

## **Research Interest**

Our lab work at the interface of organic synthesis and chemical biology. We are interested in the synthesis of chemically modified oligonucleotides (ASOs, siRNAs, aptamer, etc.) and testing their biochemical properties. We synthesize chemically modified oligonucleotides to improve stability, cellular uptake, and potency in therapeutic applications. Few projects are in the pipeline, such as synthesis and applications of fluorescent nucleosides to study nucleic acid interactions, targeted delivery of siRNAs, etc. We are also involved in the development of turn-on fluorescent probes for the detection of biologically important molecules such as cyanide, biological thiols, heavy metals, etc. In the area of synthetic chemistry, we are developing new methodologies in the synthesis of chemically modified nucleosides, developing optical probes, etc.