

BUDGET JUSTIFICATION

1. Salary and Fringes

- PI: Dr. Smith will spend one month of his summer time on this project. He is a full-time (9 month) associate professor in Michigan Tech's Materials Science and Engineering department and will continue to advise the graduate and undergraduate students during the academic year.
- Graduate student: This proposed project requests one graduate student to work for three years. A student, who will work for this project, will be paid for her/his stipend, fringes, and tuition/fees from this proposed project.
- Undergraduate student: One undergraduate student will work with this project (8 hours/per week plus full time in the summer at \$8.00/hr). His/her salary will be paid from this project.

Graduate stipends are incremented by 3% beginning in Year 2.

Fringes: Michigan Tech fringes are calculated as a percentage of salaries. The current rate for faculty summer/extra compensation is 16.2%, graduate students are 7.5. Fringe rates are audited by the Office of Naval Research.

2. Equipment: None

3. Material and Supplies

- Regular chemicals (\$7,000/y): CO₂ gas, Li₃N, C₃N₃Cl₃, Pt, Ru, Ni, Rh.
- Small parts for test units (\$3000/y in Years 1 and 2): Gas pipes, tubing connectors, flow controllers, pressure gauges and gas cylinder regulators.

4. Publication/Documentation: \$1000/year will be needed for the publication of research papers in professional journals.

5. Travel

- \$4000 will be needed for the PI and graduate student to travel in Year 3 to the WYZ Lab at ABC University in Ithaca, New York, for high-resolution synchrotron X-ray diffraction experiments.
- \$2000 will be needed to support the PI to attend a national meeting in the third year.
- \$1500 will be needed to support a graduate student involved in this project to attend a national meeting in the second year.

6. Other

- Instrument use fee (\$1500/y): Analytical instruments, including TEM, SEM, XPS, and XRD, will be used in this proposed work. University approved use fees are in place for these instruments.
- Graduate student tuition and fees: Tuition & fees for a full time graduate student are requested.

7. Indirect Costs: Michigan Tech's current indirect cost rate for on campus research is 56% of Modified Total Direct Costs (MTDC). Indirect costs are audited by the Office of Naval Research.