

In the news

THE LASKER PRIZE 2015: DNA DAMAGE RESPONSE

Our cells are assaulted by DNA-damaging agents every day. Owing to the existence of the DNA damage response (DDR), these cells do not die or undergo massive mutagenesis. The DDR detects lesions in the DNA and either activates DNA repair mechanisms or initiates cell death when the damage is too extensive to be efficiently repaired. DDR pathways largely differ between prokaryotes and eukaryotes, but in both cases they are critical to maintain genomic integrity and sustain organismal development.

The basis of our understanding of how these pathways operate has been laid down by two outstanding scientists: Evelyn M. Witkin (Rutgers University, USA) and Stephen J. Elledge (Harvard Medical School, USA) — the winners of the 2015 [Albert Lasker Basic Medical Research Award](#). Witkin had worked on *Escherichia coli* and spearheaded studies on the activation of cell cycle checkpoints by DNA damage. Her impressive career also greatly contributed to our understanding of DNA repair mechanisms as well as of principles of DNA damage-induced mutagenesis. Elledge, on the other hand, has devoted his work to studying eukaryotic systems. His research led to the identification of multiple key components of the DDR in yeast and mammals, which provided important insights into human pathologies associated with the compromise of DNA repair pathways.

Both Witkin and Elledge have shown remarkable persistence and devotion to their work, as well as acute scientific intuition. Once, Witkin herself said: “I think the best scientists have a nose for that — deciding what to follow up when something doesn’t fit. And you can be wrong, no matter how good you are” ([PLoS Genetics](#), 11 Oct 2012), which is great advice to all wishing to follow in the footsteps of these great minds.

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