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GOT GLOW?™

HIGHLIGHTS AND ADVANCES IN CIRCADIAN RHYTHM STUDIES

Disruption of the mouse circadian system during resynchronization to a 6h phase advance of the light cycle

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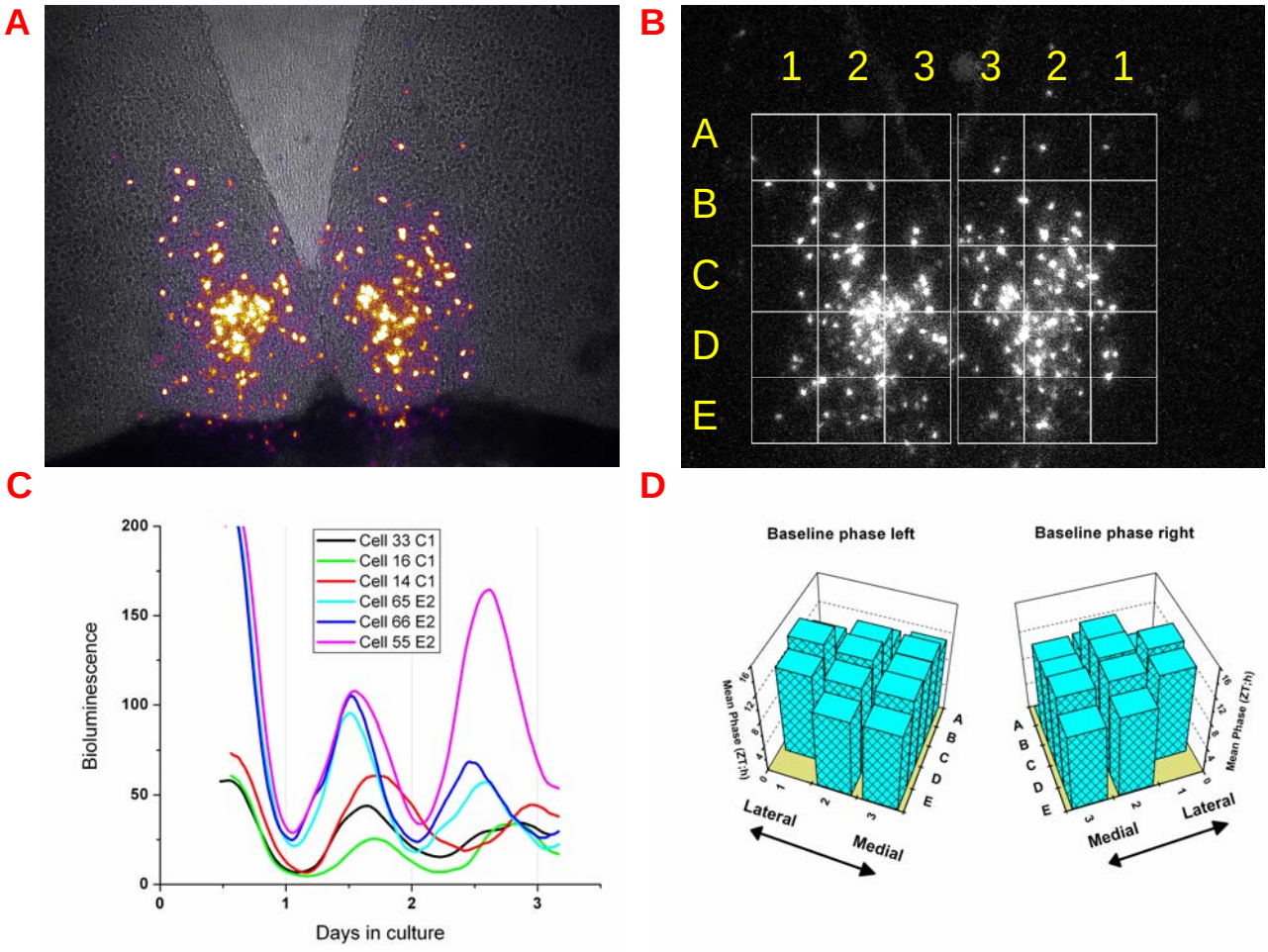
Program 833.3/Poster 0016, Wednesday November 7th, 10:00 AM-11:00 AM, seen at SFN07

A. Overlay image of bioluminescence (pseudocolored) on a brightfield image of the slice. **B.** Bioluminescence image showing the grid used for regional comparisons of phase E1 and A1 did not yield sufficient cells for reliable analysis. **C.** Examples of cellular rhythms of bioluminescence from cells in regions C1 and E2. E2 cells peaked earlier than C1 cells in baseline conditions. **D.** Left and Right SCN phase in 3d bar graphs. Height indicates mean peak time per region. The left and right SCN were symmetrical.

The images and data presented here are excerpts from the full poster presentation, courtesy of Dr. Davidson and colleagues.



Dr. Davidson and other researchers using the **Mega-10Z™** are now moving forward into new applications aided by the unprecedented visualization and detection capability provided by SPI systems technologies. We are excited about being able to assist in these advances and greatly appreciate their efforts and diligence in moving beyond the perceived limits of experimentation and discovery.

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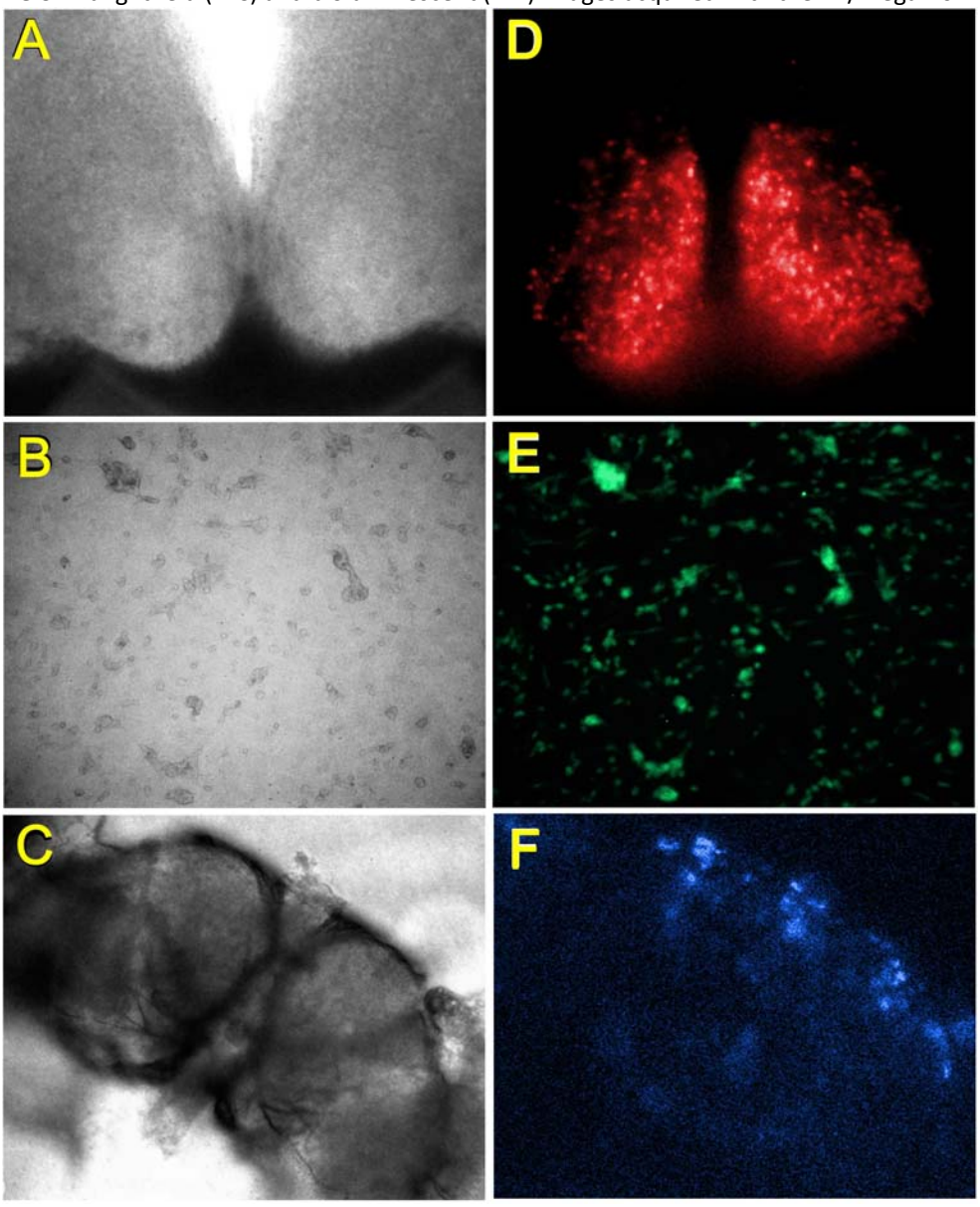
Courtesy of University of Virginia

"These images exemplify the use of the Stanford Photonics imaging technology to examine the function of the molecular circadian clock in organisms from mice to fruit flies. The Stanford system allows us to examine these tissues and cells for rhythms of gene expression and determine their response to various manipulations." –Dr. Michael T. Sellix, Ph.D.

Images were collected and prepared by Dr. Michael T. Sellix Ph.D. in the laboratories of Dr. Michael Menaker Ph.D. and Dr. Herman Wijnen Ph.D. at the University of Virginia department of biology.

Below: brightfield (A-C) and bioluminescent (D-F) images acquired with the XR/Mega-10Z™



(A, D) SCN explant culture from a transgenic rat expressing the Period1-luciferase reporter.

(B, E) Monolayer culture of ovarian granulosa cells from a Per1-luciferase rat.

(C, F) Whole brain recording of Per1-luciferase expression within the pacemaker neurons from drosphila melanogaster.

"We have determined that individual cells across different species and tissues verify expressions of clock genes from hormone expressions to sleeping and waking cycles."
--Dr. Michael T. Sellix, Ph.D.

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