1. Record Nr. UNINA9910220057303321

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| Titolo | Recent Advances in Symbiosis Research: Integrative Approaches |
| Pubbl/distr/stampa | Frontiers Media SA, 2017 |
| Descrizione fisica | 1 electronic resource (274 p.) |
| Collana | Frontiers Research Topics |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |

Sommario/riassunto

Traditionally, symbiosis research has been undertaken by researchers working independently of one another and often focused on a few cases of bipartite host-symbiont interactions. New model systems are emerging that will enable us to fill fundamental gaps in symbiosis research and theory, focusing on a broad range of symbiotic interactions and including a variety of multicellular hosts and their complex microbial communities. In this Research Topic, we invited researchers to contribute their work on diverse symbiotic networks, since there are a large variety of symbioses with major roles in the proper functioning of terrestrial or aquatic ecosystems, and we wished the Topic to provide a venue for communicating findings across diverse taxonomic groups. A synthesis of recent investigations in symbiosis can impact areas such as agriculture, where a basic understanding of plant-microbe symbiosis will provide foundational information on the increasingly important issue of nitrogen fixation; climate change, where anthropogenic factors are threatening the survival of marine symbiotic ecosystems such as coral reefs; animal and human health, where unbalances in host microbiomes are being increasingly associated with a wide range of diseases; and biotechnology, where process optimization can be achieved through optimization of symbiotic partnerships. Overall, our vision was to produce a volume of works that will help define general principles of symbiosis within a new conceptual framework, in the road to finally establish symbiology as an overdue

central discipline of biological science.