

NIH BIOGRAPHICAL SKETCH COMMON FORM

Name: Caridi, Christopher Patrick

Persistent Identifier (PID) of the Senior/Key Person: <https://orcid.org/0000-0002-4866-2631>

Position Title: High Content Imaging Scientist

Organization and Location: Stanford University -, Stanford, California, United States

PROFESSIONAL PREPARATION

INSTITUTION AND LOCATION	DEGREE	Start Date	Completion Date	FIELD OF STUDY
University of Southern California, Los Angeles, California, United States	Postdoctoral Fellow	12/2016	05/2021	Genetics and Cell Biology
University of California Riverside, Riverside, California, United States	Doctor of Philosophy (PHD)	12/2010	12/2016	Cell, Molecular and Developmental Biology
University of California Riverside, Riverside, California, United States	Bachelor of Science (BS)	12/2008	06/2010	Biology

Appointments and Positions

2023 - present High Content Imaging Scientist, Stanford University -, Stanford, California, United States

Products**Products Closely Related to the Proposed Project**

1. Julius J, Peng J, McCulley A, Caridi C, Arnak R, See C, Nugent CI, Feng W, Bachant J. Inhibition of spindle extension through the yeast S phase checkpoint is coupled to replication fork stability and the integrity of centromeric DNA. Mol Biol Cell. 2019 Oct 15;30(22):2771-2789. PubMed Central PMCID: [PMC6789157](#).
2. Caridi CP, Plessner M, Grosse R, Chiolo I. Nuclear actin filaments in DNA repair dynamics. Nat Cell Biol. 2019 Sep;21(9):1068-1077. PubMed Central PMCID: [PMC6736642](#).
3. Rawal CC, Caridi CP, Chiolo I. Actin' between phase separated domains for heterochromatin repair. DNA Repair (Amst). 2019 Sep;81:102646. PubMed Central PMCID: [PMC6764897](#).
4. Caridi CP, D'Agostino C, Ryu T, Zapotoczny G, Delabaere L, Li X, Khodaverdian VY, Amaral N, Lin E, Rau AR, Chiolo I. Nuclear F-actin and myosins drive relocalization of heterochromatic breaks. Nature. 2018 Jul;559(7712):54-60. PubMed Central PMCID: [PMC6051730](#).
5. Caridi CP, Delabaere L, Tjong H, Hopp H, Das D, Alber F, Chiolo I. Quantitative Methods to Investigate the 4D Dynamics of Heterochromatic Repair Sites in Drosophila Cells. Methods Enzymol. 2018;601:359-389. PubMed Central PMCID: [PMC6021022](#).

Other Significant Products Highlighting Contributions to Science

1. Caridi PC, Delabaere L, Zapotoczny G, Chiolo I. And yet, it moves: nuclear and chromatin dynamics of a heterochromatic double-strand break. Philos Trans R Soc Lond B Biol Sci. 2017 Oct 5;372(1731) PubMed Central PMCID: [PMC5577469](#).

NIH BIOGRAPHICAL SKETCH SUPPLEMENT

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Personal Statement

I have over 15 years of experience in both Biotech and Academia performing wetlab experiments and high-throughput screening. Since 2023, I have assisted in running the day to day operations of Stanford University's High-Throughput Screening Shared Facility (originally the High-throughput Bioscience Center, most recently High-Throughput Screening @ the Nucleus), whose mission is to provide researchers with the ability to run high-throughput chemical, siRNA, cDNA, and high-content screens for the purpose of drug and/or target discovery. HTS @ the Nucleus is part of the Sarafan ChEM-H Nucleus, a group of breakthrough technology labs supercharging research on the path from molecules to medicines. HTS @ the Nucleus is also a shared resource for the Stanford Cancer Institute. The HTS core has the capability to run fully automated high-throughput screens for both cell-based and enzyme/protein-based screens and can also run fully automated high-content screens. I specialize in performing and assisting with high content screens. I also help with day-to-day operations of the lab including acting as a project manager for all cell-based screens, managing data, experimental design, development, validation and testing, robotic programming, and co-decision making (with David Solow-Cordero, the HTS Assistant Director) on major instrumentation purchases.

Honors

2016 - 2016	Dean's Distinguished Fellowship , University of California Riverside
2016 - 2016	Earle C. Anthony Graduate Student Travel Award , University of California Riverside
2015 - 2016	Graduate Division Fellowship , University of California Riverside
2011 - 2012	Chancellor's Distinguished Fellowship , University of California Riverside

Contributions to Science

1. Identification of unique mechanisms responsible for nuclear dynamics during heterochromatin repair. My postdoctoral work in the Chiolo Lab identified a specialized role for nuclear actin filaments and myosins in relocalization of heterochromatic DSBs to the nuclear periphery, which enables 'safe' homologous recombination repair of repeated sequences. My studies also unraveled several molecular mechanisms coupling damage detection and processing with filament formation and myosin activation (Caridi et al., 2018, PCPMID:29925946, Caridi et al., 2018, PMCID:PMC6021022, Caridi et al, 2017 PMCID:PMC5577469).
2. As a graduate student, I investigated how STN1 contributes to global DNA replication using genetic, molecular, biochemical, and cell biology approaches in budding yeast. Intriguingly, my studies revealed that stn1 mutations accumulate both telomeric and non-telomeric DNA damage, supporting a non-telomeric role of Stn1 during replication. I also determined that STN1 stimulates the DDK to phosphorylate the MCM helicase and facilitate DNA replication. This positions STN1 opposite RIF1 as a positive regulator of DNA replication.