

# Regulation of Synthetic Biology

BioBricks, Biopunks and Bioentrepreneurs

---

Alison McLennan

*Assistant Professor, School of Law and Justice, Faculty of Business,  
Government and Law, University of Canberra, Australia*

ELGAR STUDIES IN LAW AND REGULATION

 **Edward Elgar**  
PUBLISHING

Cheltenham, UK • Northampton, MA, USA

# Contents

---

<i>Acknowledgements</i>	vi
<i>List of abbreviations</i>	viii
<b>PART I THE NEW WORLD OF SYNTHETIC BIOLOGY: POSSIBILITIES, CHALLENGES AND DEBATES</b>	
1 Introduction	3
2 Making biology easy to engineer: the science of synthetic biology, the emergence of the field and its major applications	25
3 Science meets politics, activists and governance: evaluating key positions in synthetic biology debates	71
4 New directions? The United States Presidential Commission's investigation of synthetic biology's risks, benefits and oversight	105
<b>PART II REGULATING FOR THE RISKS</b>	
5 Environmental risk: uncertainty, precaution, prudent vigilance and adaptation	129
6 Synthetic biology, biosafety and 'biopunks'	172
7 Biosecurity: potential for deliberate misuse of synthetic biology	207
<b>PART III REGULATING FOR THE BENEFITS</b>	
8 How will patents affect synthetic biology?	251
9 Building with BioBricks: a commons for sharing synthetic biology research	300
10 Conclusion and future directions	341
<i>Bibliography and sources</i>	364
<i>Index</i>	393