



About our guest

Giovanna Prout

CEO, Scale Biosciences

SPEAKING OF
MOL BIO

Quantum barcoding and the future of single-cell analytics

Season 3, Episode 15

Episode notes

In this episode, host Steve Lewis sits down with Giovanna Prout, President and CEO of [Scale Biosciences](#), to explore how Scale is pushing the boundaries of [single-cell omics](#). With a career that spans roles with big players and entrepreneurial ventures, Giovanna brings a unique perspective to the world of genomics innovation.

Giovanna dives into Scale's patented [Quantum Barcoding](#) technology—a high-throughput, combinatorial indexing approach that allows researchers to process millions of cells and thousands of samples simultaneously, all without the need for specialized instrumentation. She explains how this flexible, automation-friendly platform is opening doors for AI-driven data modeling, large-scale drug screening, and highly diverse patient cohort studies.

Beyond the science, Giovanna reflects on her leadership journey, emphasizing persistence, servant leadership, and a passion for making a difference in life sciences. She also shares the vision behind the [100 Million Cell Initiative](#), a bold collaboration that empowers scientists to dream big without constraints. For early-career scientists, Giovanna offers candid advice on working hard, staying curious, and believing in the impact of their work.

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Publications using Scale Biosciences technology

1. Sarafinovska S, Koester SK, Fang LZ, Thorpe JW, Chaturvedi SM, Ji J, Jones EF, Selmanovic D, Kornbluth DJ, Barrett MR, Rurak GM, Maloney SE, Creed MC, Mitra RD, Dougherty JD. **Single-Cell Resolution of Individual Variation in Hypothalamic Neurons Allows Targeted Manipulation Affecting Social Motivation.** *bioRxiv* [Preprint]. 2025 Mar 11:2025.03.10.642464. doi: 10.1101/2025.03.10.642464
2. Yen A, Sarafinovska S, Chen X, Skinner DD, Leti F, Crosby M, Hoisington-Lopez J, Wu Y, Chen J, Li ZA, Noguchi KK, Mitra RD, Dougherty JD. **MYT1L deficiency impairs excitatory neuron trajectory during cortical development.** *Nat Commun.* 2024 Nov 27;15(1):10308. doi: 10.1038/s41467-024-54371-2

“With quantum barcoding, this is our unique technique to have a very large barcode space for single-cell omics, which means we can process lots of different samples and lots of different cells at one time. And it’s a combination of serially indexing cells, so you build up an index, so then every cell has a unique index, but also incorporating microwell plates and beads to really expand that barcode space.”