

Summary of NCPV Partnering Opportunities

This brochure describes the basic aspects of the partnership opportunities listed in the table below. The descriptions are categorized by opportunities for both industry and universities (I,U), industry only (I), or universities only (U).

Partnering Opportunity	I=Industry U=University	Proprietary R&D Allowed?	Required to Publish Results?	Source of Funding for NCPV Activities
Non-Proprietary Partnering Opportunity (NPO)	I, U	No	Yes	In-kind*
Competitive Solicitations	I, U	Yes	Maybe**	Funding Agency
Seed Fund to Develop TPAs	I, U	Yes	No	In-kind*
Technology Partnership Agreement (TPA)	I	Yes	No	Partner
NREL Commercialization Assistance Program (NCAP)	I	Yes	No	In-kind*
Hands-On Photovoltaic Experience (HOPE)	U	No	N/A	In-kind*
NCPV Fellowship Program	U	No	Yes	In-kind*

* "In-kind" refers to DOE's support of personnel to conduct collaborative research with external partners.

** Publication requirements depend on the competitive solicitation.

Contact the NCPV Business Manager with questions about any of these opportunities.

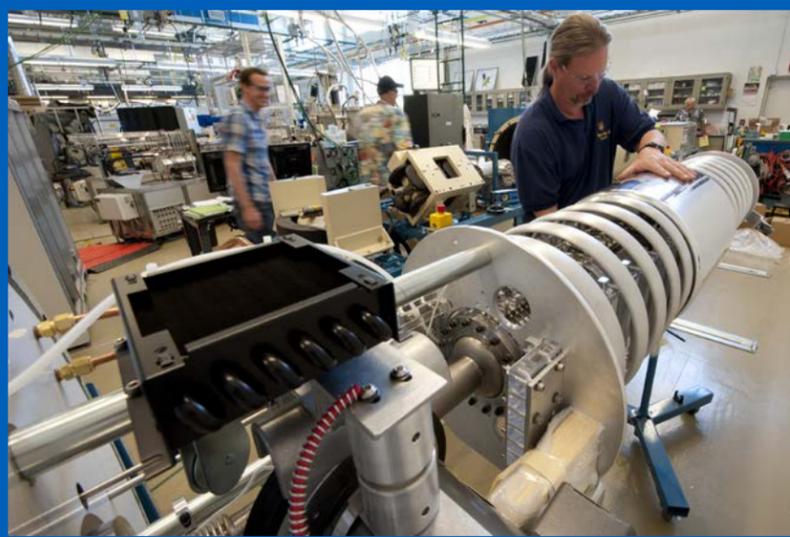


Photo by Dennis Schroeder, NREL 22222

Contact

Kaitlyn VanSant, NCPV Business Manager
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Links

General:

- National Center for Photovoltaics (NCPV)
www.nrel.gov/ncpv
- NREL Photovoltaics Research
www.nrel.gov/pv
- Measurements and Characterization (M&C)
www.nrel.gov/pv/measurements
- DOE SunShot Initiative goals
www.eere.energy.gov/solar/sunshot/mission_vision_goals.html

Websites specific to partnering with NCPV:

- NCPV Partnering Opportunities for Industry
www.nrel.gov/pv/opportunities_industry.html
- NCPV Partnering and Outreach Opportunities for Universities
www.nrel.gov/pv/opportunities_universities.html
- Non-Proprietary Partnering Opportunity (NPO) for PV Industry
www.nrel.gov/pv/npo_industry.html
- Non-Proprietary Partnering Opportunity (NPO) for Universities
www.nrel.gov/pv/npo_universities.html
- Competitive Solicitations
www.nrel.gov/pv/competitive_solicitation.html See also: www.grants.gov
- Seed Fund to Develop Technology Partnership Agreements
www.nrel.gov/pv/seed_fund_industry.html
- NREL Commercialization and Technology Transfer
www.nrel.gov/technologytransfer
- NREL Commercialization Assistance Program (NCAP)
www.nrel.gov/technologytransfer/ncap.html
- Hands-On PV Experience (HOPE) Workshop
www.nrel.gov/pv/hope.html
- NCPV Fellowship Program
www.nrel.gov/pv/fellowship_program_universities.html



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Partnering with the NCPV

The National Center for Photovoltaics (NCPV) actively pursues partnerships with industry and universities to transform knowledge into innovation that will make PV cost-competitive with other forms of energy by 2020.

NCPV partners have access to world-class scientific expertise and state-of-the-art laboratories for conducting PV research that ranges from fundamental physical studies to industry-relevant applied research.

- For *non-proprietary* partnerships, we collaborate with companies and universities on publishable research that will have a high impact on PV technology development.
- For *proprietary* partnerships, our goal is to help develop intellectual property (IP) that will accelerate product commercialization and expand the scale of PV deployment.

The NCPV aims to engage in projects with the PV community that enable rapid maturation and commercialization of PV technologies focused on increasing efficiency, reducing costs, and improving reliability at the cell and module levels.

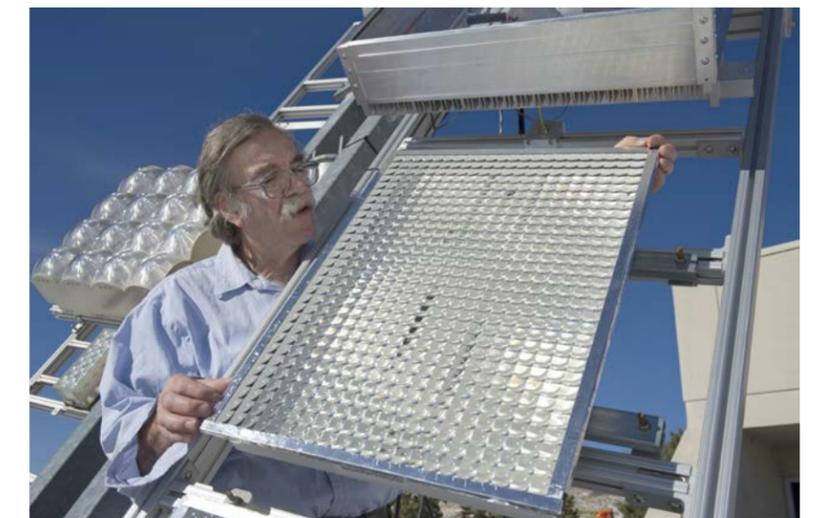


Photo by Dennis Schroeder, NREL 19946

NREL is a national laboratory of the U.S. Department of Energy,
Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Industry and Universities

Non-Proprietary Partnering Opportunities

The primary goal of non-proprietary partnering opportunities (NPOs) is to establish high-impact collaborative research projects that enable access to the NCPV’s measurements and characterization (M&C) expertise and capabilities, which are supported by the U.S. Department of Energy (DOE). NPOs are limited to non-proprietary R&D that will result in joint publications between NREL and the selected partner.

NPOs expand the impact of the NCPV’s existing capabilities through projects that advance the DOE SunShot Initiative goals. NPOs must focus on activities that address one or more of the following:

- Increase PV cell and module efficiency, reduce costs, and improve reliability
- Develop the scientific knowledge base required to advance industry-relevant PV technologies
- Accelerate PV technology maturation and commercialization
- Publish high-impact work that advances scientific understanding in PV-related research areas.

2013 Proposal Deadlines	Project Initiation	I = Industry U = Univ.
July 12	Aug 5	I
Sept 6	Sept 30	I, U
Oct 4	Oct 28	I
Nov 15	Dec 9	I, U

Eligibility. Any U.S. company or university.

Applying. See the link (on back cover) to “Industry-Based NPO Request for Proposals” or “University-Based NPO Request for Proposals” for a full description of the NPO application process.

Competitive Solicitations

In competitive solicitations, U.S. PV companies and/or university researchers may work with NCPV scientists to submit a proposal to a U.S. government agency in pursuit of funding for collaborative research projects. The proposed work often involves IP or has a high probability of generating IP.

It is critical to ensure that the requested resources can be accommodated and that the proposed funding level is commensurate with the scope of the proposed project. Contact the NCPV Business Manager if you are uncertain whom to contact regarding collaborative R&D in response to competitive solicitations.

Eligibility. U.S. companies and universities.

Applying. Industry and universities can partner with NCPV researchers in one of two ways: (1) An NREL researcher can be designated as a Co-Principal Investigator on the proposal, or (2) NREL is designated as a sub-tier recipient of proposal funds. In either case, it is crucial to engage NCPV researchers early in the proposal-writing process to obtain the appropriate documentation to confirm NREL’s support of the project prior to proposal submission.

Seed Fund to Develop Technology Partnership Agreements

Limited resources are available to fund support from the NCPV M&C group that demonstrates proof-of-concept work to seed future Technology Partnership Agreements. These funds allow the NCPV to accommodate small-scale requests for support of U.S. companies and universities that want to learn about the M&C group’s capabilities.

Eligibility. U.S. companies and universities with small-scale requests.

Applying. See the link to “Seed Fund to Develop TPAs” for a description of how to obtain this support.

Industry Only

Technology Partnership Agreements

Technology Partnership Agreements (TPAs) can provide access to NCPV expertise, facilities, and IP via funding from the partner. The type of agreement depends on the scope of the project and the partner’s desired terms and conditions regarding IP. For more details, visit the NREL Commercialization and Technology Transfer website (see back cover for link).

A prospective TPA partner is encouraged to work directly with the NCPV researchers to evaluate whether the desired resources are available. Once this availability is determined, the prospective partner should contact the NCPV Business Manager and/or NREL’s Commercialization and Technology Transfer Office to obtain an estimate for the cost of the proposed scope of work.

Eligibility. U.S. and potentially non-U.S. companies. Non-U.S. entities should contact the NCPV Business Manager to discuss TPA options.

Applying. See the NREL Commercialization and Technology Transfer website for specific details.

NREL Commercialization Assistance Program

The NREL Commercialization Assistance Program (NCAP) helps emerging companies overcome technical barriers to commercializing their technology. Examples of assistance include short-term access to technical expertise and facilities involving: testing and measurement of systems or components, analytical testing of materials, insights on existing or emerging technologies, addressing technological performance and market analysis and general technology problems.

Eligibility. Any U.S. company involved in a renewable energy and energy efficiency business that has fewer than 500 employees.

Applying. See the NCAP website for specific details. Contact Niccolo Aieta (Niccolo.Aieta@nrel.gov) with questions.



Photos by Dennis Schroeder, NREL 23082 and 17599

Universities Only

Hands-On PV Experience Workshop

The Hands-On PV Experience (HOPE) Workshop provides opportunities for professors and graduate students to: (1) Interact with scientists and engineers at NREL and others from across the U.S., (2) Learn about PV technology in a hands-on, small-group research setting, and (3) Build a network of research connections with other researchers, professors, and students from across the U.S.

Both students and professors help to customize the specific program details to best meet their collective needs. Students participate the entire week of the workshop, whereas professors participate for one or more days.

Eligibility. HOPE targets professors who are leading U.S. PV-related research programs and would like to send a Ph.D. candidate to learn more about fabrication, measurement, or study of PV materials and devices. A joint application is required from both the professor and student.

Applying. HOPE 2013 will be held July 21–27, 2013. Applications for 2014 HOPE are due March 1, 2014. Contact Sarah Kurtz (Sarah.Kurtz@nrel.gov) or the NCPV Business Manager with questions.



Photo by Sarah Kurtz, NREL 25976

NCPV Fellowship Program

The NCPV Fellowship Program is a competitive award program to match exceptionally qualified Ph.D. graduate students with NCPV researchers. Applicants propose a research effort, between 3 and 12 months long, that they intend to conduct at NREL. Fellowship funds will cover the student’s stipend, housing, and conference travel. The results of research conducted through the NCPV Fellowship Program will be published in high-impact journals.

Eligibility. Ph.D. graduate students from U.S. universities may apply.

Applying. See the link (on back cover) to “NCPV Fellowship Program” for a full description of the NCPV Fellowship application process. Application packages will be reviewed bi-annually and selected candidates will be announced in May and November. The remaining 2013 proposal deadline is September 1, with selection in October 2013.