



UNIVERSITÀ
DI TRENTO

Dipartimento di
Biologia Cellulare,
Computazionale e Integrata - CIBIO



EXTERNAL
SEMINAR

**WEDNESDAY,
23 SEPTEMBER
2026**

FROM **4:30 P.M.**
ROOM **A207**
POVO 1



Valentina Daponte

EMORY MUSCULOSKELETAL INSTITUTE, EMORY UNIVERSITY, ATLANTA (USA).

BEYOND BONE RESORPTION: OSTEOCLASTS IN SKELETAL HOMEOSTASIS, AGING AND DISEASE

The primary focus of my research is to understand how osteoclasts contribute to maintaining healthy bone and how alterations in their function can lead to skeletal disease. Although best known for their role in bone resorption, osteoclasts also regulate bone formation through interactions with osteoblasts, contributing to skeletal remodeling and tissue homeostasis. My research began with zebrafish models of skeletal development and genetic bone disorders, where I studied how different mutations affect bone-cell differentiation and the formation and organization of bone tissue. Building on this foundation, I have increasingly focused on osteoclast function and osteoclast-osteoblast communication. Using mouse and zebrafish models, together with human induced pluripotent stem cell (iPSC)-based systems, I study how osteoclast function and osteoclast-osteoblast interactions shape bone homeostasis across development, aging and disease. A particular interest of my current work is how osteoclast-derived factors regulate bone formation and whether shared mechanisms link osteoclast dysfunction to skeletal abnormalities across different disease settings.



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