

**【Chemistry】**

<b>Title of Project</b>	Physical chemistry of nanographene edges: edge states and their electronic and magnetic functions
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<b>Abstract of Research Project</b>  <b>Number of Researchers : 4</b>  <b>Term of Project: 2008–2012</b>	Nanographene, which is intermediate in size between graphene and polycyclic aromatic hydrocarbon molecules, has electronic structure that crucially depends on the geometry of its edge structure. Around zigzag edges are created unconventional edge states having localized spins. The edge states not only play important roles in electron reservoirs and active sites for chemical reactions, but also provide building blocks in designing molecular magnets. The present project aims at creating a new frontier of science on nanographene edges on the basis of atomic-resolution studies of the electronic structure of nanographene edges. It also contributes to clarifying the mechanism of electron transfer and chemical reaction in nanographene, building a new class of carbon-based molecular magnets, and developing electronic/spintronic molecular devices.