



Vanderbilt University, Nashville, Tennessee, USA Post-doctoral Fellowships in Skin Mechanics and Translational Imaging

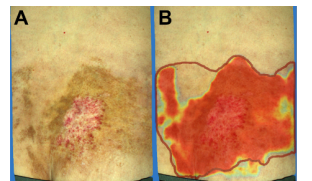
Position and project description:

Two post-doctoral scholar positions are available at the Vanderbilt Dermatology Translational Research Clinic (VDTRC.org) and the Vanderbilt University School of Engineering to launch **translational research careers**. We invite motivated candidates to apply their backgrounds in **engineering, physics, and/or computer science** to medical problems facing oncology patients. The goal is to **develop, commercialize, and deploy technologies in our ongoing multicenter trials** to track disease progression and response to treatment following stem cell / bone marrow transplantation. Specific projects are:

1. Skin mechanics. The scholar will develop and validate a novel handheld clinical device to mechanically measure cutaneous sclerosis. This project will involve signal processing of mechanical vibrations, validation with ultrasound tissue phantoms, and clinical measurement. Our prior results: <https://www.nature.com/articles/s41409-018-0346-7>



2. Analysis of rash images from smartphone and hyperspectral cameras. The scholar will analyze existing 2D and 3D skin images and advise prospective collection from collaborating centers. Technical approaches may include image registration algorithms, traditional image processing, crowd sourcing, and artificial intelligence such as clustering algorithms and deep learning for segmentation and colorimetric analyses. Our prior results: <https://www.nature.com/articles/s41409-018-0211-8>



Selected candidates will take the lead on the funded project and also will be encouraged to formulate their own research ideas. They will be provided infrastructure and mentoring for independent funding. Scholars will interact with a broad range of collaborating experts in clinical medicine and technology as well as several innovative partners in industry. Trainees in this well-funded program will enjoy competitive benefits including NIH rate salary.

Environment:

Selected candidates will benefit from a personalized research program catered to their goals utilizing resources and mentoring within Dermatology (Eric Tkaczyk), Computer Science (Benoit Dawant), Bioinformatics (Daniel Fabbri), Biomedical Engineering (Brett Byram and Anita Mahadevan-Jansen), and the Vanderbilt-Ingram Cancer Center (Madan Jagasia). This environment brings together clinicians, basic scientists, engineers and statisticians in close collaboration due to its interdisciplinary research and close physical proximity of the School of Medicine to the School of Engineering (100-200 yards).



Qualifications:

Applicants must have a demonstrated record of rigorous & creative contributions and a capacity to communicate effectively with experts from a range of disciplines. Interviews are underway, with the first position to be filled by summer 2020. The Vanderbilt University Medical Center is an equal opportunities employer.

Application and contact:

Every applicant should send a CV, a one-page personal statement, and two letters of recommendation with reference phone numbers and email addresses to:

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