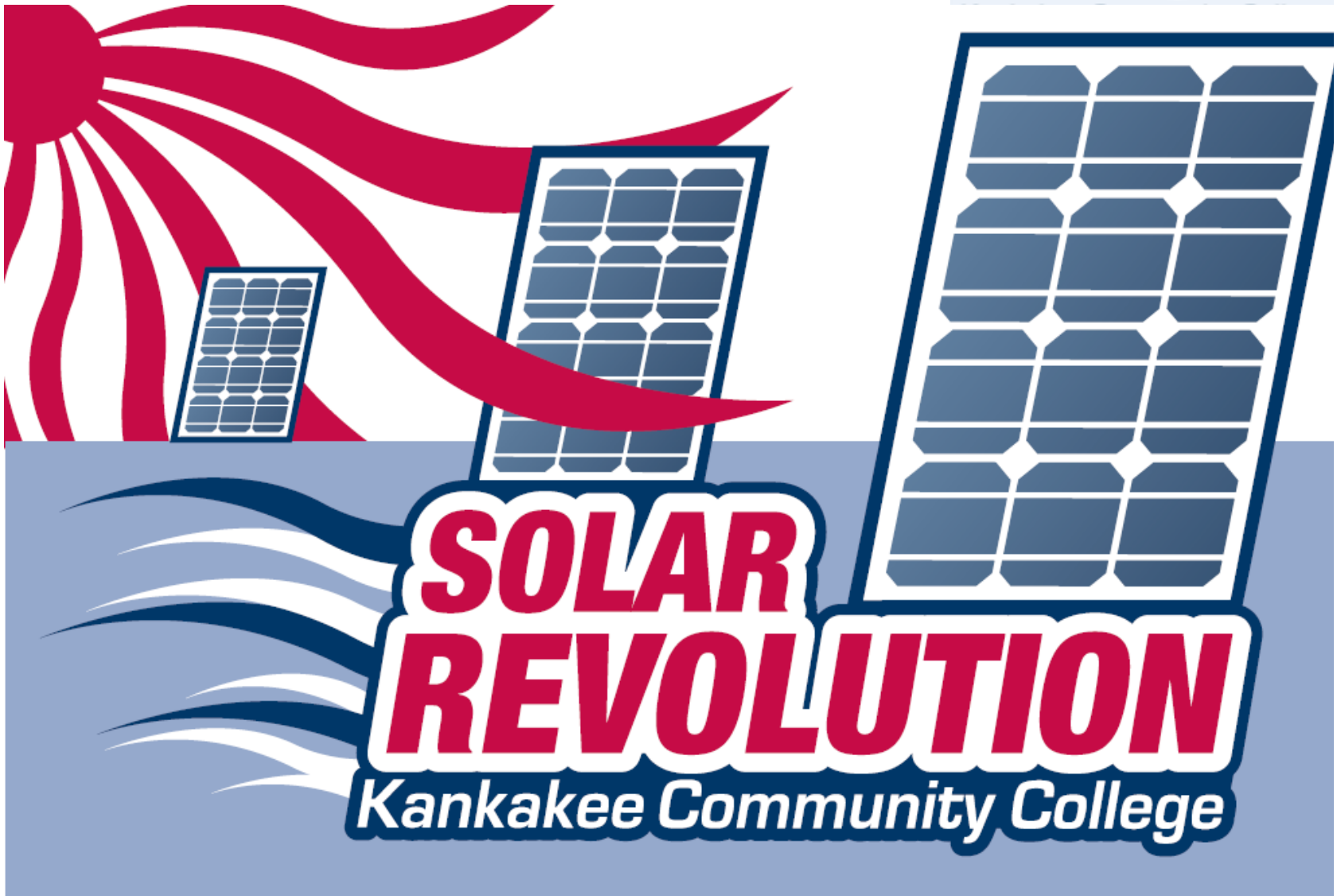


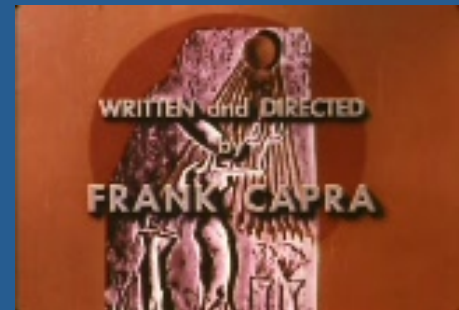
KCC



**SOLAR
REVOLUTION**

Kankakee Community College

Our Mr. Sun



- **Timothy J. Wilhelm**
 - The first SunWize Solar-PV dealer
 - The last TRACE Certified Dealer
 - NABCEP-Certified Solar-PV Installer
 - ISPQ-Certified Solar-PV Master Trainer
 - Program Coordinator and Professor for Electrical Technologies Program at *Kankakee Community College*
 - Created KCC's ISPQ-Accredited Solar Training Program
 - Illinois Registered Professional Engineer



Creating a Successful Solar Training Program

Key Strategic Elements

The Big Picture – A 3-Legged Stool

- The effort to create a successful solar training program must effectively...
 - Establish and maintain a proper context and environment for the program;
 - Develop a proper curriculum and training strategy;
 - Address ways and means to assure program sustainability.

Creating a Successful Solar Training Program?

Every Strategic Element Must
Support One or More of the Big
Picture's Three Legs

Renewable Energy Solutions

Building a local, sustainable solar market

Power Pack Kankakee provides low-cost solar installations by certified installers using quality components from the Midwest. [Learn more...](#)



**EDUCATING A
COMMUNITY**



**BUILDING A
MARKET**



**TRAINING A
WORKFORCE**



KCC's Solar Technician REvamp

The KCC Strategy

- Abandoned our Electronics Technology and Industrial Machinery Maintenance programs.
- Created a singular *Electrical Technology* program, with multiple tracks of specialization.
- Understand and accept that most **Renewable Energy Technology Training** is built on a solid foundation of **Electrical Technology**.

The KCC Strategy, continued...

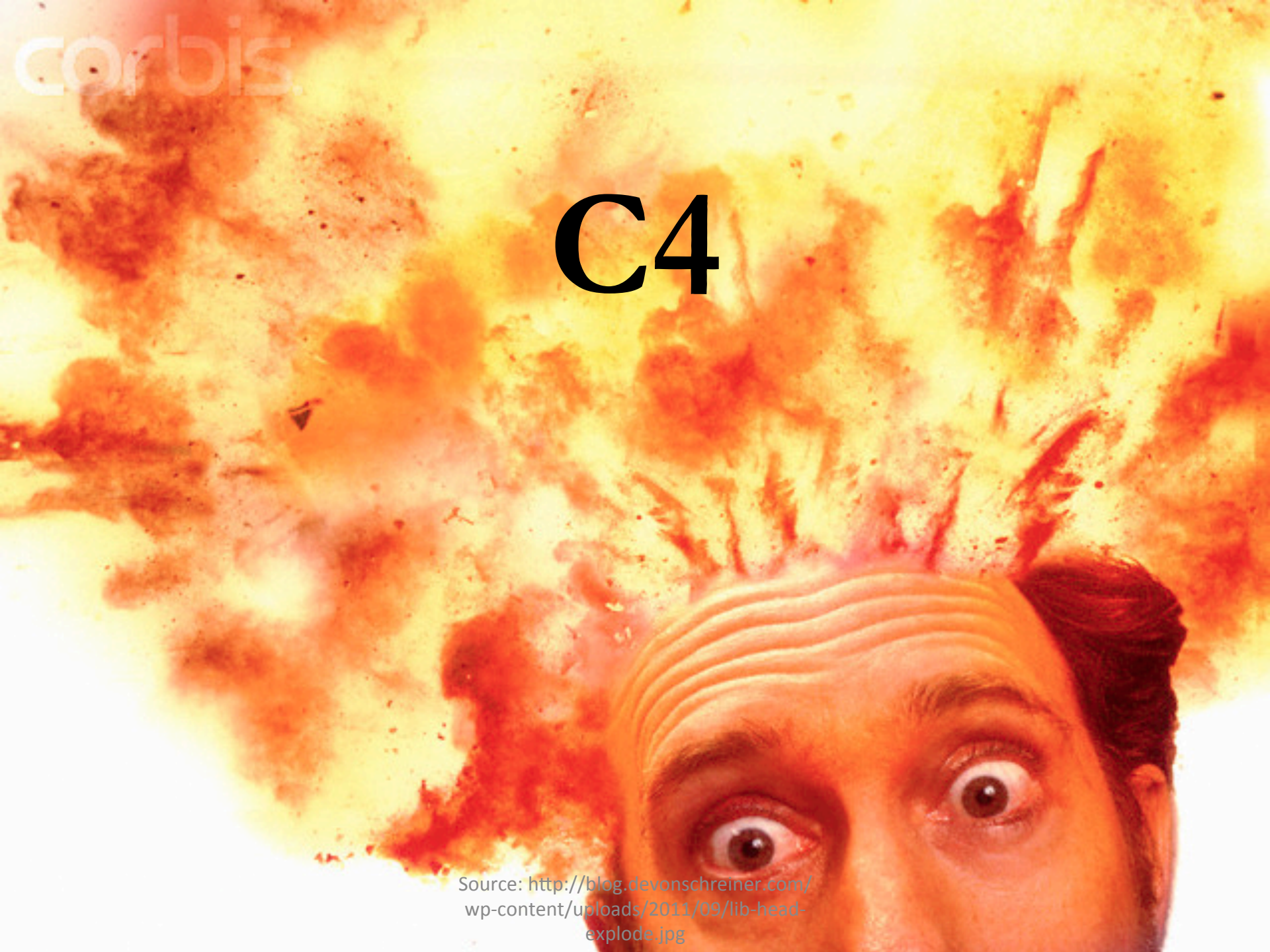
- KCC's new Electrical Technology Program has a **common core of freshman-level courses.**
- Sophomores select a specialized track of study for their 2nd year:
 - Industrial Electrical Technology
 - Industrial Machinery Maintenance
 - Instrumentation and Process Control (Electronics)
 - **Renewable Energy Technology**

KCC's R.E. Focus Track

- KCC's Renewable Energy Technology track includes four RE courses:
 - Survey of Renewable Energy Technology
 - Solar-Thermal Technology
 - Solar-Photovoltaic Technology
 - Small-Wind Energy Technology
- The first course has multiple target-audiences.
- The three latter courses are for Electrical Technology students, and are based on the NABCEP/IREC/MREA competencies.

corbis

C4



Source: <http://blog.devonschreiner.com/wp-content/uploads/2011/09/lib-head-explode.jpg>

Community

Colleges

Confronting the

Conundrum

Community Colleges Confronting the Conundrum

- Do we train Midwest solar professionals for jobs that don't yet exist? Or...
- Do we wait for the Midwest solar job market to develop and stabilize; and, **then** train solar pros?

NEITHER...uh-h-h...I mean **BOTH!**

- We train Midwest solar professionals, **now**; **AND**, we become change-agents affecting local, solar-market development!



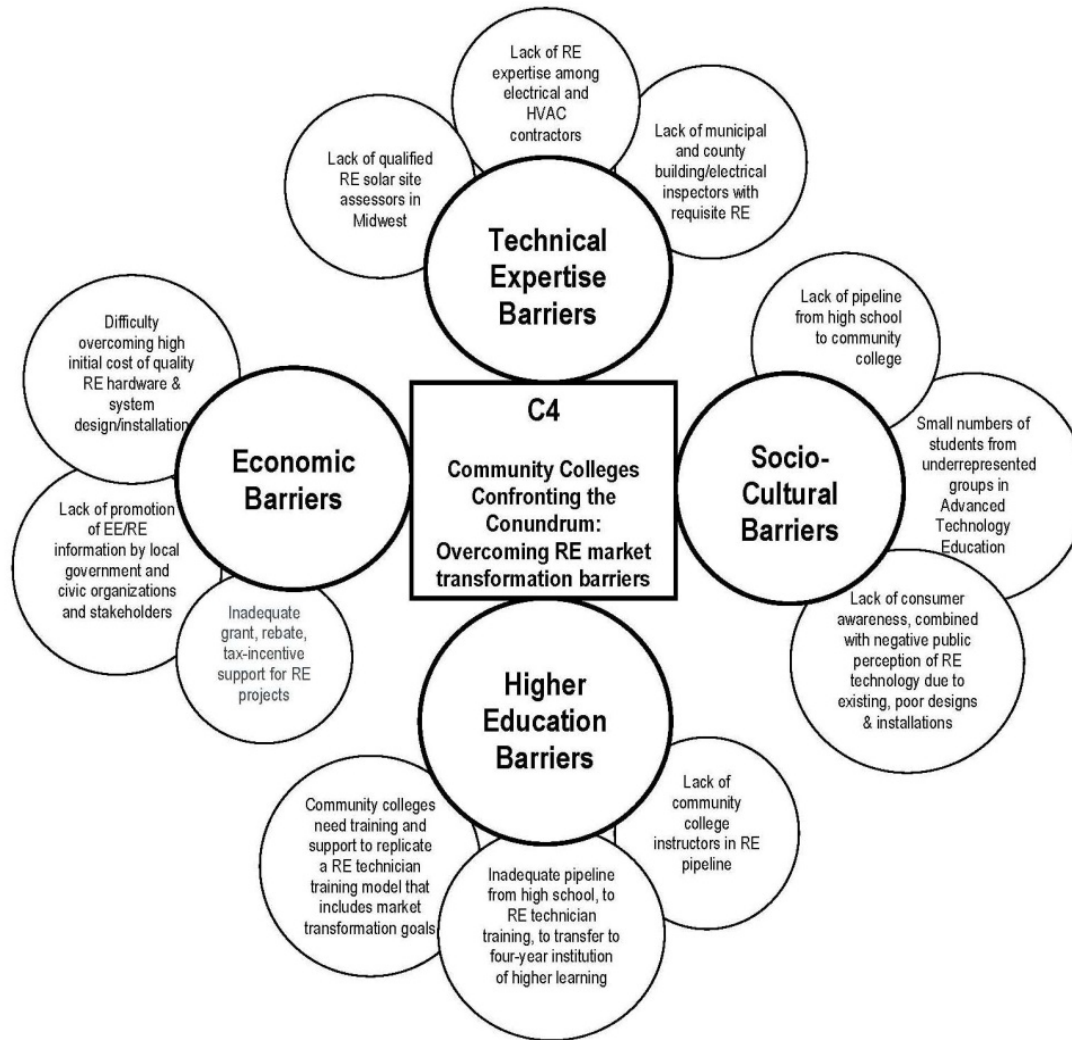
*Clean Energy Workforce
Education*

**and, Clean Energy Market
Development**

Kankakee Community College

C4

Identify the Market Barriers



Technical Expertise Barriers

- Lack of PV interest and expertise among existing electrical contractors
- Lack of municipal and county electrical inspectors with solar-PV experience/expertise
- Lack of qualified solar-PV site assessors in the Midwest

Socio-Cultural Barriers

- Poor consumer awareness and/or poor public opinion of solar-PV based on existing bad-example projects
- Lack of pipeline from high school to community college R.E. programs
- Small numbers of students from under-represented groups in STEM and R.E. programs

Economic Barriers

- Perceived high cost of solar-PV
- Inadequate financial incentives for solar-PV projects

Higher Education Barriers

- Lack of qualified community college instructors in the solar-PV pipeline
- Lack of an existing model for incorporating solar-PV training with a market transformation component

Our Strategy Gets NSF Support!

National Science Foundation Advanced Technological Education Program

- 2008 thru 2011: *Project REvamp*



- 2012 thru 2015: *Project C4*

The C4 Strategy

C4 assumes it is fully appropriate for a Community College to both train solar technicians **AND** to affect local, solar market development.

The C4 Strategy

The C4 effort contains close to two dozen strategic elements.

Several of these strategic elements are contained in an MREA strategy called...





Build the Power Pack Team

Manufacturers

Installers

Suppliers

Local

Government



POWER HOUR:
Free Educational Event
for Consumers

Solar Energy Basics & Incentives for
Your Home, Farm or Small Business

Thursday, Sept. 25
7-8 p.m.

ALE HOUSE PUB
135 N. Kinzie Ave., Bradley
FREE and open to the public

- SOLAR ENERGY BENEFITS • TECHNOLOGY BASICS
- AVAILABLE SOLAR INCENTIVES
- AVAILABLE FINANCING OPTIONS
- HOW TO ACQUIRE A FREE SITE ASSESSMENT
- LOCAL INSTALLERS • U.S. PRODUCTS

www.illinoispowerpack.org OR EMAIL jmartin@kcc.edu



This project is made possible with funding from the National Science Foundation.

Kankakee Community College

The C4 Strategy

1. Make the MREA (ANSI-IREC) Solar-PV Site Assessment Certificate training part of our Solar-PV course.
2. Offer free site assessments to vetted public.
 - Mentored site-assessment projects for students projects.
 - Potential solar-installation projects.

C4 Strategy, continued...

3. Partner with a cooperating, established electrical contractor.
 - Give them free tuition to the PV course.
 - Work with them to earn NABCEP PV-Professional Sales Certification.
4. Establish constructive relationship with local electrical hardware supplier -- create local PV hardware pipeline.

C4 Strategy, continued...

5. Help cooperating contractor to turn one or more site assessments into actual projects.
6. Students work with contractor on projects.
7. AHJs given free training on inspecting solar-PV installations.
8. Work with funding agencies to get better support for projects.

C4 Strategy, continued...

9. Establish and use industry advisory committee.
 - Stion Solar, SunWize, Morningstar Solar, ISU
10. Establish and use a relevant “community of practice.”
 - KCC, MREA, and Other Community Colleges
11. Work with campus radio station, local newspaper and TV stations for program PR and guerilla marketing.



Soulful blues
Ira's John returns to Kankakee
● B1

September 6, 2012

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Earthquake shakes Costa Rica. C8

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Kankakee's Miranda Diaz
Kankakee takes step forward in soccer. D1

Grant gives KCC big lift

National Science Foundation funds widen career paths for students

By Nicole Leonhardt
nleonhardt@daily-journal.com
815-937-3388

Jake Schultz's job lifts him upward, nearly 300 feet off the ground.

For the past year, the 26-year-old Kankakee resident has worked as a repair technician for General Electric. When a wind turbine breaks at the company's wind farm near Dwight, Schultz finds the problem and fixes it.

"I really like this job and the atmosphere," Schultz said. "It's a new technology that's good for the environment."

Schultz secured the job after attending Kankakee Community College's electrical technology program for two years. A program that instructor Tim Wilhelm began revamping in 2008, with the aid of a \$150,000 grant from the National Science Foundation.

Wilhelm altered the program so students would learn renewable energy technology, along with electrical technology, making them good applicants for electrician jobs as well as wind turbine repairmen, and solar panel installers, to name a few careers in the renewable category.

The program went over so well that the National Science Foundation declared it one of the top four in the country, and that helped the school secure another grant from the organization's Division of Undergraduate Educa-



The Daily Journal/Mike Woz
Kankakee Mayor Nina Epstein will run for a second term in office next spring.

Epstein to seek 2nd term

By Lee Provost
lprovost@daily-journal.com
815-937-3354

Nina Epstein said time has passed quickly since she was elected Kankakee mayor, and she has no plans of slowing down now.

Epstein, 64, in the final year of her first mayoral term, confirmed Wednesday she will run for a second term in next spring's municipal election. She will formally announce her candidacy at 8 p.m. gathering next Wednesday at the Farmers' Market gazebo in downtown Kankakee.

"I love this job. These four years are going very quickly," she said. "There is so much in the works and I'd like to see some of these projects come to a conclusion."

Epstein is the first woman to serve as Kankakee mayor.

The only other candidate to formally announce is Democrat Jarman Porter, an educator and consultant. He announced his candidacy in early June.

The primary portion of the municipal election will be

Even More C4 Strategy...

12. Offer a “RE Intro” course to general public.
13. Recruit from under-represented groups for new students.
14. Nurture interest in under-represented groups for new projects – seek grant funding.



ILLINOIS STATE
UNIVERSITY

Solar for Schools

Pipelining High School Students into
our Solar Training Program



Helping secondary schools meet nextgen science standards by incorporating solar topics into their science classes.

“SOLAR FOR SCHOOLS”



Source:

ALL THIS SERVES THE
STUDENTS...

What Does the R.E. Graduate Get?

- Those who complete the program, focus-tracked in R.E. Technology, earn...
 - An A.A.S. Degree in Electrical Technology
 - KCC Certificates in Solar-Thermal, Solar-PV, and Small-Wind Energy.
- Successful graduates are fully qualified for entry-level positions in many electrical venues; BUT...
- They possess a unique skills-set that puts them ahead of the pack as new R.E. jobs develop!

3rd Party Accreditation and Certificates!

- IREC-Accredited Solar Training Program.
- NABCEP-approved PV Entry Level Provider and testing center...



- RTP for the MREA (ANSI/IREC) Solar-PV Site Assessment Certificate.

3rd Party Accreditation and Certificates!

- OSHA-10.
- Red Cross First Aid.
- Red Cross CPR.
- CITCA Tower Climb Competence and Tower Rescue

CRITICAL TO ALL THE
ABOVE...

Hands-on Training is KEY

