

## Special Issue on Artificially Created Nucleic Acids and Peptides/Proteins in Chemical Biology

### Call for Papers

Nucleic acids are well known to have functions of preservation, transfer, and expression of genetic information. In addition, they can act as enzymes and specific binders in different processes of gene expression, as seen in ribozymes and riboswitches. The functions of nucleic acids can be modified and expanded using rational design and random screening methods. Furthermore, random screening method involving engineered genetic information systems can provide a novel class of peptides/proteins having nonnatural chemical structures, which is expected to enhance activities and confer additional functions. These artificially created biomolecules can be applicable to biosensors, diagnostic agents, and therapeutic drugs.

We invite authors to submit original research and review articles describing recent advances in creating the aforementioned biomolecules and their applications. We are particularly interested in articles that use chemical and evolutionary approach to develop functional nucleic acids and peptides/proteins. Potential topics include, but are not limited to:

- Recent developments in methodologies for rational design, for example, chemically modified anti-gene/antisense nucleic acids, and siRNAs and miRNAs
- Recent developments in methodologies for random screening, for example, *in vitro* selection of ribozymes, aptamers, aptazymes, peptides, and proteins
- Correlation analysis of structures, thermodynamics, and functions
- Unique features of unusual functions and their applications
- Insertion of foreign groups and the effects on improvement and diversification of functions
- Combinatorial design using multiple functional modules
- In cell/*in vivo* applications toward bioanalysis and biomedicine

Before submission authors should carefully read over the journal's Author Guidelines, which are located at

<http://www.hindawi.com/journals/jna/guidelines/>. Prospective authors should submit an electronic copy of their complete manuscript through the journal Manuscript Tracking System at <http://mts.hindawi.com/> according to the following timetable:

Manuscript Due	Friday, 7 September 2012
First Round of Reviews	Friday, 30 November 2012
Publication Date	Friday, 25 January 2013

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