

# VU Research Portal

## Exploring the potential of metabolic models in the study of microbial ecosystems

Hanemaaijer, M.J.

2016

### **document version**

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

### **citation for published version (APA)**

Hanemaaijer, M. J. (2016). *Exploring the potential of metabolic models in the study of microbial ecosystems*.

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

### **Take down policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

### **E-mail address:**

[vuresearchportal.ub@vu.nl](mailto:vuresearchportal.ub@vu.nl)

# Contents

<b>1</b>	<b>Introduction</b>	<b>7</b>
<b>2</b>	<b>Systems approaches for microbial community studies: From metagenomics to inference of the community structure</b>	<b>17</b>
<b>3</b>	<b>Elucidation of the energy conservation of <i>Methanosaeta concilii</i>: Testing hypotheses with a genome-scale stoichiometric model</b>	<b>33</b>
<b>4</b>	<b>Preparing the genome-scale metabolic model of <i>Clostridium acetobutylicum</i> for ecosystem modelling</b>	<b>47</b>
<b>5</b>	<b>Model-based quantification of metabolic interactions from dynamic microbial-community data</b>	<b>65</b>
<b>6</b>	<b>The effect of experimental evolution of a yoghurt culture on growth and metabolic interactions</b>	<b>83</b>
<b>7</b>	<b>Discussion</b>	<b>105</b>
	<b>Bibliography</b>	<b>115</b>
	<b>Summary</b>	<b>131</b>
	<b>Samenvatting</b>	<b>135</b>
	<b>Publications</b>	<b>139</b>
	<b>CV</b>	<b>141</b>
	<b>Acknowledgements</b>	<b>143</b>