

PROGRAM CURRICULUM OF THIS UCSD T32 AND EXPECTATIONS OF TRAINEES

This T32 program has 3 Training Pathways, each with distinct tracks:

- (1)** Postdoctoral Rheumatology Physician Training Pathway (with Basic-Translational, and Clinical-Translational Research Tracks).
- (2)** Postdoctoral PhD Postdoctoral Fellow Training in Research (with separate tracks in Basic-Translational Research, and Clinical-Translational Research).
- (3)** Predoctoral Immunology-Rheumatology Training Pathway (with MD/PhD MSTP, and single PhD Tracks). In order to promote community-building with optimal integration into the T32 of predoctoral trainees, all of the MSTP and single PhD graduate students will be doing bench research in Immunology (the focus and strength of both the MSTP and BMS programs), and be rooted in the UCSD/LJI BMS Immunology Program Student Training Track.

Shared expectations, structural features, and activities (beyond RCR instruction) of the Training Pathways:

Implicit in acceptance and continuation in the program are:

- (a) Initial preparation by trainee and mentors of a formal application, research project and IDP with cohesive training plan that is vetted and approved by the PD/PI and EC, and timely and thoughtful preparation and yearly updating of IDP and research plan.
- (b) Consistently high level professionalism and ethical behavior in research and all other program activities.
- (c) Participation in all program surveys and T32 feedback activities.
- (d) Commitment to full time effort in research, defined as ≥ 40 hours/week (encompassing direct research activities, research meetings and lectures programs, and didactic studies).
- (e) Success on qualifying examinations, as appropriate (ie, ABIM Medicine and Rheumatology Boards, USMLE, ACE exam). Other program expectations and activities promote cohesion and community-building in the T32, and foster trainee retention in rheumatic diseases research.

i. All Mentoring Teams Have ≥ 1 MD Rheumatologist and ≥ 1 UCSD-based Basic Scientist Members.

Each T32 predoctoral and postdoctoral trainee must have at least 1 UCSD MD Rheumatologist faculty on the mentoring team (eg, Adjunct Clinical Research Co-Mentors). Conversely, MDs and PhDs in clinical research training will be required to have ≥ 1 UCSD-based basic scientist researcher on their mentoring team.

ii. All Trainees Have Didactic Coursework in Rheumatology and Experiences with Rheumatic Disease Patients.

The preclinical UCSD Medical School Rheumatology Course Block (described below) is compulsory for all non-physician PhD predoctoral and postdoctoral trainees in Year 1 of their training. Along with other activities that include time with UCSD rheumatic disease patients, this promotes valuable insight and inspiration for non-MDs to develop as translational researchers in rheumatic diseases.

iii. Attendance and Presentation at National Scientific Meeting(s).

All T32 trainees are required to attend ≥ 1 national scientific meeting/year, giving them the opportunity to present their research. Typically, the national ACR meeting is chosen, but others can be attended by trainees ((eg, OARSI, ASCI, AAI, as appropriate).

iv. Original Peer-Review Manuscripts.

The T32 emphasizes to trainees the expectation for ≥ 1 lead authorship research abstract

submission to ACR, or equivalent subspecialty national research symposium relevant to rheumatic diseases, by end of Year 1 of T32 training. Trainees also are expected to submit ≥ 1 lead authorship manuscript by end of ~T32 Year 1, but with case by case leeway given for work being prepared for submission to the highest impact journals (eg, *Nature*, *Science*, *Cell*, *NEJM*, *JAMA*).

Table C. UCSD CTSA U54 Scientific Communication Course: Gerry Boss, MD, Course Leader

Objectives: Scholars Learn Fundamentals Of Clear Scientific Writing, Oral Presentation Of Science Work and How To Write NIH-Style K Grant Including All Components.	
Course Content:	
Topic	Content
Overview	General principles of scientific writing and oral presentation
Scientific Writing	Specific examples of good and bad writing; in-depth discussion of all parts of a scientific paper; scholars write an abstract reviewed in class.
Presentation Skills	Instruction in giving oral presentations, preparing posters; scholars give a 10-15 minute presentation to the class.
Grant writing -A	Scholars learn how to write KO8 or K23 type NIH grant, reviewed by faculty.
Grant writing -B	Scholars review a grant and participate in a mock study section led by faculty.

v. Career Development Grant Application(s). The expectation is that all T32 trainees submit career development applications. Essential to these expectations is completion of the CTSA U54 Scientific Communication/Grant Writing coursework from ACTRI, required by ~end of Year 1 of T32 support (1 session/week; curriculum in **Table C**).

vi. Other activities for T32 trainees

1. Annual Summer T32 Orientation: New trainees meet individually the PD/PI and primary mentor within 1 month of arrival into the program, and, each July, with the other trainees and core program leadership each July. There, program expectations, processes, and didactic and administrative aspects of the program, including program changes in trainees and faculty, are reviewed in detail as a group.

2. Weekly Rheumatology Affinity Group Research Meeting. This series, sponsored by the Division, provides a weekly forum for faculty members, fellows, and La Jolla science mesa and visiting scientists to present research in an informal setting. T32 Trainees present the results of their research at least once/year at this conference. Some sessions are journal article reviews by trainees.

3. Annual T32 Rheumatic Diseases Research Day Symposium. Every 12 months, each T32 trainee, and several faculty, present their ongoing work at a half day symposium open to the scientific public at UCSD and the La Jolla science mesa, and attended by T32 training applicants invited for interviews, and interested RAI Division and LJL and community research and clinical Rheumatology and Immunology faculty, and potential recruits invited from the ranks of the MSTP, PSTP, Internal Medicine residency, UCSD and La Jolla science mesa postdoctoral fellows, and BMS program predoctoral trainees. This symposium provides public presentation experience for trainees, and feedback/self-evaluation information from the T32 community and leadership. In 2018-23, visiting EAC meetings will be concurrent with this symposium.

4. Mechanisms of Rheumatic Disease, and Translational Biology Journal Club. In addition to journal clubs sponsored by individual laboratories and clinical research units, the RAI Division sponsors a journal club/lecture series (~12-14 sessions/year) in which trainees present pertinent articles. This seminar series is attended by T32 trainees, all Rheumatology Fellows, program faculty, and many community Rheumatologists. The format elicits a discussion of the article by the trainee, engaging more experienced members of the Division and Rheumatology. Each journal club is mentored by a faculty member, who first presents a 20 minute didactic session on the topic of interest and then supervises the 20 minute discussion of each of two assigned articles by T32 and other trainees.

5. UCSD Rheumatology Grand Rounds. Weekly grand rounds are presented by clinical fellows and by faculty, to discuss interesting topics in Rheumatology, focusing on disease pathogenesis and therapeutic approaches. These conferences include participation by community clinicians, as well as RAI Division basic scientists. This activity is compulsory for all MD and MSTP research trainees. Non-MD trainees are on the invitee roster and encouraged to attend sessions pertinent to their research area.

6. Laboratory meetings and journal clubs. Trainees participate in weekly internal research group meetings, where they participate in analysis and critiques of work in progress by mentors and peers. At their research group journal clubs, they refine critical skills in reviewing investigation.

7. Other T32 internal community-building and external community outreach functions:

(a) T32-aligned UCSD/LJI Visiting Rheumatology Professor lectures, where trainees present their research and participate in informal career discussion sessions with each Visiting Professor.

(b) ACTRI/Musculoskeletal Science Center UCSD Rheumatic Diseases Research Outreach Symposia for San Diego patients, and community at large. This new, once yearly ACTRI program engages faculty and T32 trainees with patients/interest groups, and the larger lay community to discuss disease-relevant translational research from the RAI Division, Musculoskeletal Science center, and T32 program. The first session was in autumn 2016, covering scleroderma, and chaired by Nunzio Bottini MD/PhD.

(c) Quarterly “T32 Friday” Sessions with the PD/PI and a rotating roster of 2 T32 faculty (selected from all faculty categories and seniority levels). This new program, to start in 2017-18, is a series of sessions (1 every 2 months) for informal discussion of general philosophy towards the rewards and challenges of rheumatic diseases research training and career development. The sessions will add opportunities for our faculty and trainees to discuss their own evolving research careers, and to enhance access to role models.

8. Optional UCSD and LJI lecture series, which trainees are encouraged to attend: The monthly **UCSD Progress in Research in the Science of Medicine (PRISM)** is the Department of Medicine's distinguished lecture series for research faculty; many of our T32 faculty have given this lecture. LJI holds weekly **Distinguished Speaker Immunology Seminars**. Also there is a new **LJI-UCSD Joint Immunology Seminar Series**, given by select, highly eminent visiting immunologists, and every year LJI hosts the **Ishizaka Lecture in Immunology**; both are part of the new UCSD/LJI Immunology Program.