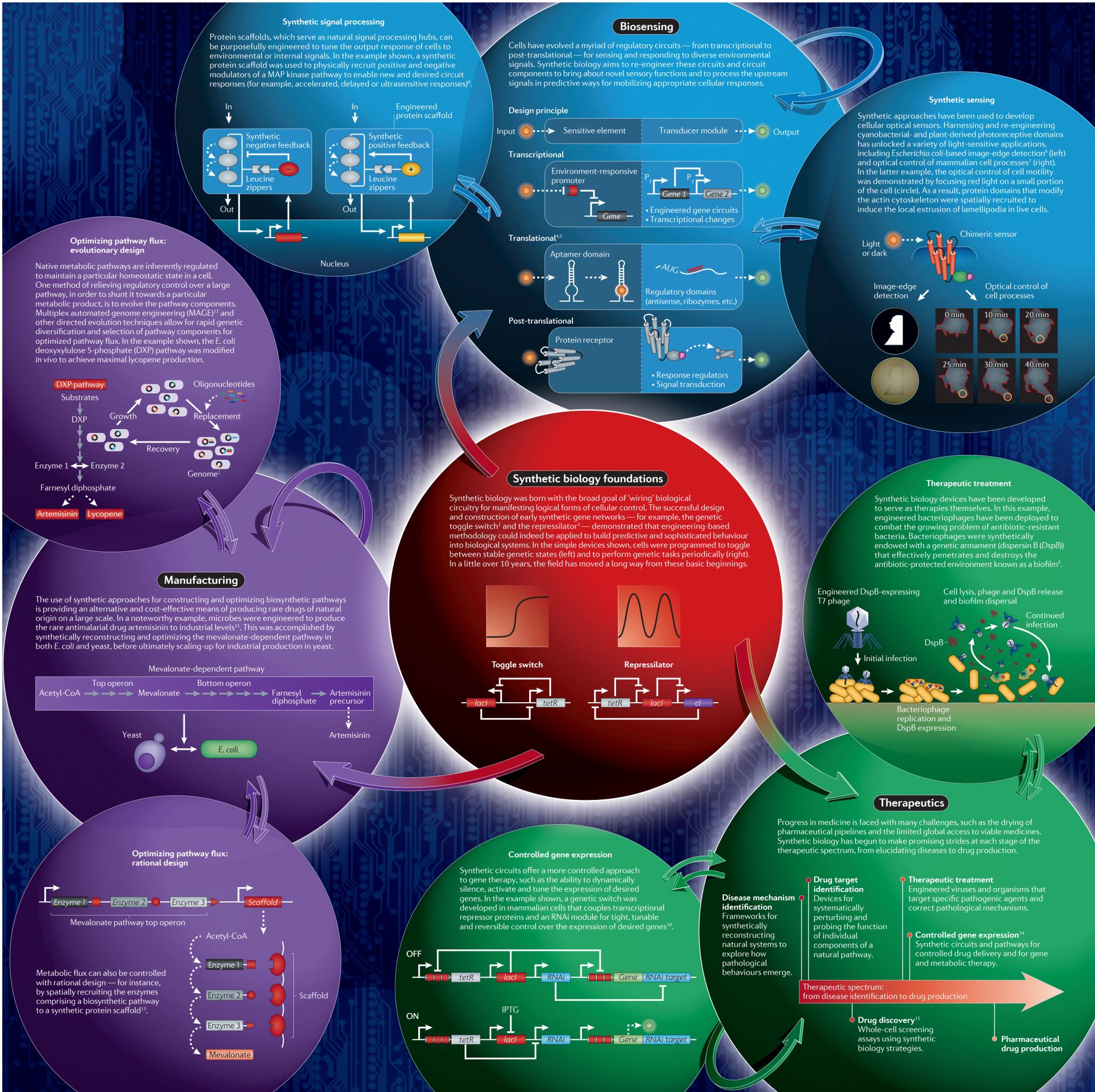


# Synthetic biology: applications come of age

Ahmad S. Khalil and James J. Collins

Synthetic biology is bringing together engineers and biologists to design and build novel biomolecular components, networks and pathways and to use these constructs to rewire and reprogram organisms. These re-engineered organisms will change our lives over the coming years, leading to cheaper drugs, 'green' means to fuel our cars and targeted therapies for attacking 'superbugs' and diseases such as cancer. The *de novo* engineering of genetic circuits, biological modules and synthetic pathways is beginning to address these crucial problems and is being used in related practical applications<sup>1</sup>.



### Blue Heron — Leading Gene Synthesis Technologies for Synthetic Biology Applications

Blue Heron Biotech has been a pioneer of the gene synthesis industry since 1999. Through the years, Blue Heron has developed novel and proprietary high throughput, fully automated synthesis platforms to serve customers who need a single gene to megabases of DNA. Part of that pioneering activity has led Blue Heron to be the first company to:

- Work with researchers worldwide to create synthetic DNA components
- The primary supplier for the first synthetic genome, as published in *Science* (Gibson, D. G. et al. 329, 52–56 (2010))
- Deliver a 52 kb gene
- Synthesize a megabase of DNA in a month

### Innovation for the Synthetic Biology Researcher

Blue Heron offers breakthrough technologies to meet the growing synthesis demands of researchers worldwide. These innovations include expanding capabilities for:

- Complex sequence synthesis
- Shuffling of synthetic blocks
- Variant libraries
- Whole-genome synthesis

### Blue Heron is Your Gene Synthesis Partner

In August 2010, Blue Heron became a wholly owned subsidiary of OriGene Technologies, Inc. Together we can now provide a one-stop solution for the molecular biology research community.

For more information: [www.blueheronbio.com](http://www.blueheronbio.com) or [www.origene.com](http://www.origene.com)  
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### Acknowledgements

A.S.K. and J.J.C. thank the Howard Hughes Medical Institute and the US National Institutes of Health Director's Pioneer Award for their support.

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