**1. What background information would someone who is completely unfamiliar with your field need to know to understand the findings in your paper? (Suggested word limit: 150 words)**

When viruses infect cells, they take over the cell’s machinery to start expressing virus genes. This process has mostly been studied by looking at the average outcome of infection when many viruses infect many cells. However, it is less clear what happens in individual cells. Does the virus take over every cell to make lots of viral genes, or do some cells produce far more viral genes than others?

**2. What exact research question did you set out to answer and why? (Suggested word limit: 75 words)**

We used a new technique called single-cell RNA sequencing to look at how well influenza virus genes were expressed in hundreds of individual cells. Our goal was to determine how much variability (or “heterogeneity”) there was in the outcome of infection among individual cells.

**3. What are the most important findings of your paper? (Suggested word limit: 100 words)**

We found that there was ***a lot*** of heterogeneity among cells. One way to quantify heterogeneity is using something called the Gini coefficient. For instance, the Gini coefficient is often used to quantify the unequality of income distribution – in the United States, the Gini coefficient for income is 0.47. We found that the Gini coefficient for the unevenness in the amount of viral genes expressed in different cells was at least 0.64, indicating that there is more unevenness in viral gene expression than there is income inequality in the United States.

We next sought to determine what characterizes the “Bill Gates” cells that have such high viral gene expression. We found that one factor is that some cells don’t get all the viral genes, and when the influenza virus is lacking some genes then it can’t express its other genes as well. However, our results suggest that there are also other factors contributing to the heterogeneity.

**4. Who might eventually benefit from the findings of your study, and what would need to be done before we could achieve these benefits? (Suggested word limit: 75 words)**

Real influenza virus infections are usually initiated by a very small number of viruses, so understanding the variability when individual viruses infect individual cells might be important for understanding the properties of infections at larger scales too.