

# Tailoring the Glow of Nanostructured Metals

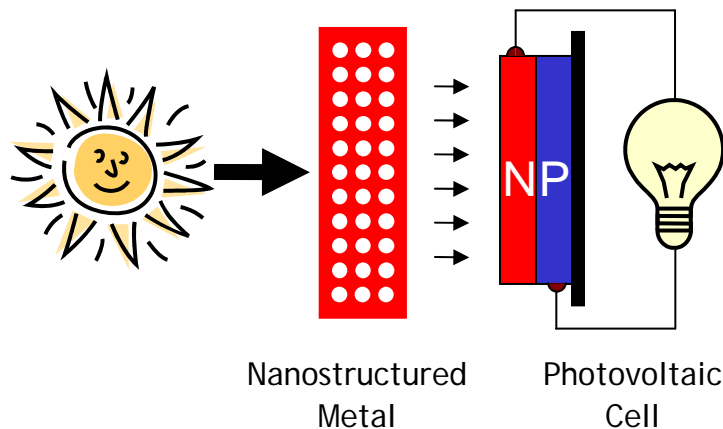
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NNIN Facility utilized: Characterization Facility

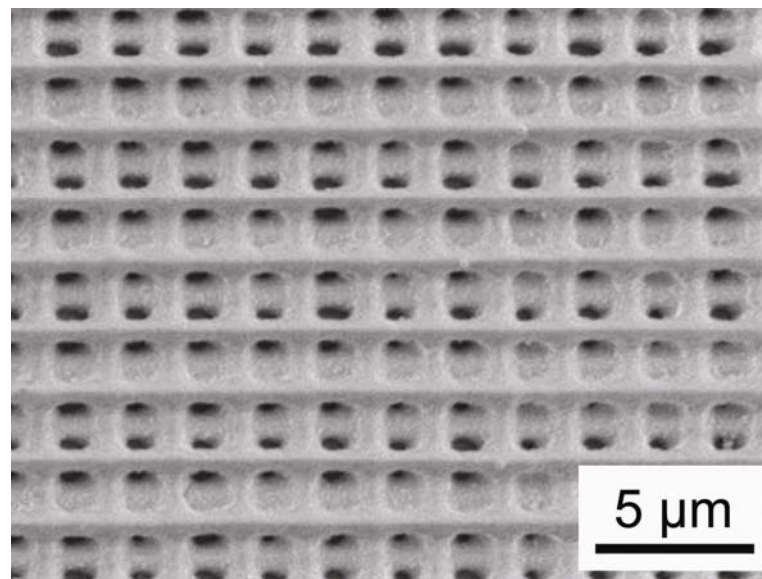
## DESCRIPTION OF WORK

- ◆ Nanostructuring tungsten films
- ◆ Modify thermal emission spectrum
- ◆ Useful emitters for thermophotovoltaics
- ◆ Absorbs and re-emits into InGaAsSb photovoltaic cell



## MAJOR OBSERVATIONS

- ◆ Fabricated tungsten and molybdenum “woodpiles”
- ◆ Measured thermal emission at 600°C
- ◆ Estimated thermal-to-electrical conversion, 32%



Top view of tungsten woodpile structure

## Publications

- ◆ Nagpal, Han, Stein, and Norris, *Nano Lett.* **8**, 3238 (2008).