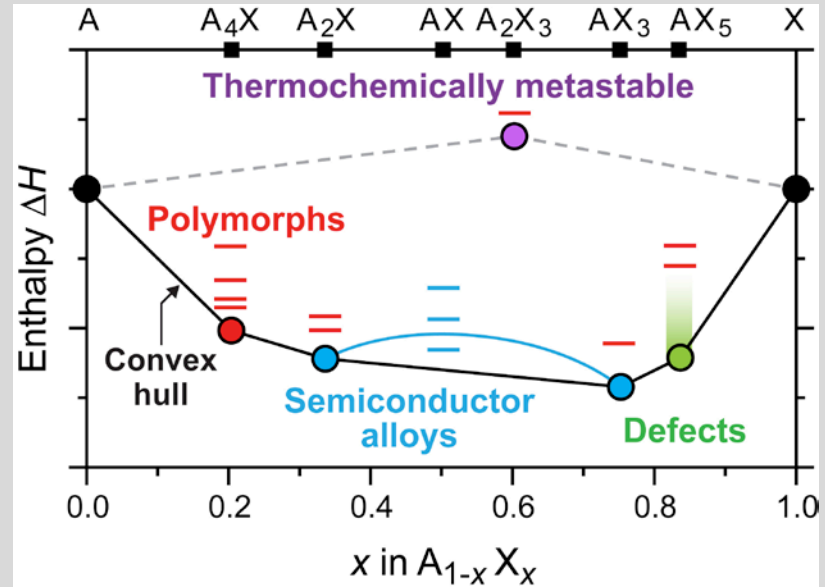


# Center for Next Generation of Materials by Design (CNGMD)

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*The mission of the Center for Next Generation of Materials by Design is to dramatically transform the discovery of functional energy materials* through high-throughput multiple-property searching, incorporation of metastable materials into predictive design, and the development of theory to guide materials synthesis.

[www.cngmd-efrc.org](http://www.cngmd-efrc.org)



Four classes of metastable materials (shown in color) targeted for theory-driven synthesis in the CNGMD EFRC.

### RESEARCH PLAN

- Integrate high-throughput theory, experiment, and data mining to develop a rapid search and design methodology for *discovery of new functional materials*.
- Develop new tools to accelerate materials discovery incorporating *metastable semiconductors: polymorphs; defects, disorder, interfaces; & alloys*.
- Predict *synthesis pathways* by coupling theory and *in-situ* characterization.



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