

# Vanessa Scanlon (Piccuillo), PhD

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<b>Education</b>	University of Connecticut Health Center, Farmington, CT <b>PhD, Biomedical Sciences</b> Advisor: Archana Sanjay, PhD <i>Dissertation: The Role of Cbl-PI3K Interaction in Osteogenesis and Dynamic Bone Remodeling.</i>	June 2015
	University of Connecticut, Storrs, CT <b>Bachelor of Science, Molecular Cell Biology</b> <b>Bachelor of Science, Diagnostic Genetic Sciences, <i>Cum Laude</i></b> Concentration: Molecular Genetics	December 2006
<b>Certifications</b>	<b>Postdoctoral Certificate in College Teaching</b> Yale Center for Teaching and Learning	2021
	<b>Technologist in Cytogenetics, CG(ASCP)</b> American Society of Clinical Pathologists Board of Certification	2009-2018
<b>Experience</b>	<b>Assistant Professor, University of Connecticut, Farmington, CT</b>	Jan 2022-Present
	<ul style="list-style-type: none"><li>• Launch and manage a research program focused on benign hematology and bone marrow microenvironmental regulation of hematopoiesis.</li><li>• Mentor trainees at various levels from high school to post-doctorate.</li></ul>	
	<b>Instructor, Yale University, New Haven, CT</b> K01 Mentored Career Development Awardee, 2019-Present	May 2019-Jan 2022
	<ul style="list-style-type: none"><li>• Independently developed image data processing tools and utilized them to explore intrinsic and extrinsic factors that influence hematopoietic progenitor cell fate.</li><li>• Mentored high school, undergraduate, and graduate students in the lab, and oversaw their projects.</li><li>• Piloted a new program, Yale Summer Enrichment Research Experience, to provide summer research opportunities to underserved undergraduates in the CT area.</li></ul>	
<b>Post-doctoral Fellow/Associate, Yale University, New Haven, CT</b> Trainee, Immunohematology/Transfusion Medicine Research Training Grant, 2015-2018	November 2015-April 2019	
<ul style="list-style-type: none"><li>• Successfully developed a novel approach to time-lapse image non-adherent sorted progenitor cells differentiating in long term cultures.</li><li>• Investigated the structure/function of the pro-megakaryocytic transcriptional co-activator, MKL1.</li><li>• Performed a wide range of molecular, genetic, biochemical, cytometric, and imaging techniques, as well as extensive work with small animal models.</li><li>• Supervised and mentored high school, undergraduate, and masters students in the lab.</li></ul>		
<b>Course Instructor, Manchester Community College, Manchester, CT</b>	Spring 2016	
<ul style="list-style-type: none"><li>• Developed and taught basic genetic principals and lead hands-on experiments extracting and analyzing DNA.</li><li>• Introduced biomedical sciences and allied health careers, and discussed the education and training required to pursue these fields.</li></ul>		

**Graduate Assistant, University of Connecticut**, Farmington, CT

August 2008-June 2015

Trainee, Skeletal, Craniofacial and Oral Biology Training Grant, 2013-2015

- Studied intercellular signaling events in osteoblasts and periosteal cells in the context of bone fracture healing.
- Received multidisciplinary training in advanced cell culture techniques in primary cells including transfection, siRNA, chemical inhibition of signaling pathways, flow cytometry analysis, and FACS.
- Performed molecular and biochemical assays including western blotting, RNA and DNA analysis, cloning, fast plasmid minipreps and maxipreps, sequencing, restriction digests, gel electrophoresis, and ELISAs.
- Executed histology and microscopy techniques including various staining, histomorphometry, immunofluorescence, and laser capture microdissection.
- Responsible for breeding, genotyping, operating on, and harvesting a variety of tissue samples from small animal models.

**Master Tutor, The Princeton Review**, Westport, CT

January 2007-May 2014

- Certified in preparing high school students for the SAT/ACT and college students for the GRE and MCAT.
- Give lecture-style instruction in standardized test strategies to classes of 10-30 students.
- Academically tutored students in a vast array of subjects including algebra, geometry, calculus, biology, chemistry, and physics.

**Cytogenetic Technologist, Dianon Systems**, Stratford, CT

December 2006-August 2008

- Performed routine testing for bladder cancer via FDA-approved fluorescence in situ hybridization protocols.
- Performed QC and QA procedures to maintain laboratory accuracy and compliance.

**Laboratory Intern, Yale University**, New Haven, CT

July 2006-December 2006

- Accessioned and analyzed patient samples in the DNA Diagnostics lab and reported results.
- Isolated DNA from whole blood and analyzed patient samples by PCR, restriction digest, gel electrophoresis, and standard blotting techniques with the use of radioactively labeled probes.
- Analyzed sequencing data, including alignment, variant calling, and copy number variation.
- Researched the genotype-phenotype correlation of mutations in MCAD.
- Designed and implemented a novel sequencing-based diagnostic assay to detect mutations in the ACADM gene.

**Research Assistant, University of Connecticut**, Storrs, CT

August 2005-May 2006

- Executed protocols for DNA and RNA extractions, fast plasmid minipreps, restriction digests, cell culture, slide making, G-banding, karyotyping, sequencing, and gel electrophoresis.

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**Professional Service**

**Mentor**

2021

Yale Cooperative Center of Excellence in Hematology Undergrad Summer Scholars Program

**Program Organizer**

2019

Yale Summer Enrichment Research Experience, New Haven, CT

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**Honors/Awards**

**Carl Storm Underrepresented Minority (CSURM) Fellowship Program**

March 2017

Gordon Research Conferences

**Lawrence G. Raisz Award for Excellence in Musculoskeletal Research.**

June 2015

Lawrence G. Raisz Foundation

**Graduate Student Travel Grant Award**

March 2014

University of Connecticut Health Center Research Advisory Council

**Undergraduate Research Grant**

September 2005, 1 year

University of Connecticut

**Leadership Scholarship**

August 2002, 4 years

- University of Connecticut
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**Publications**

**Scanlon V**, Cenci M, Starble R, Krause DS. Immunofluorescence in situ staining of hematopoietic colony forming unit assays in semisolid media. *Experimental Hematology*. *In preparation*.

**Scanlon V**, Kochugaeva M, Lawton B, Xavier-Ferruccio J, Kang E, Eskow N, Lu YC, Kwon N, Laumas A, Cenci M, Lawrence K, Barden K, Larsuel S, Reed F, Pena-Carmona G, Ubbelohde A, Lee JP, Boobalan S, Oppong Y, Anderson R, Maynard C, Sahirul K, Lajeune C, Ivathraya V, Addy T, Sanchez P, Holbrook C, Tri Van Ho A, Blau H, Levchenko A, Krause DS. Single-cell lineage tracking by time lapse imaging reveals Thrombopoietin supports self-renewal of bipotent Megakaryocytic-Erythroid progenitors without influencing lineage specification. *Nature Methods*. *In preparation*.

Wilkes MC, Chae HD, **Scanlon V**, Celika AM, Wentworth EP, Saxena M, Eskin A, Chen Z, Spencely A, Nishimura T, Narla A, Glader B, Roncarolo MG, Nakauchi H, Nelson SF, Wysocka J, Sakamoto KM. SATB1 regulates Megakaryocytic-Erythroid Progenitor Expansion During Hematopoiesis. *Haematologica*. *Under review*.

Reed F, Larsuel ST, Mayday MY, **Scanlon V**, Krause DS. MRTFA: a critical protein in normal and malignant hematopoiesis and beyond. *J Biol Chem*. 2021 Mar.

Kwon N, Thompson EN, Mayday M, **Scanlon V**, Lu Y, Krause DS. Current understanding of human megakaryocytic-erythroid progenitors and their fate determinants. *Curr Opin Hematol*. 2021 Jan; 28(1):28-35.

Xavier-Feruccio J, **Scanlon V**, Li X, Zhang PX, Ayala-Lopez N, Tebaldi T, Halene S, Cao C, Fleming M, Finberg K, Krause D. Low Iron Promotes Megakaryocytic Commitment of Megakaryocytic-Erythroid Progenitors in Humans and Mice. *Blood*. 2019 Oct 31;134(18):1547-1557.

**Scanlon V**, Teixeira AM, Zou S, Zhang PX, Booth CJ, Kowalska MA, Bao J, Hayes V, Marks MS, Poncz M, Krause D. Epithelial (E)-Cadherin is a Novel Regulator of Platelet Aggregation and Clot Stability. *Thrombosis and Haemostasis*. 2019. 2019 May;119(5):744-757.

**Scanlon V**, Walia B, Yu J, Hansen M, Drissi H, Maye P, Sanjay A. Lack of Cbl-PI3K Interactions Enhances Osteogenic Capacity of Progenitor Cells in the Periosteum. *Bone*. 95:124-135. 2016.

**Scanlon V**, Soung D, Adapala NS, Hansen M, Morgan E, Drissi H, Sanjay A. Role of Cbl-PI3K Interaction During Skeletal Remodeling in a Murine Model of Bone Repair. *PLOS One*. 10(9). 2015.

Guzzo RM, **Scanlon V**, Sanjay A, Xu R, Drissi H. Establishment of human cell type-specific iPS cells with enhanced chondrogenic potential. *Stem Cell Reviews and Reports*. 10(6):820-829. 2014.

Adapala NS, Holland D, **Scanlon V**, Barbe MF, Langdon WY, Tsygankov AY, Lorenzo JA, Sanjay A. Loss of Cbl-PI3K interaction prevents significant bone loss following ovariectomy. *Bone*. 67:1-9. 2014.

Brown JD, **Piccillo V**, O'Neill RJ. Retroelement demethylation associated with abnormal placentation in *Mus musculus* x *Mus caroli* hybrids. *Biology of Reproduction*. 86(3):88. 2012.

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**Presentations**

Ta K, Blau H, Duncan J, Krause DS, **Scanlon V**. Improved Cell Segmentation in the Baxter Cell Tracking Algorithm for Hematopoietic Cells Grown *In Vitro* in Colony Forming Unit Assays. American Society of Hematology Annual Meeting. Atlanta, GA. 12/2021. *Under Review*.

**Scanlon V**, Kochugaeva M, Lawton B, Xavier-Ferrucio J, Kang E, Eskow N, Lu YC, Kwon N, Laumas A, Cenci M, Lawrence K, Barden K, Larsuel S, Reed F, Pena-Carmona G, Ubbelohde A, Lee JP, Boobalan S, Oppong Y, Anderson R, Maynard C, Sahirul K, Lajeune C, Ivathraya V, Addy T, Sanchez P, Holbrook C, Tri Van Ho A, Blau H, Levchenko A, Krause DS. Single-Cell Tracking by Time Lapse Imaging Confirms Thrombopoietin Promotes Megakaryocytic-Erythroid Progenitor Self Renewal, but does not Instruct Lineage Commitment. American Society of Hematology Annual Meeting. Atlanta, GA. 12/2021. *Under Review*.

**Scanlon V**, Kochugaeva M, Xavier-Ferrucio J, Lu YC, Kwon NY, Laumas A, Cenci M, Lawrence K, Barden K, Holbrook C, Tri Van Ho A, Blau H, Levchenko A, Krause D. Developing Single Cell Live Imaging Strategies to Determine MEP Fate and Predict Potential. American Society of Hematology Annual Meeting. Orlando, FL. 12/2019. *Poster. PI funded*.

Xavier-Ferrucio J, **Scanlon V**, Li X, Zhang P, Ayala-Lopez N, Tebaldi T, Halene S, Finberg K, Krause D. Low Iron Promotes Megakaryocytic Commitment of Megakaryocytic-Erythroid Progenitors in Humans and Mice. American Society of Hematology Annual Meeting. San Diego, CA. 12/2018. *Plenary Session. PI funded*.

**Scanlon V**, Xavier-Ferrucio J, Lu YC, Laumas A, Cenci M, Holbrook C, Tri Van Ho A, Blau H, Krause D. Developing Live Imaging Strategies to Analyze the Influence of Cell Cycle Rate on MEP Fate Decisions at the Single Cell Level. American Society of Hematology Annual Meeting. Atlanta, GA. 12/2017. *Poster. PI funded*.

**Scanlon V**, Xavier-Ferrucio J, Lu Y, Krause D. Developing Live Imaging Strategies to Analyze MEP Fate Decisions at the Single Cell Level. Gordon Research Conference: Biology of Megakaryocytes and Platelets. Tuscany, Italy. 2/2017. *Oral Presentation and Poster. Fellowship and training grant funded*.

Walia B, **Scanlon V**, Yu J, Hansen M, Maye P, Drissi H, Sanjay A. Post-Fracture Impact of PI3K Activity Modulation on Periosteal Expansion and Osterix Expression. Orthopaedic Research Society Annual Meeting. Orlando, FL. 3/2016. *Poster*.

**Scanlon V**, Soung D, Adapala NS, Hansen M, Drissi H and Sanjay A. PI3K Signaling Regulates SDF-1-Mediated Recruitment of Osteoclast Precursors In Homeostasis and During Fracture Healing. Orthopaedic Research Society Annual Meeting. Houston, TX. 3/2015. *Poster*.

Adapala NS, **Piccuillo, V**, Aguila H, Lorenzo J, Sanjay A. Specificity protein-1 mediated SDF1/CXCL12 synthesis is inhibited by Cbl-PI3K interaction in bone marrow reticular cells. American Society for Bone and Mineral Research Annual Meeting. Houston, TX. 9/2014. *Poster*.

**Piccuillo V**, Soung D, Adapala NS, Hansen M, Drissi H, Sanjay A. Cbl-PI3K interaction is required for coupling osteoblast and osteoclast functions during fracture repair. Orthopaedic Research Society Annual Meeting. New Orleans, LA. 3/2014. *Oral Presentation*.

Makeyev AV, Chinge NO, **Piccuillo V**, Enkhmandakh B, Bayarsaihan D. Function of TFII-I transcription factors during embryonic stem cell differentiation. New England Stem Cell Consortium Junior Investigator Symposium. Amherst, MA. 10/2009. *Poster*.

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**Funding**

**Fred Hutch Cooperative Center for Excellence in Hematology Pilot & Feasibility Award** April 2020  
National Institute for Diabetes and Digestive and Kidney Diseases

**Yale Cooperative Center for Excellence in Hematology Pilot & Feasibility Award** December 2019  
National Institute for Diabetes and Digestive and Kidney Diseases

**Mentored Career Development Award (K01)**  
National Institute for Diabetes and Digestive and Kidney Diseases  
Administrative Supplement

May 2019, 5 years

April 2021, 1 year

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**Professional  
Memberships**

**Janeway Society**  
Yale University, School of Medicine

June 2021

**American Society of Hematology**

2020-2021

**International Society for Experimental Hematology**

2020-2021

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**Professional  
Trainings**

**K Awardees Workshop**  
National Institute for Diabetes and Digestive and Kidney Diseases

April 2021

**Female Leaders in Science Course**  
Hfp Consulting

May 2019