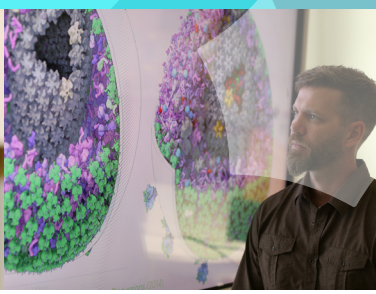
ALLEN INSTITUTE *for*
CELL SCIENCE

OPEN SCIENCE BIG IMPACT



The Allen Institute for Cell Science is a research organization dedicated to understanding and modeling cells: the fundamental units of life.

Each of our 50 trillion cells is its own universe of complex, living machinery, the pieces of which work together to create each cell's unique behaviors. Recent advances have yielded remarkable insights into how many of the individual pieces of cellular machinery function; but understanding how they work together to produce a living cell requires an entirely different approach.

Launched with a contribution from Paul G. Allen in 2014, the Allen Institute for Cell Science will serve as a catalyzing force to integrate diverse technologies and approaches at a large scale in order to study cells and groups of cells as integrated systems, yielding insight into how to fight disease in a meaningful way.

ALLEN ANIMATED CELL

Using genome edited human induced pluripotent stem cells and quantitative light microscopy, the Institute will study key cellular machinery and activities as the cell executes its various behaviors, responds to mutation and altered environments, and differentiates. Image data will be displayed in the "animated cell," a novel dynamic, visual, multi-scale database, integrating image data and the output of predictive models. These data and models will create a "cell clinic" which can be queried for phenotypic behavior of normal and altered cells, accelerating understanding and discovery in cell biology and biomedical research.

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TEAM SCIENCE

Using a multidisciplinary, team science-driven approach, the Allen Institute for Cell Science addresses a most fundamental and yet elusive question: how does information encoded in our genes becomes a three-dimensional living cell, and what goes wrong in disease?

Building on the goal-oriented, structured approach of the other Allen Institutes, the Allen Institute for Cell Science will systematically put the parts of the cell together into a common framework and then create data and models to enable scientists around the world to make predictions about cellular behavior in both health and disease.

IMPACT

While individual labs excel at examining individual parts of the cell's machinery, the Allen Institute for Cell Science is uniquely poised to bring this work together, systematically studying and integrating the parts, all under one roof. The scale of the Institute means that we can integrate diverse technologies, approaches, models and data into a common standardized framework that works as a single, unified data resource for scientists around the world.

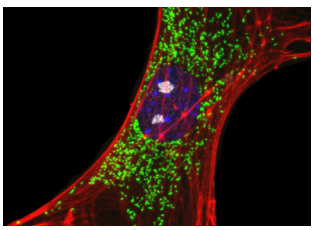
The Institute will work with the community on project tactics and sharing reagents, models, analyses and data.

TEAM

- Paul G. Allen, Founder
- Rick Horwitz, Ph.D., Executive Director

Leadership

- Nikki Bialy, Ph.D., Associate Director
- Ruwanthi Gunawardane, Ph.D., Director, Stem Cells & Gene Editing
- Graham Johnson, Ph.D., Director, Animated Cell
- Susanne Rafelski, Ph.D., Director, Assay Development
- Winfried Wiegrabe, Ph.D., Director, Microscopy & Image Analysis



Intracellular architecture of a primary mouse embryonic fibroblast.

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