address this displacement issue, the CCR has implemented a memo, now formalized as policy, designed to clarify and resolve challenges faced by Staff Scientists when their lab closes. In this issue of *The Dossier*, we highlight key aspects of the Staff Scientist Displacement Policy, which outlines the standard process for Staff Scientists (SSs) when their PI leaves. Although this policy existed previously, it had not been updated or clearly communicated to the SS community. Therefore, in collaboration with CCR leadership, the CCR Deputy Directors, and CCR Administrative Resource Center (ARC) Deputy Director, Rena Rodriguez, the Standard Operating Procedure (SOP) for SS displacement was developed by NCI-CCR Staff Scientist Organization co-chairs Swati Choksi, Acong Yang, Ravi Chalamalasetty, Nicolas Cuburu, and Esther Mena in 2024. Full details are available on the SS/SC website and on CCR Central. In addition, slides presenting the policy and recordings from the 2024 SS/SC Annual Meeting, at which the Displacement Policy was discussed, are available on the CCR SS/SC Organization homepage.

Overview of the Displacement Process

The process begins when a PI informs CCR leadership or the AO of their intention to leave. This triggers a transition meeting between the departing PI, Lab/Branch Chief, CCR Deputy Director, and administrative staff to review transition needs, including personnel. During or shortly after this meeting, CCR will determine a displacement date for affected SSs. The AO will then provide an official notification letter outlining the NTE date, identifying a temporary mentor if needed, offering instructions regarding placement on the Displaced List, and providing career counseling resources.

Once the PI departs CCR, the SS has one (1) year to secure a new position. CCR leadership values the expertise of Staff Scientists and aims to retain them by facilitating placement in other CCR labs when possible. Deputy Directors are actively involved in connecting displaced SSs with sections where their skills align. However, placement cannot be guaranteed, and SSs must take an active role in identifying opportunities both within and outside CCR. After receiving a NTE date, seeking a new position becomes the SS's top priority.

Practical Steps for Displaced SS

- **Meet with your Deputy Director promptly.** Schedule a meeting as soon as you learn of the PI's transition, even if the departure is months away. Share an updated CV and information about your skills to help the Deputy Director understand your expertise.
- **Engage actively in the job search.** Explore openings within CCR; contact PIs whose research aligns with your interests; and consider temporary details in other programs.
- **Advocate for yourself.** Being proactive significantly increases your chances of finding a strong match.

Preparation for SS Not Currently Affected
Even if your PI is not planning to depart, it's important to be prepared:

- Know who your Deputy Director is and, if possible, build a relationship with them.
- Maintain an updated CV, an industry-style résumé, and an active LinkedIn profile.
- Create or update a CCR webpage and research profiles (e.g., ResearchGate, Scopus, PubMed) and link these in your CV and on LinkedIn.
- Continue to build professional skills through webinars and training in both technical and soft-skill areas.
- Network within and outside CCR, including through conferences and volunteer opportunities.
- Prioritize conference attendance for presenting your research, maintaining visibility, and staying current in your field.

The overarching message, whether you are displaced, is the same: **be proactive and advocate for your career.**

Again, the full Displacement Policy can be found on the SS/SC Website: Displacement Policy.
We understand that Displacement can be a very difficult situation. We know that our full community and leadership will offer those colleagues their full support. To that end, we are establishing a Displaced Scientist Subcommittee which will help provide centralized information, peer support, and coordination with existing CCR and NIH-wide career and transition resources. The Displaced Scientist Subcommittee will be chaired initially by Haydar Bulut and Xue Zhi Zhao. We would invite anyone who is or has been displaced to please reach out to a chair of the subcommittee or one of the SS/SC Organization chairs. This will enable us to better collect the experiences of displacement for guidance of others and to better support those who are currently experiencing it.

Co-Chairs, CCR SS/SC Organization

Ravi Chalamalasetty, Ph.D. (Frederick)
Nicolas Cuburu, Ph.D. (Bethesda)
Lisa Jenkins, Ph.D. (Bethesda)
Xue Zhi Zhao, Ph.D. (Frederick)

Supporting SS/SC Through Transition: Launch of the Displaced Staff Scientist Committee (DSSC)

SS/SC are central to the scientific mission of the CCR, providing continuity, deep technical expertise, and long-term contributions to research programs. However, displacement can occur regardless of performance or dedication, often due to factors beyond an individual's control, such as funding changes, leadership transitions, shifts in programmatic priorities, or PI retirement. These transitions can create significant stress and uncertainty, affecting both professional trajectories and personal lives.

During the recent Annual Professional Development Day held on December 15, 2025, open and candid discussions among colleagues highlighted an important concern within the CCR SS/SC community: the challenges faced by Staff Scientists who are either experiencing displacement or living with the uncertainty of potential displacement.

Displacement most often occurs at the mid-career stage or later, when SS/SC have accumulated highly specialized expertise and long-standing commitments. At this stage, securing a new position that fully aligns with one's experience can be particularly challenging. While NIH and CCR have established policies and resources to support displaced employees, many colleagues benefit from additional peer-level guidance, shared experience, and centralized access to information.

To better address these needs, we are launching the Displaced Staff Scientist Committee (DSSC) within the SS/SC Organization, with strong support from our current SS/SC Co-Chairs. The DSSC will provide specialized, structured, peer-driven support for SS/SC who are displaced or at risk of displacement. A key strength of the DSSC is its foundation in the lived experiences of displaced Staff Scientists who have navigated these transitions themselves. By directly learning from firsthand navigated these transitions themselves. By directly learning from firsthand experiences, the DSSC will serve as an information hub, facilitate peer mentoring on an opt-in basis, and coordinate with existing NIH-wide resources, including the CCR Office of the Director (OD), the Office of Human Resources (OHR), and programs such as STEP, SCEP, and Technology Transfer.

Strengthening support during periods of uncertainty is expected to have a positive impact on the productivity and retention of SS/SC. Reducing stress enables scientists to remain focused on their work, preserves valuable institutional expertise, and supports continuity across CCR. This is especially important for long-term Staff Scientists, for whom transitions can become increasingly complex over time. The DSSC represents a proactive step toward recognizing SS/SC as core institutional assets and ensuring that their expertise continues to benefit CCR and NCI.

The DSSC invites participation from SS/SC with displacement experience. Colleagues who are interested in participating, sharing experiences, or contributing ideas are warmly encouraged to get involved. We recognize the complexity and challenges associated with sudden change and transition, and we hope that experienced peers within the DSSC can provide meaningful support to colleagues navigating this process.

Please consider self-nominating or recommending colleagues to join the DSSC. We welcome your participation and support. To get involved, please contact:

Haydar Bulut, Ph.D.
e-mail: haydar.bulut@nih.gov

Xue Zhi Zhao, Ph.D.
e-mail: xuezhi.zhao@nih.gov

On behalf of the CCR SS/SC Organization.

Core Corner: Bioinformatics Resources at the CCR

Section Editor: Lisa Jenkins, Ph.D. (SS)

With the rise of big data and increasingly complex analytical methods, the importance of bioinformatics continues to grow. Yet these analyses can themselves be challenging, and specialized expertise is essential to ensure appropriate methods are used and to keep pace with rapidly evolving approaches. Fortunately, CCR SS/SC have access to a resource built for exactly these needs.

The CCR Collaborative Bioinformatics Resource (CCBR) is the primary bioinformatics core for CCR researchers and serves as a collaborative partner for investigators across the project lifecycle. The CCBR team provides input at multiple stages, beginning by consulting on study design and sequencing strategy to help ensure optimal experimental design. Once the data are collected, CCBR helps with downstream analysis across most major -omics platforms: bulk RNA-seq, single-cell, ATAC-seq, whole-exome and whole-genome sequencing, immune repertoire profiling, and spatial transcriptomics. In general, if data are generated by a sequencer or imaging-based platform, CCBR likely works with it. They also maintain robust, well-tested pipelines and offer training so researchers can analyze their own data when desired.

CCBR prides itself on being a flexible partner, able to adapt existing methods to address new scientific questions. Their work spans pipeline engineering and deep analytical inquiry, whether for fully developed studies or early-stage pilots designed to test emerging hypotheses. This adaptability is especially valuable in immuno-oncology, single-cell, and spatial biology projects, where multi-omics expertise and custom approaches can be critical for generating meaningful insights. For every analysis, the CCBR team brings a combination of reproducible practices and creative problem-solving, hallmarks of NCI's core facilities.

When asked about some of her favorite aspects of CCBR's work, Dr. Maggie Cam, Head of CCBR, highlighted the excitement of working with Visium HD spatial transcriptomics paired with whole-slide H&E imaging. "Being able to integrate spatial architecture, immune cell programs, tissue context, and computational modeling allows us to map immune exhaustion signatures and microenvironmental niches back onto tissue structure—revealing biology that bulk or even single-cell data alone can't capture." She noted that this work ties directly into her long-term goal of developing AI-driven analytic tools to help researchers understand immune behavior *in situ*.

CCBR also maintains the NIDAP platform for data analysis. The original NIDAP provided CCR investigators with curated workflows for running analyses. Now, CCBR is building NIDAP 2.0, a far more flexible and user-driven system. Instead of a single monolithic platform, NIDAP 2.0 will be an ecosystem of containerized, cloud-ready tools that researchers can mix and match as needed. As Cam explained, "This shift allows analysts and researchers to prototype faster, collaborate more naturally, and reduce dependency on a single vendor-controlled stack." Although still evolving, NIDAP 2.0 aims to give users modern, adaptable tools aligned with how researchers work.

Starting a project with CCBR is straightforward. Investigators complete an intake form on the CCBR website https://bioinformatics.ccr.cancer.gov/ccbr/ask-for-help/, which initiates a consultation meeting with the team to review project goals, sample details, metadata, and design considerations. Once data are generated, CCBR pipelines perform data QC, alignment, and quantification. The resulting processed data then move into a collaborative analytical phase, involving iterative clustering, differential expression analysis, pathway exploration, spatial mapping, or other methods appropriate to the study. Overall, the workflow is structured but flexible, adapting as new insights emerge from the data.

The result of this process includes publication-ready figures, reproducible code, data prepared for public deposition, as well as clear methods and interpretive text to support a manuscript.

Members of the CCR Collaborative Bioinformatics Resource (CCBR) Team.

PI Corner

Section Editor: Andaleeb Sajid, Ph.D. (SS)

Dr. ANISH THOMAS
Acting Deputy Chief of the Developmental Therapeutics Branch, CCR, NCI

Dr. Anish Thomas is serving as the Acting Deputy Chief of the Developmental Therapeutics Branch, where he leads a translational research program focused on small-cell lung cancer (SCLC), metastasis biology, and the development of early-phase clinical trials. Dr. Thomas moved to the United States after completing his MBBS (bachelor's degree in medicine and surgery) and MD (Doctor of Medicine) in Bangalore, India and practicing as a clinician for several years. After relocating to Upstate New York to work in a research laboratory and completing his residency, he began to see how scientific questions could emerge directly from patient care. This experience sparked a dual interest in medicine and discovery science. He joined the NIH in 2010 as a hematology-oncology fellow and, in 2013, was recruited as a Staff Clinician in Dr. Raffit Hassan's laboratory at the NCI, an environment that offered a rare combination of stability and scientific opportunity. After several highly productive years, he became a tenure-track investigator in the Developmental Therapeutics Branch in 2017.

Throughout his career, Dr. Thomas has been driven by a fundamental question: why do patients with the same cancer respond so differently to therapy? Working with clinical samples and genomic datasets from trials he leads, he increasingly recognized that answering these questions required experimental testing.

One of the most consequential decisions during the lab's formation was the hiring of a staff scientist, Dr. Ajit Kumar Sharma, approximately three years ago. This decision shaped the structure, productivity, and scientific direction of the group. While Dr. Thomas focuses on clinical care, early-phase trial development, and translational analyses with computational teams, the staff scientist drives the lab's experimental engine. This enables the group to identify clinically relevant hypotheses from patient data and pursue mechanistic studies that test them rigorously.

A major effort in the laboratory is understanding molecular mechanisms of organ-specific metastasis: why certain tumors preferentially colonize the liver, whereas others metastasize to the brain. Using patient samples, sequencing datasets, and autopsy-derived models, the team identifies patterns associated with metastatic organotropism. Once a hypothesis emerges from the genomic analyses, the translational pipeline moves to the experimental side of the lab. Dr. Sharma develops and executes the in vitro and in vivo models needed to validate these mechanisms, oversees experimental design, troubleshoots technical challenges, and mentors trainees.

Dr. Thomas's appreciation for the staff scientist role is informed not only by his experience as a PI but also by his earlier years as a Staff Clinician. That period provided the protected time and space to grow scientifically without external pressures. He sees the staff scientist as the backbone of a productive translational program. Postbaccalaureate trainees typically stay for two years; postdocs and clinical fellows rotate out; fellows often split their time between clinics and research. Without a staff scientist, continuity is easily lost. "A good staff scientist is probably the most important person in the lab," he notes. "They train people, maintain the lab culture, and keep projects moving forward."

Dr. Sharma leads collaborations with external institutions, coordinates experimental planning, and serves as the primary mentor for trainees. Three postbaccalaureate fellows currently train under him, with recent alumni matriculating into MD and MD/PhD programs. Clinical fellows also rely on his support to maintain experiments during periods of clinical service. This structure enables the lab to drive forward multiple translational projects in parallel while keeping them anchored in clinical relevance.

Clinically, Dr. Thomas leads several early-phase trials, including first-in-human studies of targeted agents,

bispecific molecules, and CAR T-cell therapies for aggressive thoracic malignancies. This active clinical program continuously informs the lab's scientific priorities; observations from the bedside often guide questions brought into the laboratory, and mechanistic findings shape trial design. The unique environment of the NIH, free from traditional grant-funding pressures, allows Dr. Thomas to pursue long-term, clinically meaningful scientific questions. "We don't have unlimited resources," he says, "but we have enough stability to tackle important problems and see them through."

Dr. Anish Thomas with his Staff Scientist in the Lab.

The program continues to grow, built on a partnership between clinical insight, computational discovery, and experimental validation. Looking ahead, Dr. Thomas aims to deepen the integration of patient-derived molecular data with mechanistic studies to better understand treatment resistance and metastatic evolution. "It's one of the toughest cancers there is and a huge problem to solve," he reflects, "but we have a great team, and the work is incredibly rewarding."

PI Corner

Section Editor: Andaleeb Sajid, Ph.D. (SS)

Dr. JAVED KHAN
Deputy Chief,
Genetics Branch,
CCR, NCI

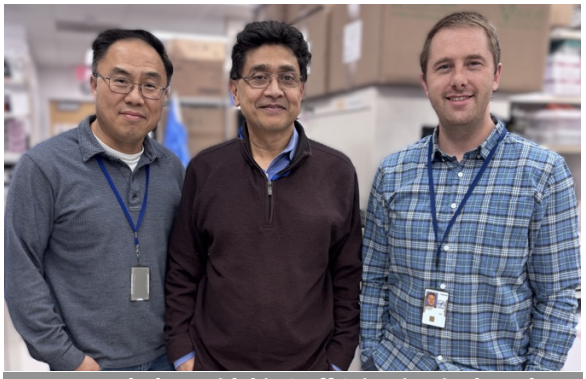
Dr. Javed Khan is a physician-scientist, trained primarily in England, completing his scientific and medical education at the Cambridge University. After progressing through the British medical system as a House Officer, Senior House Officer (equivalent to Sr. resident), and clinical lecturer at Addenbrooke's Hospital, he developed an interest in immunology and cytogenetics at a time when molecular tools like PCR were still emerging. To pursue deeper scientific work and clinical work, he reached out to laboratories in the United States and eventually secured the NCI intramural Pediatric Hematology-Oncology Fellowship.

Dr. Khan joined the Pediatric Branch at NCI as a tenure-track investigator in 2001. His arrival at NIH coincided with a transformative moment in genomic research. He joined the Human Genome Research Institute at the dawn of microarray and large-scale sequencing technologies, becoming one of the first groups to build and use gene expression microarrays. This led to an early breakthrough using machine learning to classify cancers based on expression patterns. Additional work involving oncogenic transcription factors revealed how single genes could reprogram normal cells into muscle cancers, reinforcing his growing commitment to understanding genetic mechanisms of pediatric tumors. As next-generation sequencing evolved, his team mapped key drivers in rhabdomyosarcoma and neuroblastoma, identifying numerous therapeutic targets. Yet, despite the promise of genomic discoveries, it became clear that small-molecule drugs rarely produced lasting cures in metastatic pediatric patients. Tumors would shrink but almost inevitably recur. This realization drew Dr. Khan back to his background in immunology. His lab particularly focused on FGFR4, an oncogenic target they had identified and for which they had developed antibodies. They soon developed CAR-T cell therapy and antibody-drug conjugates (ADCs), which demonstrated remarkable potency in rhabdomyosarcoma models. After years of research and practice, their first patient is now receiving FGFR4-targeting CAR T-cell therapy, a milestone that he describes as the fulfillment of his long-standing goal to bring meaningful translational advances to the clinic.

Supporting such an ambitious research program requires a strong scientific team, and Dr. Khan emphasizes that staff scientists are central to the lab's structure. Dr. Khan's team includes three staff scientists, each of whom supervises a group of postdoctoral fellows and post-baccalaureate fellows, forming small units that help manage the lab's broad range of projects spanning genomics, immunotherapy, and computational biology. While trainees rotate in and out, staff scientists provide continuity to the projects, deep expertise, and the problem-solving skills that come only with years of hands-on experience- abilities that are essential to sustaining a productive lab. Dr. Khan values their proficiency in troubleshooting, experimental design, and data interpretation and supports their career goals- whether they aspire to become principal investigators or prefer long-term staff scientist roles. According to Dr. Khan, this structure ensures that every trainee has a mentor who works closely with them day-to-day, while he oversees broader strategic direction. He also encourages grant writing for all members of the lab, despite being in an intramural program, noting that it sharpens scientific focus and is not only professionally beneficial but essential for scientific independence.

Beyond their experimental contributions, staff scientists engage in reviewing grants, evaluating posters, mentoring students and participating in broader CCR activities. For those on tenure-track and academic pathways, Dr. Khan works closely with them to ensure strong publication records, corresponding authorship, meaningful collabora-

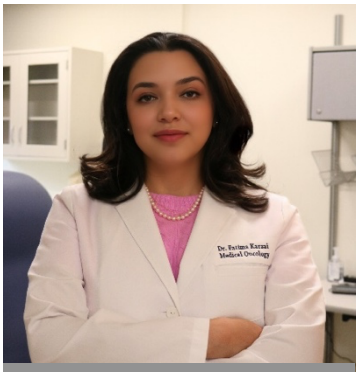
tions, and progress toward promotion. His overarching message to the staff scientist community centers on translation: While he values and deeply enjoys basic science, he believes that research in the NIH environment requires a constant focus on patient impact. “With the access to patients we have here, and the clinical expertise surrounding us,” he said, “we must always ask: How will this help patients? Will it identify a biomarker? Predict response? Reduce toxicity? Lead to a cure with lower toxicity?” These activities strengthen the scientific community while giving staff scientists the visibility and experience needed for advancement.



Dr. Javed Khan with his Staff Scientists in the Lab.

Author Corner

Section Editor: Ling Zhang, Ph.D. (SS)



Fatima Karzai, M.D.
Senior Clinician, Genitourinary Malignancies Branch

Q1. Where did you graduate, and what led you to pursue a career as a Staff Clinician?

I graduated from the NIH Hematology Oncology Fellowship Program. I truly find being a clinician and clinical researcher highly rewarding, and the NIH is where cutting-edge therapies and technologies are being fostered and nurtured. As a Staff Clinician, I was able to continue my clinical research from my fellowship and help to shape the next generation of high-risk, high-reward care. The NIH allows for innovative research, which is incredibly motivating.

Q2. What was your general role as a Staff Clinician at NIH? (I am a Senior Clinician now, but I will talk about my time as a Staff Clinician.)

The role of Staff Clinician helped to lay the foundation for my career as a physician-scientist. I was able to take on leadership roles in clinical trials focused on Genitourinary (GU) cancers. As a Staff Clinician, I was responsible for providing high-quality patient care while maintaining regulatory and ethical standards in these clinical protocols. Additionally, I was exposed to and participated in the important integration of translational and clinical research. I was able to design and run clinical protocols, mentor fellows, and advance therapies for GU malignancies.

As a Senior Clinician, my work revolves around the foundation I built as a Staff Clinician. I lead a clinical research program in the Genitourinary Malignancies Branch, which focuses on prostate cancer, in all stages of the disease. I oversee the bridge between clinical and translational research to provide patients with prostate cancer clinical trial options and mentor junior staff and trainees. Strategic planning of the program is of vital importance as is designing, initiating, and supervising cutting-edge clinical trials.

Q3. What clinical studies are you currently engaged in? Can you share one example of a project or patient case that was especially meaningful to you?

My clinical research portfolio involves immunotherapeutic approaches to treatment in prostate cancer, genetics and genomics, prevention strategies, and most recently the use of Artificial Intelligence in therapeutic and prevention strategies. I can see a wide breadth of patients; from those with a high risk of developing prostate cancer to patients with metastatic disease with the goal of quality patient care. A project that is especially meaningful to me is a clinical trial in which men with documented germline variants in prostate cancer–associated genes are evaluated clinically and with multiparametric prostate MRI (through a collaboration with the Molecular Imaging Branch), to investigate how inherited mutations drive prostate cancer risk and tailor prevention or early-intervention strategies.

Q4. How do you see clinical observations influencing translational research in your area?

Real-world variability leads to deeper scientific questioning. We see exceptional responders or resistance patterns that were not evident before. These challenges lead to the impetus for new models, molecular investigations, or identification of biomarkers.

Q5. As a female clinician, have you encountered unique challenges in your field? How did you navigate them?

While women in medicine and science have made huge strides and progress, the progress is uneven in opportunities for leadership, research funding, senior authorship, and conference participation. As women, we need to have available avenues for mentorship, both inside and outside of our institutions, but also sponsorship which includes having advocates for support and advancement. We also need to learn to advocate for ourselves including having the courage to recognize we belong and can be more vocal about what our needs are to succeed.

Q6. Any suggestions for new staff clinicians, or about the collaboration between SS/SC?

Recognize that you are in a unique environment and position at the NIH where creativity can enrich science. Collaborations are always key where the translation of new therapies is possible with patient care. Your career path may be complex, but it is rewarding. Make sure to identify early on what your goals are and how to achieve them.

Q7. What activities or hobbies do you enjoy doing outside of work?

I enjoy my time outside of work by traveling when I can, particularly internationally, to explore new cultures. I have a passion for art and fashion as a creative outlet.

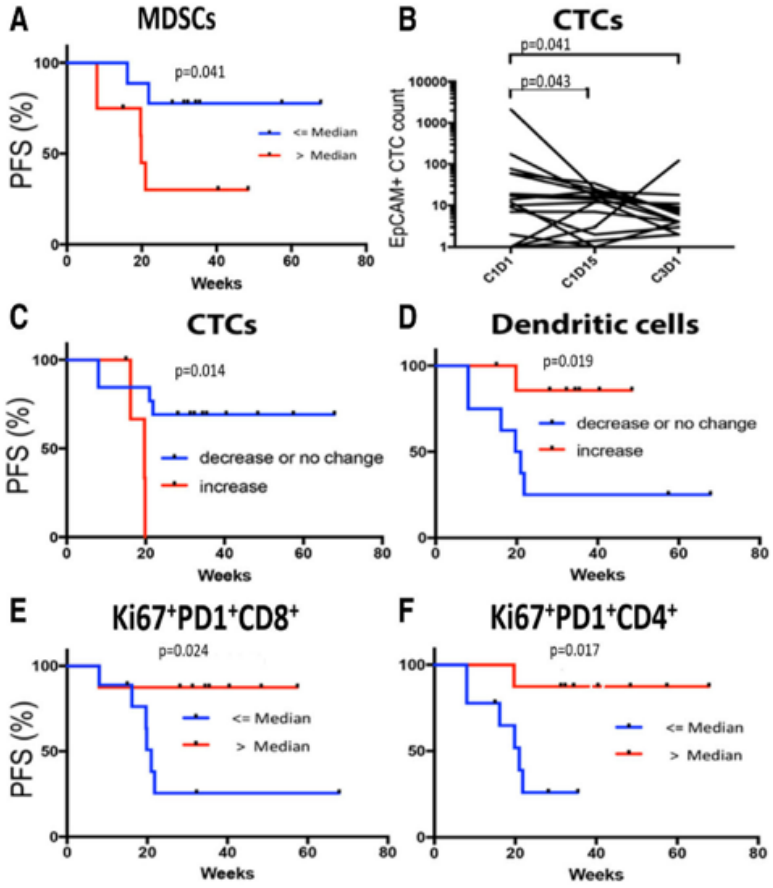


Fig. 3 Early Markers of Response Are Associated with Progression-Free Survival. **a** Kaplan-Meier curve showing that patients with <= median percentage of MDSCs at baseline had prolonged PFS. **b** Change in CTC numeration from C1D1 to C3D1. **c** Decrease or no change in in CTC count from C1D1 to C1D15 correlated with increased PFS. **d** Kaplan-Meier curve demonstrating that increased DC maturity (as demonstrated by CD83 expression on $CD141^+$ mDCs from baseline to C1D15) was associated with prolonged PFS. **e** Kaplan-Meier curve demonstrating that patients with > median percentage of $K67^+PD^-1^+CD8^+$ T cells among total $CD8^+$ T cells at C1D15 had prolonged PFS. **f** Kaplan-Meier curve demonstrating that patients with > median percentage of $K67^+PD^-1^+CD4^+$ T cells among total $CD4^+$ T cells at C3D1 had prolonged PFS

Author Corner

Section Editor: Ling Zhang, Ph.D. (SS)

H. Diego Folco, Ph.D.
Associate Scientist,
LBMB, CCR

Q1. How did you become a scientist?

As a child, I was always drawn to the natural sciences, particularly physics and chemistry. This fascination led me to pursue a professional degree in Clinical Biochemistry, a field in my country that trains practitioners to work alongside physicians in performing and interpreting clinical laboratory tests. After spending a year in a hospital setting, working directly with patients and handling diagnostic samples, I realized that this was not the career path I wanted to follow long-term. I then explored other avenues, studying to be a pharmacist and working as a high school teacher. Yet, these paths did not fully satisfy me.

Everything changed when, amidst this vocational uncertainty, I had the opportunity to join a genetics laboratory. I was captivated by the questions we explored and by the process of designing and performing experiments—often working late into the night, immersed in discovery and free from the constant urgency of the hospital environment. Looking back, a scientific career was never part of my original plan, but I am grateful to have found it in such an unexpected and deeply rewarding way.

Q2. Can you share a bit about your career journey and how you ended up as a Staff Scientist in the CCR?

I have lived in four countries and worked at seven institutions over the course of my scientific career. My journey began at the National University of Córdoba in Argentina, where I completed Ph.D. under the mentorship of Dr. Alberto Rosa, studying how the H1 histone protein influences gene expression and epigenetic regulation. During my doctoral work, I also benefited from short-term research visits (2–3 months) in the laboratories of Prof. David Perkins at Stanford University and Prof. Claudio Scazzocchio at Université Paris-Sud in France.

In 2004, I joined Dr. Robin Allshire's laboratory at the University of Edinburgh as a postdoctoral fellow, marking the start of my long-term focus on chromosome segregation. There, I investigated the epigenetic mechanisms by which heterochromatin directs the establishment of the CENP-A histone variant at centromeres—a process essential for faithful chromosome segregation. In 2009, I moved to the University of California, San Diego, to work with Prof. Arshad Desai, where I applied genetic and live-cell imaging approaches to understand how different domains of CENP-A contribute to centromere function.

Since 2012, I have been a member of Dr. Shiv Grewal's group at the Laboratory of Biochemistry and Molecular Biology (LBMB, CCR), progressively rising through the ranks from Research Fellow to Associate Scientist. Among other accomplishments, I elucidated how failures in RNA processing led to defective chromosome segregation, triggering uniparental disomy (UPD)—a hallmark of cancer cells. To address the poorly understood mechanisms underlying this phenomenon, I developed novel assays to monitor UPD, leading to the first identification of a causative factor: untimely expression of gametogenic genes (Folco et al., Nature 2017; CCR Milestones 2017-2018).

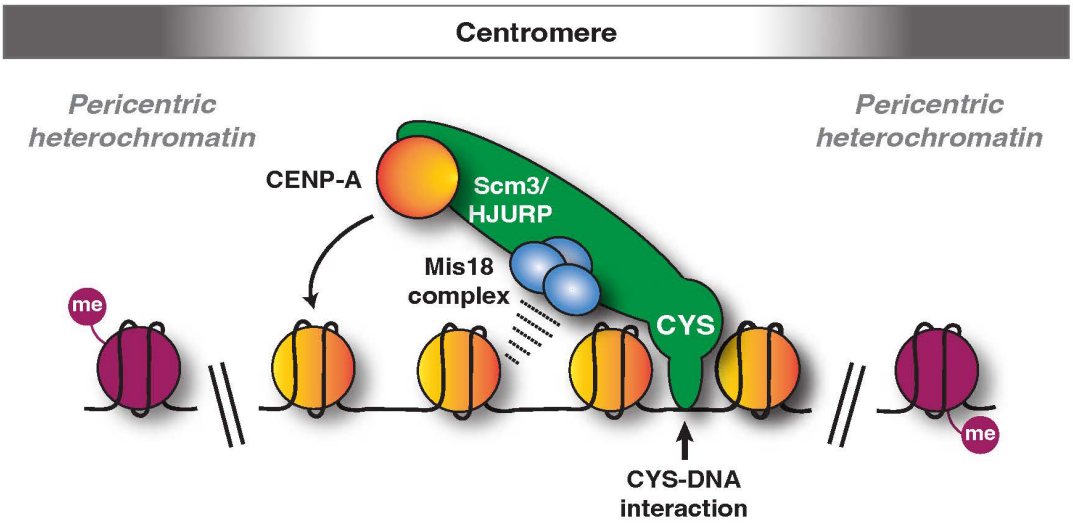
Q3. What does your research focus on, and what projects are you involved in right now?

I am a chromosome biologist investigating the molecular mechanisms that ensure accurate chromosome segregation during cell division. My

research centers on centromere and heterochromatin assembly, elucidating how their dysfunction drives chromosomal instability and contributes to cancer.

Like most Staff Scientists, I am involved in multiple projects. My primary project focuses on understanding how aberrant expression of gametogenic genes drives chromosome mis-segregation by disrupting centromere and kinetochore function. In this context, we recently identified a novel domain within a centromeric protein that is essential for kinetochore integrity and whose overexpression induces chromosomal instability (see attached figure).

I also contribute using my skills of microscopist to projects led by other members of our lab that investigate heterochromatin assembly and epigenetic regulation, with the broader goal of understanding how defects in these processes promote genomic instability and cancer development. I particularly enjoy the day-to-day mentoring of our postbac trainees, and I am eager for the SS/SC Research Award (SS/SC-RA) and other career-development programs to resume.



A novel cysteine-rich domain (CYS) guides CENP-A chaperone Scm3/HJURP to centromeres by recognizing centromeric DNA
In this study (Folco et al., *Nucleic Acids Research* 52:1688–1701, 2024), we demonstrate that the newly identified CYS domain works together with the Mis18-interacting region to facilitate Scm3/HJURP recruitment to centromeres through direct binding to centromeric DNA. Because these proteins are frequently overexpressed in a range of cancers, our findings provide important insights into the mechanisms governing chromosome segregation and genome stability. Notably, CYS domains harbor a conserved zinc-binding motif, a feature that could potentially be leveraged for the development of targeted zinc-finger inhibitors, akin to current therapeutic strategies used in HIV and other diseases.

Q4. Do you plan to translate your fundamental discoveries into clinical applications?

In alignment with the CCR mission, I have established two intramural collaborations with the long-term goal of enabling future clinical applications. These partnerships—with scientists at the National Center for Advancing Translational Sciences (NCATS) and the Clinical Center (CC)—aim to (i) screen small-molecule libraries for inhibitors of aberrant gametogenic gene expression, with the goal of identifying potential cancer therapeutics, and (ii) study the centromeres of the human pathogenic fungus *Pneumocystis*, which causes life-threatening pneumonia in immunocompromised patients.

Q5. What have been the challenges you have encountered in your career so far?

Moving across multiple countries and ultimately settling far from home has been an immensely enriching experience, but it also comes with the difficult reality of leaving friends and family behind. Working in several different laboratories has required constant adaptation, as each environment has its own strengths and challenges. Additional hurdles include navigating highly

competitive research settings and dealing with periods of job uncertainty, such as fellowship transitions. These experiences ultimately motivated me to pursue a Staff Scientist position within a well-established and stable research group.

Q6. What activities or hobbies do you enjoy doing outside of work?

Outside the lab, I enjoy running because it benefits not only the body but also the mind. In 2023, I participated in seven races, including a half marathon. My long-term goal is to train for and eventually compete in a full marathon.

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