

**Application Package**  
Deadline: Friday January 29, 2010  
**National Society of Professional Engineers**  
**ONE \$2,500 SCHOLARSHIP**

**for UNLV Undergraduate Engineering majors**

The southern Nevada Chapter – National Society of Professional Engineers offers one \$2,500 scholarship opportunity to undergraduate engineering applicants who meet the following criteria:

- UNLV College of Engineering declared major or pre-major in civil, computer, electrical, entertainment or mechanical engineering,
- be currently registered, in good standing, for at least 12 credits in Spring 2010 with graduation date in December 2010 or later,
- have a minimum, overall undergraduate GPA of 3.00,
- have demonstrated high level of interest in engineering as a career through high academic performance in engineering classes, work experience and extracurricular activities, and
- complete and submit this application package including an original, word-processed ethics essay.

Please complete the attached application form, write the essay, and submit with the letters of recommendation to Ms. Christine Wallace, College of Engineering, Mail Stop 4005, no later than **Friday, January 29, 2010**

*For more information, please call or email Ms. Christine Wallace, 702-895-3699 email: [christine.wallace@unlv.edu](mailto:christine.wallace@unlv.edu)*

## NSPE \$2,500 Scholarship Application Essay Topics deadline January 29, 2010

### Instructions:

a) Please review the four essay topics described below and *select the one that most interests you*, regardless of your major.

a) Locate and read a minimum of five (5) additional articles on the topic that describe the failure at issue and its causes. Please prepare a literature review of these articles, consisting of a one-paragraph summary of each article. At the top of each one-paragraph summary, please cite the source (print or electronic) of the article that you utilize using correct bibliographic methods.

b) Locate and read the NSPE Code of Ethics on the web.

<http://www.nspe.org/Ethics/CodeofEthics/index.html>

c) Please write an original, researched, referenced, word-processed essay 5 - 10 pages, double-spaced, one-inch margins all around.

i) describing what engineering steps could have prevented the failure, and

ii) referring to relevant passages in the NSPE code of ethics, explaining in your essay how they apply to your selected topic as principles that should guide the actions of professional engineers.

iii) addressing the following question: Could the engineers have reasonably foreseen the failures and taken reasonable steps to prevent them? If so, what might those steps have been?

d) Please cite, using correct bibliographic methods in the text and in a references section at the end of your essay, the references you located in steps a) and b) above *and attach/append your literature review to the essay*

Completed essays will be evaluated at Turnitin.com, and discovery of plagiarism will result in rejection of an application.

The winning essays will be published in the Nevada Society of Professional Engineers newsletter and on the Nevada NSPE website. <http://www.nspenv.org/>

### 1) Civil Engineering

#### Hurricane Katrina Victims Win \$719,698 From U.S. in First Trial

<http://www.bloomberg.com/apps/news?pid=20601103&sid=abJlduQZmRWc>

By Margaret Cronin Fisk and Leslie T. Snadowsky

Nov. 19 (Bloomberg) -- Hurricane Katrina victims were awarded \$719,698 in damages by a judge in a lawsuit claiming a canal dredged by the **U.S. Army Corps of Engineers** from **New Orleans** to the Gulf of Mexico destroyed a natural barrier to a storm surge.

U.S. District Judge **Stanwood R. Duval Jr.**, who heard the trial in New Orleans without a jury, yesterday found in favor of four residents and one business, while rejecting the claims of the owners of another property. The decision will support the claims of about 100,000 residents and business owners in the area, plaintiffs' lawyers said.

Residents sued the U.S. and the Army engineers, claiming negligence in designing, constructing and maintaining the Mississippi River Gulf Outlet, the canal known as "Mr. Go". Duval said the Army engineers are liable for the "negligent operation and maintenance" of the canal and not for faulty design or construction. Duval said in April at the beginning of the trial, the first over the Mr. Go lawsuits, that his finding would be used as a guide for other claims.

"Once the corps exercised its discretion to create a navigational channel, it was obligated to make sure that channel did not destroy the environment surrounding it thereby creating a hazard to life and property," Duval said yesterday in his 156-page opinion. "When the corps designed the MRGO, it recognized that foreshore protection was going to be needed, yet the corps did nothing to monitor the problem in a meaningful way." Flooding after the 2005 hurricane drowned much of New Orleans' Lower Ninth Ward and nearby St. Bernard Parish.

#### **'Engineering Blunders'**

"By 1988 it knew that indeed all of the engineering blunders that it had made now put the Parish of St. Bernard at risk," Duval wrote. The residents said the canal made New Orleans and the surrounding area more vulnerable to hurricane-induced flooding. They claimed the corps was warned repeatedly that the Mr. Go operation had removed natural buffers to floods, killing trees and infusing the marshland with saltwater. The lawsuit, filed in 2005, was the first to go to trial on claims against the corps. The plaintiffs were seeking unspecified damages at the trial. "The people of this community have finally been vindicated and now they're going to be compensated," Joe Bruno, a plaintiffs' attorney, said in a phone interview.

#### **'Monumental Negligence'**

"This is a landmark victory," said attorney Pierce O'Donnell, who also represented the New Orleans residents. "It's the first time ever the Army Corps of Engineers has been held responsible for its monumental negligence." The finding of negligence in the maintenance and operation of the canal supports the claims of about 100,000 residents and business owners in the Lower Ninth Ward and St. Bernard Parish, Bruno said. Duval's finding that the corps isn't liable for negligent design of the canal will affect claims from about 80,000 property owners in east New Orleans, Bruno said. Plaintiffs' lawyers will be seeking a global settlement with the U.S. to cover those residents too, Bruno said. [Dean Boyd](#), a spokesman for the U.S. Department of Justice, didn't immediately return a call seeking comment. The U.S. said in court filings that it isn't responsible for the flood damage caused by Katrina. "This catastrophe would have occurred regardless of the Mr. Go and regardless of the way the channel was maintained prior to the flood," the U.S. said in an April pretrial brief. The corps said the levees were inadequate to withstand the force of [Hurricane Katrina](#). Witnesses for the plaintiffs said the Army knew or should have known that the canal would increase risk of flooding.

## **2) Construction / Environmental Engineering**

### **Investigation Expanded To Include American-Made Drywall.**

<http://www.washingtonpost.com/wp-dyn/content/article/2009/11/25/AR2009112502969.html>

The [AP](#) (11/26, Skoloff) reported, "A federal probe of tainted Chinese drywall has broadened because a small number of homeowners are reporting that American-made drywall is causing some of the same problems: a sickening, sulfurous stench and corroded pipes and wiring." Several lawsuits "have now been filed against American drywall manufacturers, including National Gypsum and Atlanta-based Georgia-Pacific Corp." Attorney Brian Warwick, "who is suing Georgia-Pacific in federal court on behalf of two Florida homeowners," believes "reports of tainted U.S. building materials will increase as homeowners realize the problem is not just with some Chinese wallboard."

## **3) Electrical Engineering**

### **Concerns Mount Over Smart Grid Security.**

<http://www.washingtonpost.com/wp-dyn/content/article/2009/07/27/AR2009072702988.html>

The [Washington Post](#) (7/28, A12, Krebs) reports, "Electric utilities vying for \$3.9 billion in new federal 'smart grid' grants will need to prove that they are taking steps to prevent cyberattacks as they move to link nearly all elements of the U.S. power grid to the public Internet," under new requirements from the Energy Department. There is "mounting concern from security experts that many existing smart-grid efforts do not have sufficient built-in protections against computer hacking." Security researchers have found that Smart meters "often are the weakest link in the smart-grid chain." Many of the communication systems "require little authentication to carry out key functions, such as

disconnecting customers from the power grid." Researchers from IOActive of Seattle plan to demonstrate at the Black Hat cybersecurity conference "a computer worm that spreads by taking advantage of the software update feature built into a prevalent brand of smart meters."

## 4) Mechanical Engineering

### **Biggest Crib Recall Revives Safety Regulation Discussion.**

[http://www.usatoday.com/news/health/2009-11-23-crib-recall-stork-craft\\_N.htm](http://www.usatoday.com/news/health/2009-11-23-crib-recall-stork-craft_N.htm)

Issues concerning the safety of children's foodstuffs, products, and toys have dominated headlines over the last few years. So much so that the Consumer Product Safety Commission, under the Obama administration, is working to safeguard America's children by developing mandatory safety standards. Now, some 2,000 media outlets have picked up another problem with an essential piece of childhood furniture: baby cribs.

[ABC World News](#) (11/24, story 6, 2:45, Gibson) reported, "Worried parents flooded phone lines and websites" yesterday "following the announcement of the biggest crib recall in US history, 2.1 million cribs recalled by the Stork Craft Company after at least four babies died." That brings the number of recalled cribs over the "past two years" to six million, according to [NBC Nightly News](#) (11/24, story 4, 2:25, Holt). More disconcertingly, the "head of the Consumer Product Safety Commission admitted" that "the agency did not move quickly enough to get dangerous baby cribs off the market."

According to the [AP](#) (11/25), "sales of the cribs being recalled go back to 1993." The cribs, of which some 150,000 "carry the Fisher-Price logo," have had "problems with their hardware, which can break, deform or be lost after years of use." Apparently, "problems also can arise because of assembly mistakes by crib owners." Those errors "can cause the drop-side to detach and create a dangerous space between the drop-side and the crib mattress, where a child could become trapped." [Reuters](#) (11/24, Allen), [Bloomberg News](#) (11/25, Drajem, Peterson), and [BBC News](#) (11/24) also covered the recall.

**NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**  
**SOUTHERN NEVADA CHAPTER**  
**\$2,500 ENGINEERING SCHOLARSHIP INFORMATION**

**Deadline: Friday, January 29, 2010 – FORMS & INSTRUCTIONS ON NEXT 5 PAGES**

UNLV undergraduate engineering majors are invited to apply for a scholarship offered by the Nevada Society of Professional Engineers. One \$2,500 scholarship will be awarded. Scholarship funds may be used to cover the costs of tuition, fees, books and supplies. **The scholarship award will be presented at the National Engineers' Week Banquet on Saturday, February 20, 2010.**

**Qualifications: Applicants must**

- 1) Be registered in good standing for Spring 2010 as an undergraduate student for at least 12 credits at the University of Nevada, Las Vegas, with a minimum overall GPA of 3.00, and with a graduation date of December 2010 or later.
- 2) Be a declared major or pre-major in engineering.
- 3) Have demonstrated, through academic performance in engineering classes, work experience or extracurricular activities, a high level of interest and ability in the field of engineering.

**Check list of required documentation: You must:**

- 4) Complete and submit the application form on the next page.
- 5) Write an original, *researched*, word-processed essay, 5-10 double-spaced pages in length, on one of the recommended topics. Please cite all references you use. The winning essay will be published in the Nevada Society of Professional Engineers newsletter and on the Nevada NSPE website. Plagiarism will result in rejection of an application.
- 6) Provide two letters of recommendation: one from a university engineering instructor and one from your University academic advisor or work supervisor. The letters of recommendation should be provided to the student in opaque envelopes sealed by the letter's author, with signature across the back.
- 7) Provide a current resume showing your current GPA, anticipated date of graduation, relevant job experience and extracurricular activities.
- 8) Submit items 4, 5, 6, and 7 in one envelope to Ms. Christine Wallace, Dean's Office, College of Engineering by Friday, January 29, 2010.
- 9) Please email your completed, proof-read essay and an electronic photo of yourself in JPG format to [christine.wallace@unlv.edu](mailto:christine.wallace@unlv.edu). The photo will be used in the NSPE newsletter if you are selected.

**Selection process:** The NSPE Board of Directors will evaluate Finalists' applications during their February, 2010 meeting. Scholarship recipients will be notified by letter and telephone and will be invited to attend the Engineers' Week Banquet on Saturday, February 20, 2010, to receive the award. For additional information, please contact Ms. Christine Wallace, College of Engineering at 702-895-3699, Email: [christine.wallace@unlv.edu](mailto:christine.wallace@unlv.edu)



**NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**  
**SOUTHERN NEVADA CHAPTER - \$2,500 SCHOLARSHIP**  
**INFORMATION FOR RECOMMENDERS**

**To Accompany 1<sup>st</sup> Recommendation Form – deadline Friday January 29, 2010**

Students majoring in engineering may apply for a scholarship offered by the Nevada Society of Professional Engineers. One \$2,500 scholarship will be awarded. Scholarship funds may be used to cover the costs of tuition, fees, books and supplies. **The scholarship will be awarded at the Engineers' Week Banquet on Saturday, February 20, 2010.**

**Qualifications: Applicants must**

- 1) Be registered in good standing for Spring 2010 as an undergraduate student for at least 12 credits at the University of Nevada, Las Vegas, with a minimum overall GPA of 3.00, with a graduation date of December 2010 or later.
- 2) Be a declared major in civil, computer, electrical, entertainment or mechanical engineering.
- 3) Have demonstrated, through academic performance in engineering classes, work experience or extracurricular activities, a high level of interest and ability in the field of engineering.

**Check list of required documentation: Applicants must**

- 4) Complete and submit the attached application form
- 5) Write an original, *researched*, word-processed essay, 5-10 double-spaced pages in length, on any one of the four recommended topics, and cite all references used. The winning essay will be published in the Nevada Society of Professional Engineers newsletter and on the Nevada NSPE website.
- 6) Provide two letters of recommendation on the provided forms, one from a university engineering instructor, and one from either a University academic advisor or a work supervisor. *The letters of recommendation should be returned to the student in opaque envelopes sealed by the letter's author, with the author's signature across the back.*
- 7) Provide a current resume, showing current GPA, anticipated date of graduation, relevant job experience and extracurricular activities.
- 8) Submit items 4, 5, 6, and 7 in one envelope to the College of Engineering's scholarship coordinator, Ms. Christine Wallace, UNLV College Engineering by Friday January 29, 2010 (phone 702-895-3699, email: [christine.wallace@unlv.edu](mailto:christine.wallace@unlv.edu).
- 9) Email the completed, proof-read essay and an electronic photo of themselves in JPG format to [christine.wallace@unlv.edu](mailto:christine.wallace@unlv.edu) The photo will be used in the NSPE newsletter if the student is selected.

**Selection process:** Finalists' applications will be evaluated by the NSPE Board of Directors at their February 2010 meeting. Scholarship recipients will be notified by letter and telephone and will be invited to attend the Engineers' Week Banquet on Saturday 20 February 2010 to receive the award.

**NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**  
**Southern Nevada Chapter - \$2,500 Scholarship**  
**1<sup>st</sup> Letter of Recommendation Form – University Instructor**  
**Return deadline Friday, January 29, 2010**

Name of Student \_\_\_\_\_

Student year (freshman, sophomore, junior, senior) \_\_\_\_\_

Student engineering major \_\_\_\_\_

Name and Title of Recommender: \_\_\_\_\_

Dear Recommender,

Thank you for taking the time to recommend the above named student for a \$2,500 NSPE scholarship. Student qualifications, documentation and the application process are described on the previous page.

Could you please rate the student according to the criteria shown below, write any additional comments as needed, and *return this letter of recommendation to the applicant* in a sealed, opaque envelope with your signature affixed across the back, before the Friday January 29, 2010 deadline? Thank you again for your assistance.

Sincerely, Dave James, Ph.D., P.E. – NSPE UNLV representative

1) How long have you known the applicant? \_\_\_\_\_

2) In what capacity? \_\_\_\_\_

3) Please rate the student by the following criteria in comparison to their peers of the same age and class on a 0-4 scale, with 0 = lowest, 1 = low, 2 = medium, 3 = high, and 4 = highest N/A – unable to rate

a) Interpersonal skills	0	1	2	3	4	N/A
b) Emotional Maturity	0	1	2	3	4	N/A
c) Academic performance in engineering classes	0	1	2	3	4	N/A
d) Professional potential	0	1	2	3	4	N/A
4) Would you hire to work for you as an engineer?	0	1	2	3	4	N/A

5) Of engineering majors you have known in the last 5 years, would you rate this student in the, bottom 25%, next to bottom 25% next to top 25% top 25% top 10% top 5% N/A

6) Please add any written comments as you think appropriate (or attach a word-processed letter)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Recommender Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**  
**SOUTHERN NEVADA CHAPTER - \$2,500 SCHOLARSHIP**  
**INFORMATION FOR RECOMMENDERS**

**To Accompany 2<sup>nd</sup> Recommendation Form – deadline Friday January 29, 2010**

Students majoring in engineering may apply for a scholarship offered by the Nevada Society of Professional Engineers. One \$2,500 scholarship will be awarded. Scholarship funds may be used to cover the costs of tuition, fees, books and supplies. The scholarship will be awarded at the Engineers' Week Banquet on Saturday, February 20, 2010.

**Qualifications: Applicants must**

- 1) Be registered in good standing in Spring 2010 as an undergraduate student for at least 12 credits at the University of Nevada, Las Vegas, with a minimum overall GPA of 3.00, with a graduation date of December 2010 or later.
- 2) Be a declared major in civil, computer, electrical, entertainment or mechanical engineering.
- 3) Have demonstrated, through academic performance in engineering classes, work experience or extracurricular activities, a high level of interest and ability in the field of engineering.

**Check list of required documentation: Applicants must**

- 4) Complete and submit the attached application form
- 5) Write an original, *researched*, word-processed essay, 5-10 double spaced pages in length, on any one of the four recommended topics and cite all references used. The winning essay will be published in the Nevada Society of Professional Engineers newsletter and on the NSPE website.
- 6) Provide two letters of recommendation on the provided forms, one from a university engineering instructor, and one from either a University academic advisor or a work supervisor. *The letters of recommendation should be returned to the student in opaque envelopes sealed by the letter's author, with the author's signature across the back.*
- 7) Provide a current resume, showing current GPA, anticipated date of graduation, relevant job experience and extracurricular activities.
- 8) Submit items 4, 5, 6, and 7 in one envelope to UNLV's NSPE Representative, Ms. Christine Wallace, UNLV College or Engineering by Friday January 29, 2010 (phone 702-895-3699)
- 9) Email the completed, proof-read essay and an electronic photo of themselves in JPG format to [christine.wallace@unlv.edu](mailto:christine.wallace@unlv.edu) The photo will be used in the NSPE newsletter if the student is selected.

**Selection process:** Finalists' applications will be evaluated by the NSPE Board of Directors at their February 2010 meeting. Scholarship recipients will be notified by letter and telephone and will be invited to attend the Engineers' Week Banquet on Saturday, February 20, 2010 to receive the award.

