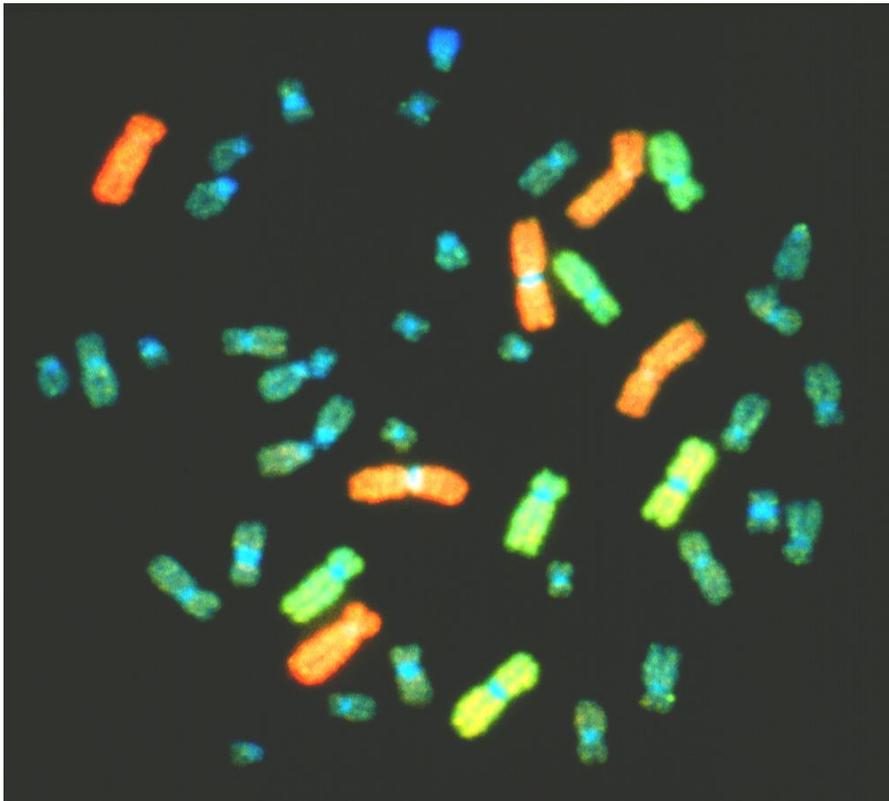
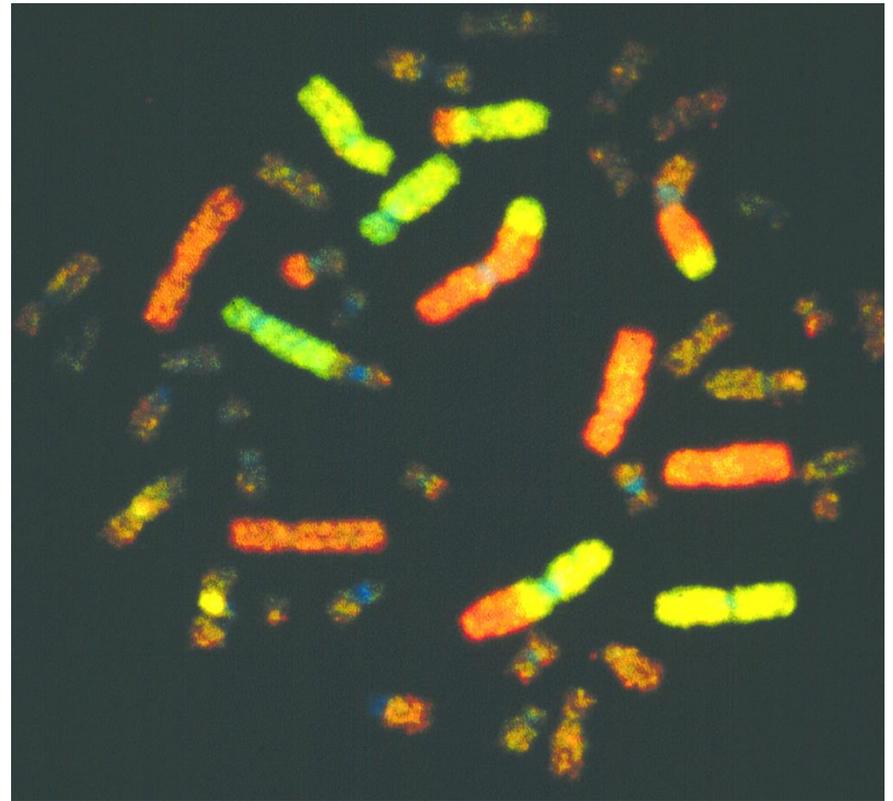


# Multi-color FISH in human lymphocyte chromosomes

Non-irradiated



Irradiated



From: Dr. J.D. Tucker

Slide from Dr. W.F. Morgan

**FISH** (Fluorescence In Situ Hybridization) is a technique that allows researchers to visualize genes or chromosomes using fluorescent markers. Each chromosome can be tagged with a different color, and genes or **chromosome aberrations** can be visualized when the markers are fluoresced.

While chromosome aberrations are found to occur under normal conditions, they may increase in prevalence due to ionizing radiation exposure. In the slide above, non-irradiated chromosomes are shown on the left. The chromosomes are each labeled with a different color and can be identified as normal homologs.

On the right is an example of chromosomes from an irradiated cell. Again, the chromosomes are labeled with different colors, but chromosomal rearrangements are also visible. **Symmetrical**, or balanced, **translocations** are visible between the orange and yellow chromosomes in the upper right, with smaller portions of yellow and orange on the opposite chromosomes. A **polycentric chromosome** is also visible on the left side of the image (orange and yellow-green dicentric).