

Synthetic Biology: The Intellectual Property Puzzle

In the realm of scientific research, synthetic biology is the newest “new thing.” By constructing standard, modular biological parts that can be readily synthesized and mixed together, synthetic biologists aim to make biology a true engineering discipline. The results, they hope, will be new products in areas ranging from energy and the environment to materials science and health. Although there has been much discussion of the national security implications of synthetic biology, the relationship of synthetic biology to intellectual property law has been largely unexplored. In this paper, we survey the intellectual property landscape in synthetic biology. Because of arguably dysfunctional law in the technologies upon which synthetic biology relies – biotechnology and software – the relevant research space already contains broad patents on foundational technology. We assess the validity and likely impact of these patents. We also assess various efforts currently being contemplated to use the tools of open source – property rights coupled with viral licensing – to create a synthetic biology commons.