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ETC Group Releases New Report on Nanotechnology and Intellectual Property

Nanotech's "Second Nature" Patents

Twenty-five years after the biotech industry got the green light to patent life, nanotech goes after the building blocks of life

On the 25th anniversary of Diamond vs. Chakrabarty,* the US Supreme Court's landmark decision (June 16, 1980) that opened the floodgates to the patenting of living organisms, ETC Group releases a new report, "Nanotech's 'Second Nature' Patents."

Since Chakrabarty, the biotech industry has worked hand-in-hand with governments to allow for the patenting of all biological products – the first monopoly grab over life. Chakrabarty set the stage for today's nanotechnology patents, where the reach of exclusive monopoly is not just on life – but the building blocks of life – nanotech's 'second nature' patents," explains Hope Shand, Research Director of ETC Group.

ETC Group's new report examines current trends in intellectual property and nanotechnology and the implications for the developing world. Nanotechnology refers to the manipulation of matter at the scale of atoms and molecules, where size is measured in billionths of meters.

The world's largest transnationals, leading academic labs and nanotech start-ups are all racing to win monopoly control of tiny tech's colossal market. "Control and ownership of nanotech is a vital issue for all governments and civil society because nanomaterials and processes can be applied to virtually any manufactured good across all industry sectors," said Kathy Jo Wetter of ETC Group. "Patents are being granted that cut across multiple industry sectors – a single nano-scale innovation may span pharma, food, electronics and materials alike," continues Wetter. The US National Science Foundation predicts that nanotechnology will capture a $1 trillion dollar market within six or seven years.

ETC Group finds that breathtakingly broad nanotech patents have been granted that cut across multiple industry sectors and include sweeping claims on entire areas of the Periodic Table. Although industry analysts assert that nanotechnology is in its infancy, "patent thickets" on fundamental nano-scale materials, tools and processes are already creating thorny barriers for would-be innovators. Claims are often broad, overlapping and conflicting – a scenario ripe for massive patent litigation battles in the future.

ETC Group's report provides case studies of patent activity involving four of nanotech's hottest and potentially most lucrative nanomaterials and one essential tool: carbon nanotubes; inorganic nanostructures; quantum dots; dendrimers; scanning probe microscopes.

G8: Downsizing Development? When the G8 Summit meets in Scotland next month, the leaders of the world's most powerful countries will unveil a "Pro-Poor Science" strategy to turn new technologies like nanotech into a silver bullet for social injustice.

"Despite rosy predictions that nanotech will provide a technical fix for hunger, disease and the environment, the extraordinary pace of nanotech patenting suggests that developing nations will

participate primarily via royalty payments," said Pat Mooney, Executive Director of ETC Group. "In a world dominated by proprietary science, researchers in the global South are likely to find that participation in the nanotech revolution is highly restricted by patent tollbooths, obliging them to pay royalties and licensing fees to gain access," said Mooney.

"Ultimately, nanotech will profoundly affect the South's economy, regardless of its handling of intellectual property," explains Silvia Ribeiro from ETC Group's Mexico City office. "Nano-scale technologies will revolutionize the way that new materials are designed and manufactured – changes that could turn commodity markets upside-down and make geography, raw materials, even labour, irrelevant. Nanotech underpins a new strategic platform for global control of materials, food, agriculture and health, and patent monopoly is a powerful tool for realizing that strategy," said Ribeiro.

Many South nations are still grappling with unresolved controversies over biotechnology, but by the end of this year, ready or not, even the world's "least developed" nations who are members of the World Trade Organization will be obligated by its Trade-Related Aspects of Intellectual Property (WTO-TRIPs) to evaluate and enforce nanotech patents.

Lessons learned from Diamond v. Chakrabarty: Despite all the hype about Mr. Chakrabarty's oil-eating microbe and how it would gobble up oil spills, the patented microorganism never worked. Instead of curing environmental ills, the biotech industry has introduced its own contamination problems – unwanted gene flow from genetically modified crops, a particularly serious problem for centres of genetic diversity in the developing world.

Unlike 25 years ago, today's nanotech-related patents have not required major rule changes. As a result, many governments are unaware of the nanotech patent rush. ETC Group recommends that the World Intellectual Property Organization (WIPO) initiate a global suspension of patent approvals related to nanotechnology until South governments and countries-in-transition can undertake a full evaluation of their impacts, and until social movements can cooperate with WIPO, the Food and Agriculture Organization (FAO) and the United Nations Conference on Trade and Development (UNCTAD) to examine the impact of nanotech-related intellectual property on monopoly practices, technology transfer and trade.

The full text of the 32-page report is available for downloading, free-of-charge, on the ETC Group website: www.etcgroup.org

The Action Group on Erosion, Technology and Concentration, formerly RAFI, is an international civil society organization headquartered in Canada. The ETC Group is dedicated to the advancement of cultural and ecological diversity and human rights. www.etcgroup.org. The ETC Group is also a member of the Community Biodiversity Development and Conservation Programme (CBDC). The CBDC is a collaborative experimental initiative involving civil society organizations and public research institutions in 14 countries. The CBDC is dedicated to the exploration of community-directed programmes to strengthen the conservation and enhancement of agricultural biodiversity. The CBDC website is www.cbdcprogram.org

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***Note to Editors:** In 1971, Ananda Chakrabarty, an employee of General Electric, applied for a patent on a genetically modified oil-eating microbe. The US Patent & Trademark Office rejected his patent application on the grounds that animate life forms were not patentable. On June 16, 1980 by a narrow 5-4 margin, the US Supreme Court ruled that Chakrabarty's oil-eating microbe was not a product of nature; living organisms could be seen as human made inventions and are therefore patentable subject matter.