



Illinois Wesleyan University
Digital Commons @ IWU

John Wesley Powell Student Research
Conference

2000, 11th Annual JWP Conference

Apr 15th, 10:00 AM - 11:00 AM

Are there Differences in Nutrient Assimilation among Cell-Lineages of Sea Urchin Embryos?

Ketaki K. Patel
Illinois Wesleyan University

William Jaeckle, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>

Patel, Ketaki K. and Jaeckle, Faculty Advisor, William, "Are there Differences in Nutrient Assimilation among Cell-Lineages of Sea Urchin Embryos?" (2000). *John Wesley Powell Student Research Conference*. 19.

<https://digitalcommons.iwu.edu/jwprc/2000/posters/19>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation 39

**ARE THERE DIFFERENCES IN NUTRIENT ASSIMILATION
AMONG CELL-LINEAGES OF SEA URCHIN EMBRYOS?**

Ketaki K. Patel and William Jaeckle*

Department of Biology, Illinois Wesleyan University

Embryos of the sea urchins *Arbacia punctulata* and *Lytechinus variegatus* were used to test the hypothesis that differences exist among specific cell-lineages in the ability to assimilate nutrients from seawater. Embryos at different developmental stages (from unfertilized eggs to prism stage larvae) were incubated in a seawater solution of the iron-containing protein ferritin (2 mg/ml) for fixed time periods. Following each incubation period, specimens were fixed in neutral buffered formalin. To detect the presence of iron (from ferritin) in cells, experimental specimens and individuals not exposed to ferritin (controls) were incubated in a 3:2 mixture of 1% HCl and 2% Potassium ferrocyanide. The formation of a blue reaction product revealed those cells containing iron. Results indicate that the ability to assimilate nutrients is detectable between the 8-cell stage and a multicellular pre-blastula stage; and, assimilation is uniform among different cell-lineages.