UCSF Clinical & Translational Sciences Training Program:

Clinical Research Informatics Postdoctoral (CRISP) Fellowship

https://crisp.ucsf.edu

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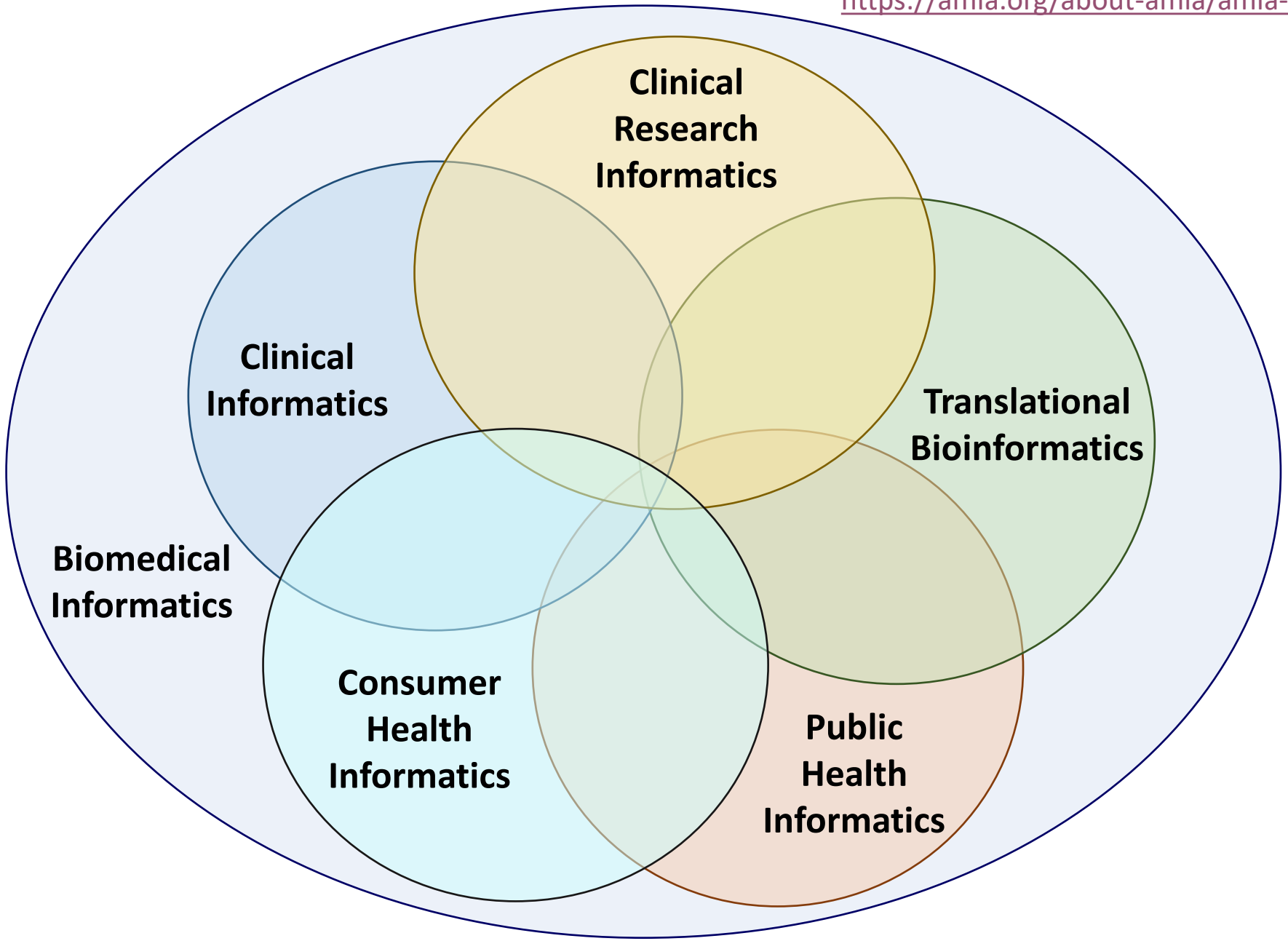
University of California, San Francisco
January 30, 2025

Five Domains of Biomedical Informatics (American Medical Informatics Association)

https://amia.org/about-amia/amia-mission-and-history



Clinical Research Informatics: Challenges, Opportunities and Definition for an Emerging Domain

Peter J. Embi, MD, MS, Philip R.O. Payne, PhD

Abstract **Objectives:** Clinical Research Infor
currently not well defined. A formal description of C
direct progress in the field.

Design: Given the early stage of CRI knowledge and
key stakeholders and opinion leaders to determine th
phases employed complimentary methods to triangu

Measurements: Study phases included: 1) a group in
with a larger group of self-identified CRI professiona
debriefing and member-checking with a group of CR
and organized for formal, independent content analy
iterative process to identify emergent categorizations

Results: We identified a range of challenges and opp
themes spanning academic, practical, and organizati
development of a formal definition of CRI and supported further representations that illustrate areas of emphasis
critical to advancing the domain.

Conclusions: CRI has emerged as a distinct discipline that faces multiple challenges and opportunities. The findings presented summarize those challenges and opportunities and provide a framework that should help inform next steps to advance this important new discipline.

■ **J Am Med Inform Assoc** 2009;16:316–327. DOI 10.1197/jamia.M3005.

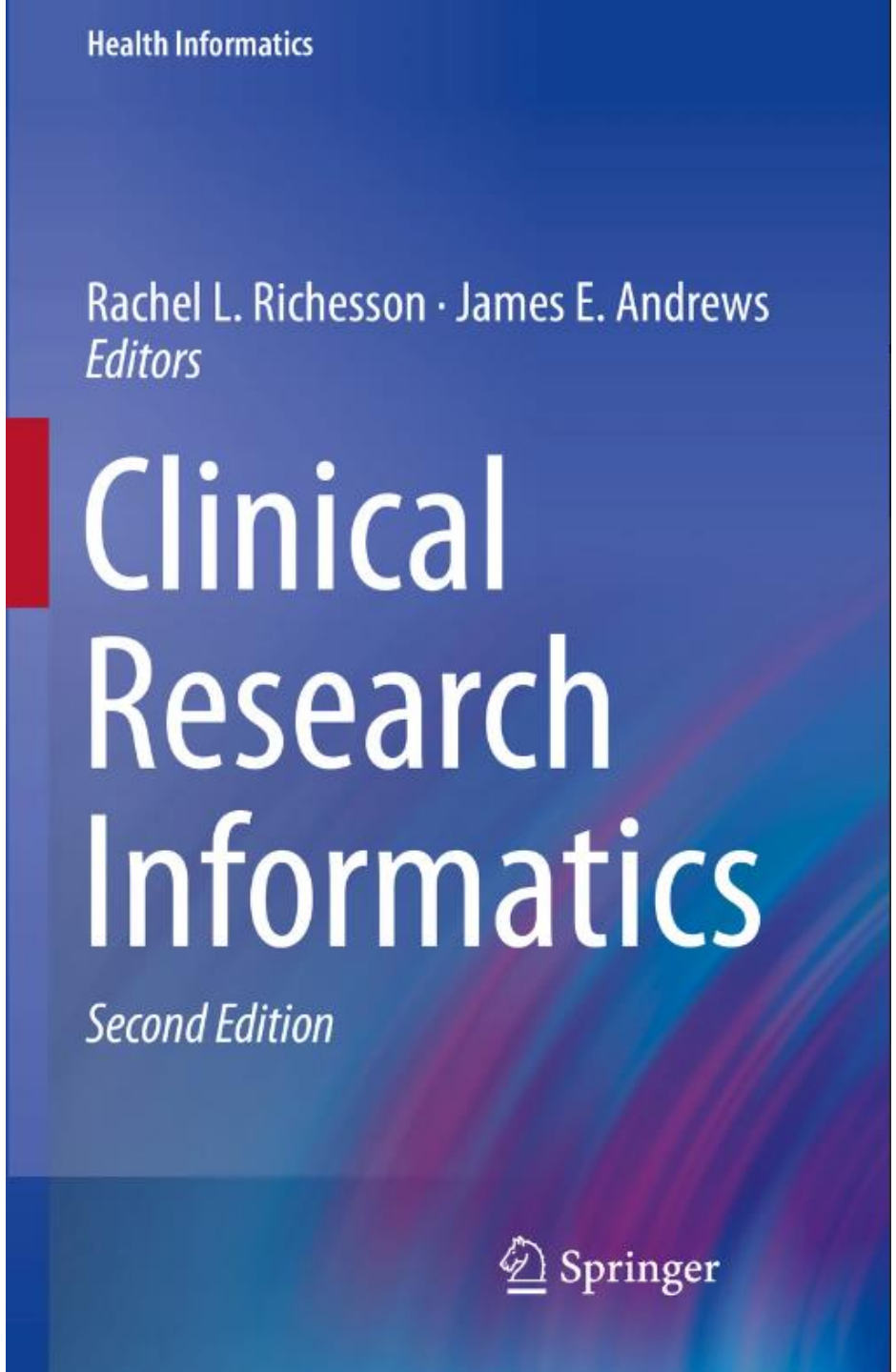
Journal of the American Medical Informatics Association, 28(1), 2021, 1–2
doi: 10.1093/jamia/ocaa312
Editorial

AMIA
INFORMATICS PROFESSIONALS. LEADING THE WAY.

Editorial

The maturation of clinical research informatics as a subdomain of biomedical informatics

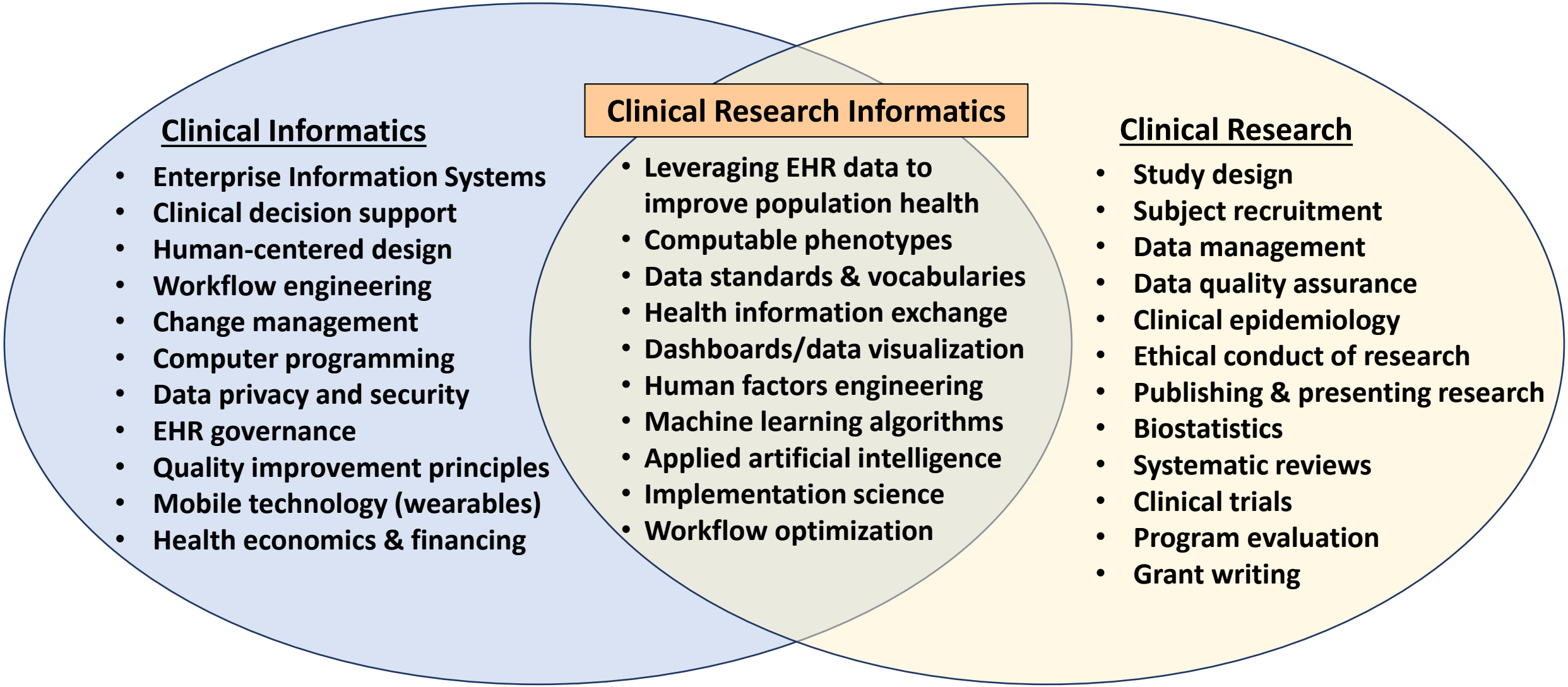
Suzanne Bakken [1,2,3]



Clinical Research Informatics involves **the use of informatics in the discovery and management of new knowledge relating to health and disease**. It includes management of information related to clinical trials and secondary use of clinical data to advance translational research and support Learning Health Systems.

https://amia.org/about-amia/why-informatics/informatics-research-and-practice

Overlap between clinical informatics, clinical research informatics and clinical research



Clinical Research Informatics: Combining research and operations in a learning healthcare system

CRISP Components

	1) Mentored research project
	2) Training in Clinical Research (TICR) courses: • Advanced Training in Clinical Research Certificate, • Master of Science Degree in Health Data Science (MiHDAS), • Master in Advanced Studies (MAS) Degree in Clinical Research, or • Tailored course selections from Training in Clinical Research program
	3) Weekly didactic sessions with UCSF Clinical Informatics Fellows
	4) Fellows Advancement Skills Training in Clinical Research (FAST-CaR) Career Development Seminars
	5) Regular works in progress seminars
	6) Clinical experience (20% effort)

Fellows Advancement Skills Training in Clinical Research (FAST-CaR)

Session Topics	Presenters
Fri, Sep 6, 2024 - 9:00 AM-12:00 PM: FAST-CaR Orientation and Introductions Academic Prioritization for Fellows/Early Career Faculty Presenting Your Research in Talks	 Jon Singer Lucy Kornblith Danny Calabrese
Wed, Nov 13, 2024 - 1:00 PM-4:00 PM: Taking the Next Step: Career Growth Discussion with Senior CTSI K Scholars Career Development Award: Setting Up for Success How to Seek and Interview for Your First Academic Job	 Anita Hargrave and Jonathan Witonsky Naomi Bardach Gabriela Schmajuk
Fri, Jan 24, 2025 - 9:00 AM-12:00 PM: How Publishing Non-Original Research (i.e. Thought Pieces) Can Advance Your Research Career Crafting Abstracts and Posters for Academic Meetings Large Datasets Available to Researchers at UCSF and Other CTSI Resources	 Louise Walter Matthew Growdon Mark Pletcher and Lisa Schoonerman
Wed, May 7, 2025 - 1:00 PM-4:00 PM: Negotiation Strategies Research Budgets Work-Life Balance	 Jennifer Lai Krista Harrison Mary Karalius

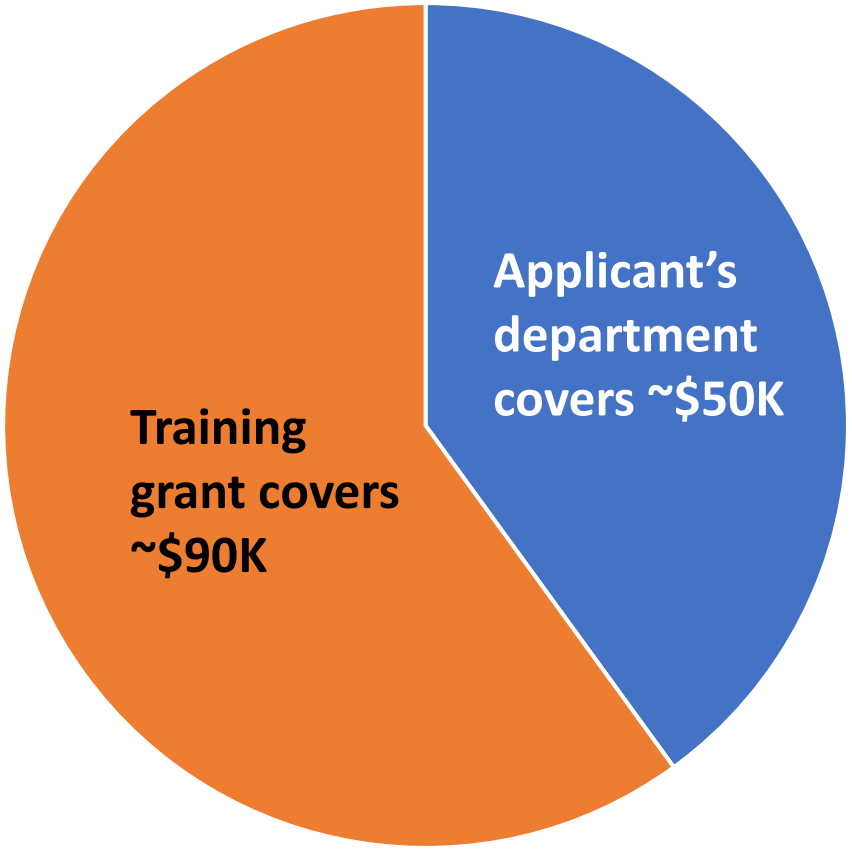
CRISP Program Recommended Courses https://crisp.ucsf.edu

Quarter	Course
Summer	Designing Clinical Research (EPI 202)
	Introduction to Programming in R (BIOSTAT 213)
	Introduction to the Science of Big Data (BIOSTAT 202)
	Introduction to Clinical Informatics (EPI 232)
Fall	Clinical Epidemiology (EPI 204)
	Biostatistics for Clinical Research I (BIOSTAT 200)
	Advanced Programming in R (BIOSTAT 214)
	Introduction to Python and Data Science Tools (DATASCI 217)
Winter	Clinical Trials (EPI 205)
	Machine Learning in R (BIOSTAT 216)
	Biostatistics for Clinical Research II (BIOSTAT 208)
	Use of EHR Data for Research (EPI 231)
Spring	Publishing and Presenting Clinical Research (EPI 212)
	Biostatistics for Clinical Research III (BIOSTAT 209)
	Applied Data Science with Python (DATASCI 223)
	Understanding Machine Learning (DATASCI 224)

Eligibility

- U.S. citizen or permanent resident
- Doctoral degree
- Clinical license in a healthcare profession (medicine, nursing, pharmacy, dentistry, psychology, physical therapy, acupuncture, podiatry)
- Fewer than three years of prior funding through institutional or individual NRSA postdoctoral grants
- Applicant department must commit to covering approximately 35% ($50,000/year) of the costs

Estimated Annual Cost of Fellowship



<u>Department/division must cover:</u>

- Difference between UCSF and NIH pay scales
- Course tuition not covered by training grant
- Miscellaneous expenses (e.g., travel, conference registration)

→ Revenue from fellow's 20% clinical activities typically covers these costs

Application Review Criteria

Selection criteria focus on the candidate's potential to become a productive clinical investigator and successful K awardee as evaluated across five domains:

Mentor	Experience of applicant's mentor(s) and success of their prior trainees. Commitment of the proposed mentor(s) and plan for training.
Candidate	Candidate's potential to conduct innovative research based on background, integrity, areas of interest/expertise, prior publications, and grants.
Research plan	Scientific strength, clinical importance, and feasibility of the proposed research plan.
Resources	Tangible resources provided by the mentor (e.g., data analytic support, administrative support, travel to scientific conferences).
Academic potential	Likelihood that the candidate will pursue an academic career (starting with a K award) and conduct research that will improve health care.

CRISP Fellows 2021-2023: what are they doing now?

Mohamed Seedahmed MD MPH
Assistant Professor, U. Pittsburgh
Pulmonary & Critical Care Medicine

Rachael Stovall MD
Assistant Professor, U. Washington
Rheumatology

Jonathan Witonsky MD MAS
Assistant Professor, UCSF
Pediatric Allergy & Immunology

TL1-TR001871 from the National Center for Advancing Translational Science (NCATS)

Arthritis Care & Research

American College of Rheumatology
Empowering Rheumatology Professionals

Original Article | Full Access

Incidence Rate and Factors Associated With Fractures Among Medicare Beneficiaries With Ankylosing Spondylitis in the United States

Rachael Stovall, Emma Kersey, Jing Li, Rahaf Baker, Christine Anastasiou, Andriko Palmowski, Gabriela Schmajuk, Lianne Gensler, Jinoos Yazdany

First published: 22 August 2023 | https://doi.org/10.1002/acr.25219

JMIR FORMATIVE RESEARCH Seedahmed et al

Original Paper

Performance of a Computational Phenotyping Algorithm for Sarcoidosis Using Diagnostic Codes in Electronic Medical Records: Case Validation Study From 2 Veterans Affairs Medical Centers

https://formative.jmir.org/2022/3/e31615

CHEST

Volume 162, Issue 1, July 2022, Pages 184-195

Education and Clinical Practice: Original Research

Race- and Ethnicity-Based Spirometry Reference Equations: Are They Accurate for Genetically Admixed Children?

Jonathan Witonsky MD [a], Jennifer R. Elhawary MS [b], Celeste Eng BS [b], José R. Rodríguez-Santana MD [d], Luisa N. Borrell DDS, PhD [e], Esteban G. Burchard MD, MPH [c]

CRISP Fellows 2023-24

Cecilia Dalle Ore, MD
Neurosurgery

Lauren Harasymiw, MPH, PhD, MD
Neonatology

Vadim Shteyler, MD
Pulmonary & Critical Care Medicine

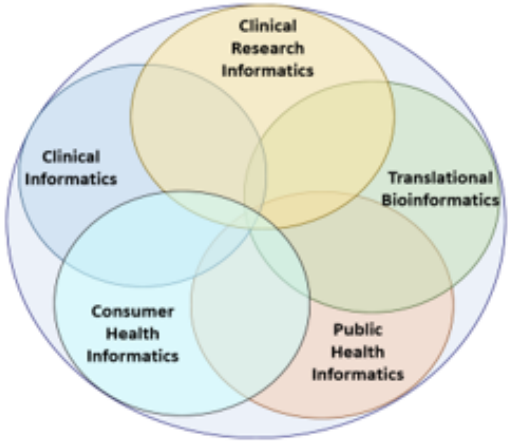
TL1-TR001871 from the National Center for Advancing Translational Science (NCATS)

UCSF

CRISP
(CLINICAL RESEARCH INFORMATICS POSTDOCTORAL) FELLOWSHIP

APPLICATION DEADLINE:
APRIL 1, 2025
OFFERS EXTENDED:
MAY 1, 2025
FELLOWSHIP BEGINS:
JULY 1, 2025

FIVE SPECIALTIES WITHIN INFORMATICS



What is CRISP?

The Clinical Research Informatics Postdoctoral (CRISP) Fellowship provides tailored training for clinician investigators who seek to improve healthcare through the science of clinical research informatics. This one-year fellowship is funded by a training (TL1) grant from the National Center for Advancing Translational Science (NCATS), the UCSF Clinical and Translational Science Institute, and the Department of Epidemiology and Biostatistics. CRISP Fellows receive a stipend commensurate with their PGY/postdoctoral fellow status plus tuition assistance for didactic training in data science, artificial intelligence, and clinical research.

What is Clinical Research Informatics?

Clinical Research Informatics is one of five informatics subspecialties defined by the American Medical Informatics Society. It encompasses the technology, processes, principles, and practices required for clinical research involving human subjects and their data.

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Learn more at:
https://crisp.ucsf.edu

Discussion