# $CO_2$ *Mineralization* for *in situ* Storage and *ex situ* Enhanced Metals Recovery


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I'm an applied physicist, and my lab works on systems and synthetic biology and sustainable energy.

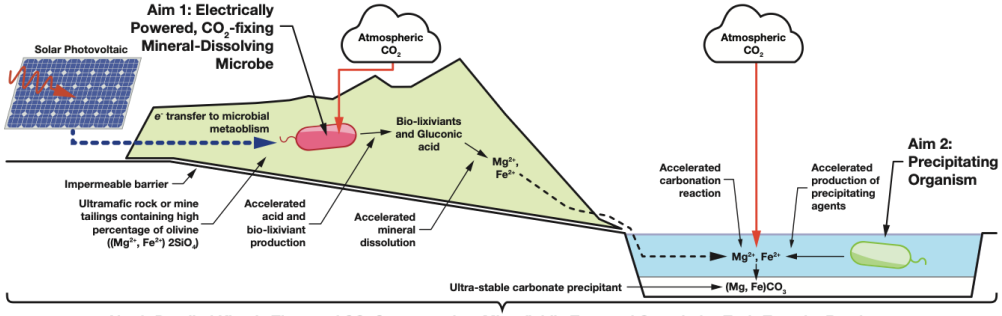
Currently we're working on understanding the genetics of mineral dissolving microbes with a technique called Knockout Sudoku, and using this knowledge to engineer them to mine rare earth elements.

We also love microbes that eat electricity, and have recently come up with a fundamental theory that predicts the efficiency of this process, and used Knockout Sudoku to discover a never before seen electron uptake pathway.

## Technology or focus area

- Accelerated mineral dissolution using synthetic biology

## Ideas, Interests, Concepts to be Explored




Aim 3: Detailed Kinetic Theory of $CO_2$ Sequestration, Microfluidic Test, and Quantiative Tech-Transfer Roadmap

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CHANGING WHAT'S POSSIBLE

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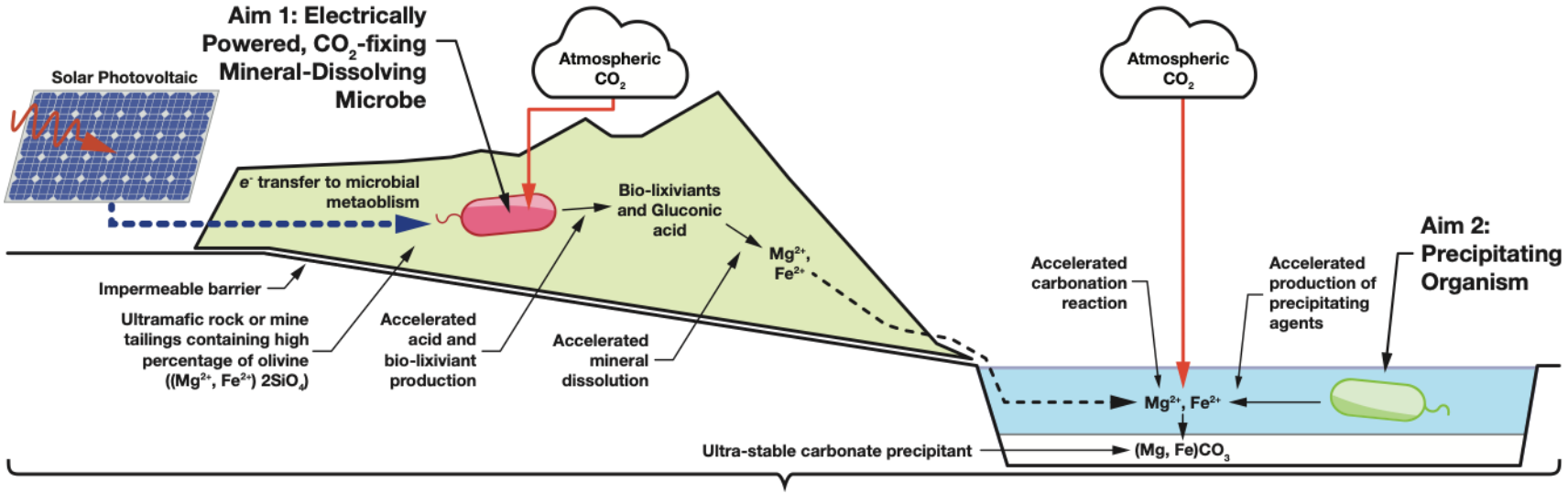


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- What's the best way to deliver energy and charge to this system?