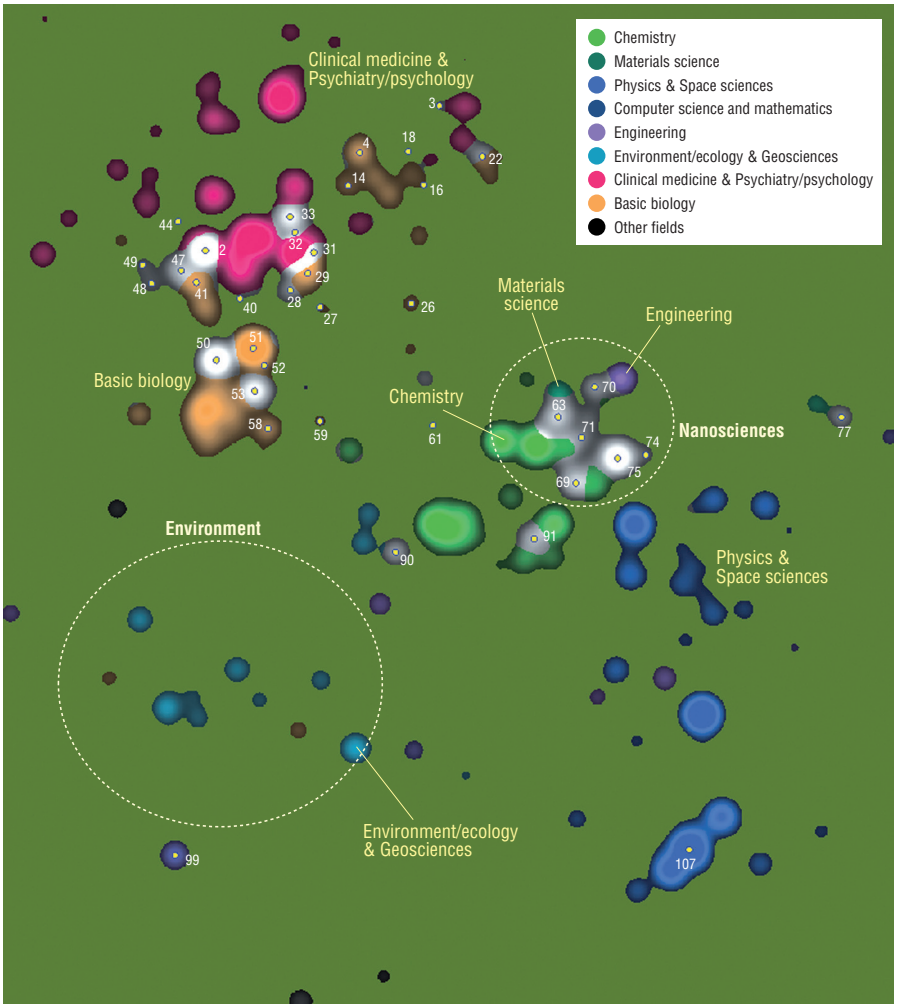
MULTIDISCIPLINARY AND INTERDISCIPLINARY RESEARCH

Science maps are helpful for distinguishing multidisciplinary research, e.g. environmental research, from interdisciplinary research, e.g. nanoscience. In the figure, research areas related to nanoscience stake out a clear domain between chemical synthesis and physics, while research areas related to the environment are spread out. Interdisciplinary research that relies on shared knowledge is created when fields such as physics and chemistry interact. Nanoscience typifies this phenomenon. In multidisciplinary research, various disciplines address scientific and social challenges independently rather than in collaboration and thus share research goals. Environmental research is of this type.

Locations of inter/multidisciplinary research areas on the science map, 2008



Note: Locations in which at least 60% of core papers in a given field are found have the colour corresponding to that field. Locations in which less than 60% of a given field's core papers are found are considered inter/multidisciplinary and do not carry a field colour. The yellow dots represent the locations of inter/multidisciplinary research areas.

How to read the science map

The science map can be regarded as a two-dimensional aerial map showing the accumulation of core papers and the formation of mountains of science. The unit of visualisation is research areas. Hot research areas are mountains that exceed a certain elevation. Research areas with a high degree of co-citation are located close together. For the science map, 647 research areas were obtained by clustering research papers. Because it would be difficult to show all 647 research areas, only hot research areas are shown.

Source: Saka, A., M. Igami and T. Kuwahara (2010), based on tabulations from Thomson Reuters' "Essential Science Indicators".