



## Supplementary Materials for

### **A unified initiative to harness Earth's microbiomes**

A. P. Alivisatos, M. J. Blaser, E. L. Brodie, M. Chun, J. L. Dangl, T. J. Donohue,  
P. C. Dorrestein, J. A. Gilbert, J. L. Green, J. K. Jansson, R. Knight, M. E. Maxon,  
M. J. McFall-Ngai, J. F. Miller,\* K. S. Pollard, E. G. Ruby, S. A. Taha,  
Unified Microbiome Initiative Consortium

\*Corresponding author. E-mail: [jfmiller@ucla.edu](mailto:jfmiller@ucla.edu)

Published 28 October 2015 on *Science* Express  
DOI: 10.1126/science.aaa8480

#### **This PDF file includes**

Supplementary Text



## Supplementary Materials for

### **A unified initiative to harness Earth's microbiomes**

A. P. Alivisatos, M. J. Blaser, E. L. Brodie, M. Chun, J. L. Dangl, T. J. Donohue,  
P. C. Dorrestein, J. A. Gilbert, J. L. Green, J. K. Jansson, R. Knight, M. E. Maxon,  
M. J. McFall-Ngai, J. F. Miller,\* K. S. Pollard, E. G. Ruby, S. A. Taha,  
Unified Microbiome Initiative Consortium

\*Corresponding author. E-mail: [jfmiller@ucla.edu](mailto:jfmiller@ucla.edu)

Published 28 October 2015 on *Science* Express  
DOI: 10.1126/science.aaa8480

#### **This PDF file includes**

Supplementary Text

## Supplementary Materials

### A unified initiative to harness Earth's microbiomes

#### Supplementary Text

A complete list of author affiliations is included below, followed by Acknowledgments.

A. Paul Alivisatos<sup>1,2,3</sup>, Martin J. Blaser<sup>4</sup>, Eoin L. Brodie<sup>5</sup>, Miyoung Chun<sup>6</sup>, Jeffery L. Dangl<sup>7</sup>, Timothy J. Donohue<sup>8</sup>, Pieter C. Dorrestein<sup>9</sup>, Jack A. Gilbert<sup>10,11,12</sup>, Jessica L. Green<sup>13</sup>, Janet K. Jansson<sup>14</sup>, Rob Knight<sup>15</sup>, Mary E. Maxon<sup>16</sup>, Margaret J. McFall-Ngai<sup>17</sup>, Jeff F. Miller<sup>18</sup>, Katherine S. Pollard<sup>19,20</sup>, Edward G. Ruby<sup>17</sup>, Sharif A. Taha<sup>6</sup>, The Unified Microbiome Consortium†

†The Unified Microbiome Initiative Consortium [arranged alphabetically]

A. Paul Alivisatos<sup>1,2,3</sup>, Emily P. Balskus<sup>21</sup>, Julie S. Biteen<sup>22</sup>, Martin J. Blaser<sup>4</sup>, Eoin L. Brodie<sup>5</sup>, Nigel D. Browning<sup>23</sup>, Zoe G. Cardon<sup>24</sup>, Colleen M. Cavanaugh<sup>25</sup>, Miyoung Chun<sup>6</sup>, David E. Cliffler<sup>26</sup>, Rita R. Colwell<sup>27</sup>, Jeffery L. Dangl<sup>7</sup>, Timothy J. Donohue<sup>8</sup>, Pieter C. Dorrestein<sup>9</sup>, Scott E. Fraser<sup>28</sup>, Maren L. Friesen<sup>29</sup>, Jack A. Gilbert<sup>10,11,12</sup>, Scott F. Gilbert<sup>30</sup>, Jessica L. Green<sup>13</sup>, Caroline S. Harwood<sup>31</sup>, James R. Henriksen<sup>32</sup>, Sarah K. Highlander<sup>33</sup>, Yu Huang<sup>34</sup>, Janet K. Jansson<sup>14</sup>, A. T. Charlie Johnson<sup>35</sup>, Dennis L. Kasper<sup>36</sup>, Rob Knight<sup>15</sup>, Elizabeth B. Kujawinski<sup>37</sup>, Christopher L. Martin<sup>6</sup>, Mary E. Maxon<sup>16</sup>, Margaret J. McFall-Ngai<sup>17</sup>, Jeff F. Miller<sup>18</sup>, Mary Ann Moran<sup>38</sup>, Karen E. Nelson<sup>33</sup>, Victoria J. Orphan<sup>39</sup>, Aydogan Ozcan<sup>40</sup>, Ljiljana Paša-Tolić<sup>41</sup>, Katherine S. Pollard<sup>19,20</sup>, Aviv Regev<sup>42,43</sup>, Edward M. Rubin<sup>44,16</sup>, Edward G. Ruby<sup>17</sup>, Julie A. Segre<sup>45</sup>, Pamela A. Silver<sup>46,47</sup>, Sharif A. Taha<sup>6</sup>, Jorge M. Vivanco<sup>48</sup>, George M. Weinstock<sup>49</sup>, Paul S. Weiss<sup>50</sup>, Peidong Yang<sup>1,2,3</sup>

<sup>1</sup>Materials Science Division, Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA.

<sup>2</sup>Department of Chemistry, University of California, Berkeley, CA 94720, USA.

<sup>3</sup>Kavli Energy NanoScience Institute, Berkeley, CA 94720, USA.

<sup>4</sup>Departments of Medicine and Microbiology and Human Microbiome Program, New York University, Langone Medical Center, New York, NY 10016, USA.

<sup>5</sup>Earth and Environmental Sciences, Lawrence Berkeley National Laboratory and Department of Environmental Science, Policy and Management, University of California, Berkeley, CA 94720, USA.

<sup>6</sup>The Kavli Foundation, Oxnard, CA 93030, USA.

<sup>7</sup>Howard Hughes Medical Institute, Department of Biology, University of North Carolina, Chapel Hill, NC 27599, USA.

- <sup>8</sup>Department of Bacteriology, and Great Lakes Bioenergy, University of Wisconsin, Madison, WI 53726, USA.
- <sup>9</sup>Skaggs School of Pharmacy & Pharmaceutical Sciences, University of California, San Diego, CA 92093, USA.
- <sup>10</sup>Biosciences Division, Argonne National Laboratory, Argonne, IL 60439, USA.
- <sup>11</sup>Department of Ecology and Evolution, University of Chicago, Chicago, IL 60637, USA.
- <sup>12</sup>Marine Biological Laboratory, Woods Hole, MA 02543, USA.
- <sup>13</sup>Institute of Ecology and Evolution, University of Oregon, Eugene, OR 97403, USA.
- <sup>14</sup>Biological Sciences Division, Pacific Northwest National Laboratory, Richland, WA 99354, USA.
- <sup>15</sup>Department of Pediatrics, and Department of Computer Sciences and Engineering, University of California San Diego, La Jolla, CA 92093, USA.
- <sup>16</sup>Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA.
- <sup>17</sup>Pacific Biosciences Research Center, University of Hawaii, Honolulu, HI 96813, USA.
- <sup>18</sup>California NanoSystems Institute and Department of Microbiology, Immunology and Molecular Genetics, University of California, Los Angeles, CA 90095, USA.
- <sup>19</sup>Gladstone Institutes, San Francisco, CA 94158, USA.
- <sup>20</sup>Institute for Human Genetics, Department of Epidemiology & Biostatistics, University of California, San Francisco, CA 94158, USA.
- <sup>21</sup>Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA 02138, USA.
- <sup>22</sup>Department of Chemistry, University of Michigan, Ann Arbor, MI, 48109, USA.
- <sup>23</sup>Physical Sciences Division, Pacific Northwest National Laboratory, Richland, WA 99352, USA.
- <sup>24</sup>The Ecosystems Center, Marine Biological Laboratory, Woods Hole, Massachusetts 02543, USA.
- <sup>25</sup>Department of Organismic and Evolutionary Biology and Microbial Sciences Initiative, Harvard University, Cambridge, MA 02138, USA.
- <sup>26</sup>Department of Chemistry, Vanderbilt University, Nashville, TN 37235, USA.

- <sup>27</sup>Center for Bioinformatics and Computational Biology, University of Maryland Institute for Advanced Computer Studies, University of Maryland, College Park, Maryland 20742, USA.
- <sup>28</sup>Translational Imaging Center, University of Southern California, Los Angeles, CA 90089, USA.
- <sup>29</sup>Department of Plant Biology, Michigan State University, East Lansing, MI USA 48824, USA.
- <sup>30</sup>Department of Biology, Swarthmore College, 500 College Avenue, Swarthmore, PA 19081, USA.
- <sup>31</sup>Department of Microbiology, University of Washington, Seattle, WA 98195, USA.
- <sup>32</sup>AgBiome, Research Triangle Park, NC 27709, USA.
- <sup>33</sup>J. Craig Venter Institute, La Jolla, CA 92037, USA.
- <sup>34</sup>Department of Materials Science and Engineering and California NanoSystems Institute, University of California, Los Angeles, CA 90095, USA.
- <sup>35</sup>Department of Physics and Astronomy and Nano/Bio Interface Center, University of Pennsylvania, Philadelphia, PA 19104, USA.
- <sup>36</sup>Department of Microbiology and Immunobiology, Harvard Medical School, Boston, MA 02115, USA.
- <sup>37</sup>Department of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution, Woods Hole, MA 02543, USA.
- <sup>38</sup>Department of Marine Sciences, University of Georgia, Athens, GA 30602, USA.
- <sup>39</sup>Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, CA 91125, USA.
- <sup>40</sup>Electrical Engineering and Bioengineering Departments, California NanoSystems Institute, University of California, Los Angeles, CA 90095, USA.
- <sup>41</sup>Environmental Molecular Sciences Laboratory, Pacific Northwest National Laboratory, Richland, WA 99354, USA.
- <sup>42</sup>Howard Hughes Medical Institute, Department of Biology, Massachusetts Institute of Technology, Cambridge, MA 02140, USA.
- <sup>43</sup>Broad Institute of MIT and Harvard, Cambridge MA 02142, USA.

<sup>44</sup>DOE Joint Genome Institute, Walnut Creek, CA 94598, USA.

<sup>45</sup>Microbial Genomics Section, National Human Genome Research Institute, National Institutes of Health, Bethesda, MD 20892, USA.

<sup>46</sup>Department of Systems Biology, Harvard Medical School, Cambridge, MA 02115, USA.

<sup>47</sup>The Wyss Institute of Biologically Inspired Engineering, Harvard University, Boston, MA 02138, USA.

<sup>48</sup>Department of Horticulture and Landscape Architecture, Colorado State University, Fort Collins, CO 80523, USA.

<sup>49</sup>The Jackson Laboratory for Genomic Medicine, Farmington, CT 06032, USA.

<sup>50</sup>California NanoSystems Institute, Department of Chemistry & Biochemistry, and Department of Materials Science & Engineering, University of California, Los Angeles, Los Angeles, CA 90095, USA.

#### **ACKNOWLEDGMENTS**

The authors thank J. Eisen for contributing ideas, discussion, and critical feedback important in shaping this paper.