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### Abstract

This Final Report describes how the Kokes Awards program was carried out for the 2007 meeting with regard to selection of students and disbursement of funds received from DOE and other sources. The objective of the Richard J. Kokes Travel Award program of the American Catalysis Society is to encourage graduate students to attend and participate meaningfully in the biennial North American Catalysis Society Meeting.

### Objective of Proposal

The biennial North American Catalysis Society (NACS) Meetings are the premiere conferences in the area of catalysis, surface science, and reaction engineering. The 20<sup>th</sup> meeting was held the week of June 17-22, 2007 in Houston, TX.

The objective of the Meetings is to bring together the maximum number of academic, industrial, and governmental practitioners of catalysis, surface science, and reaction engineering intensive scientific exchange and discussions concerning technological issues in catalysis and state-of-the-art research. The Meetings are designed to maximize positive and productive interactions through oral presentations, poster presentations, and opportunities for networking and informal discussions.



The objective of the Richard J. Kokes Travel Award program of NACS is to encourage graduate students to attend and participate meaningfully in this conference. The NACS has traditionally sought to encourage graduate student participation at the National Meetings, and providing financial support is the most effective means to do so. Student attendance contributes significantly to their scientific training and communication/presentation skills. They would be exposed to many leading researchers from the US and abroad; they would meet their peers from other universities; they would learn about cutting-edge results that could benefit their research projects; and they may become interested in becoming active participants in the catalysis community. These young investigators represent the next generation of scientists and engineers, and their proper training will lead to future scientific breakthroughs and technological innovations that benefit the US economy.

### Summary of Activities

The Southwest Catalysis Society hosted the 20<sup>th</sup> NAM, which featured 270 regular oral presentations, 19 keynote presentations, 5 plenary lectures and roughly 400 poster presentations spread over three nights. Session topics ranged from characterization to syngas conversion to fuel cells, a total of 16 sessions, including a special session honoring Heinz Heinemann for his

many contributions to NACS. Including exhibitors, the conference drew approximately 1060 people. These included ~90 graduate student winners of Kokes or Southwest Catalysis Society travel awards.

Financial support for the Kokes Awards was provided by NSF and other organizations, which helped offset some of the associated costs (specifically, registration fee, airline tickets, and hotel accommodations). Graduate students eligible for these merit-based Awards were those who studied at a North American university and who presented at the Meeting, as dictated by NACS. 26 2/3rds of Awards (\$750/award) were ultimately funded by NSF.

In all, the Richard J. Kokes Student Travel Awards Committee (Michael Wong, Israel Wachs) successfully secured moneys from 4 sources, for a final total of \$67,430 (Table 1). This was 22.6% increase over the last meeting.

Table 1. Level of Funding for Kokes Awards at the Last 2 NAM Meetings

<b>Funding Source</b>	<b>19<sup>th</sup> NAM Meeting (Philadelphia, 2005)</b>	<b>20<sup>th</sup> NAM Meeting (Houston, 2007)</b>
NACS	\$15,000	\$30,000
NSF	\$25,000	\$20,000
DOE	\$15,000	\$5,000
<i>Subtotal</i>	<i>\$55,000</i>	<i>\$55,000</i>
Local Organizing Committee	\$0	\$12,430
<b>Total</b>	<b>\$55,000</b>	<b>\$67,430</b>

The final number of students who received a travel award was 89 students (Table 2). More students were chosen as awardees (an increase of 9.9%), and each received an average award of almost \$760 (an increase of 11.5%).

Table 2. Kokes Awardees (and SWCS Awardees<sup>a</sup>) at the Last 2 NAM Meetings

<b>Students from...</b>	<b>19<sup>th</sup> NAM Meeting (Philadelphia, 2005)</b>	<b>20<sup>th</sup> NAM Meeting (Houston, 2007)</b>
US Universities	65	70
Canadian Universities	7	5
Mexican Universities	9	10
<i>Subtotal</i>	<i>81</i>	<i>85</i>
Non-North American Universities <sup>a</sup>	0	4
<b>Total</b>	<b>81</b>	<b>89</b>
<b>Average Travel Award per Student</b>	<b>~\$680</b>	<b>~\$758</b>

Several comments bear mentioning here, with details given in the subsequent sections:

1. The final list and total number of Awardees deviated from the original set of Awardees, due to no-shows and cancellations.
2. The Committee allocated NSF and DOE funds only to students from US universities.

3. The Committee allocated NACS funds only to students from US, Canadian, and Mexican universities.
4. For the non-North American students, the Committee created special travel awards called the Southwest Catalysis Society (SWCS) Travel Awards, which were exclusively funded by the local organizing committee (SWCS).
5. Some administrative costs were incurred, which were completely covered by the local organizing committee.

#### Details of Funding and Award Amounts

The Richard J. Kokes Student Travel Awards have historically relied on funds from the NACS board and industrial funds. Industrial corporations have generally responded to donation requests of specific function and for general funds, but it is not possible to continue such support at previous levels anymore. The Kokes Award Committee of two was successful in securing funds from NACS, NSF and DOE (Table 1). At the NACS board meeting in Atlanta in March 2006, the board members voted to increase funding from \$15K to \$30K (Jingguang Chen, personal communication). Funds from NSF and DOE were obtained through the normal grant proposal mechanism. SWCS was able to cover the rest of the Travel Awards from its highly successful fundraising campaign.

It was decided that each Award was a flat amount of \$750, reducing administrative duties for the Committee. There was no “waiver” of registration fees, and no arrangement of hotel rooms and roommates, as was done previously. It is noted that the “waiver” was essentially the previous Kokes Awards Committee paying for the students’ registration fee from the collected Awards funds. So, for this Meeting, the responsibility of paying for registration and hotel reservations shifted to the students.

The \$750 was to be given directly to the students at the conference in person. This ensured that they actually attended the conference. The Awards were to be given in the form of American Express gift checks (for the 68 original US students) or in cash (for the 21 original non-US students). The total amount of money disbursed was  $89 \times \$750 = \$66,750$ . However, there was a service charge imposed by American Express (amounting to \$10 per gift-check Award, or  $68 \times \$10 = \$680$ ). Thus, the total cost of the Travel Awards program was  $\$66,750 + \$680 = \$67,430$  (Table 1).

SWCS covered this \$680 at the end. Earlier, during the Awards allocation process, it committed \$11,750 for 15 2/3 additional students, for a total amount of \$12,430. A part of these funds went towards the support of non-North American students, as a special initiative for this Meeting. These were designated SWCS Awards, to differentiate from the Kokes Awards (which go only to North American graduate students)

## Initial Selection of Travel Awardees

Travel Award applications were made available online at the meeting web site in early December 2006. The text of the application is shown as follows:

### **20<sup>th</sup> NAM Meeting – Houston, TX, USA**

#### **Kokes Graduate Student Travel Award Application Form**

##### Eligibility:

1. Most awards are for graduate students currently enrolled at universities in US, Canada, or Mexico; however, for the 2007 meeting, there will be a limited number of awards for graduate students from universities outside the US, Canada, and Mexico.
2. The graduate student will be the presenter of one or more poster/oral presentations at the 20<sup>th</sup> NAM.
3. Direct any questions to [travelawards@20nam.org](mailto:travelawards@20nam.org)

##### Awards notification and distribution:

1. Awards will be made after abstract(s) has/have been accepted
2. The travel award will cover graduate student early registration and partial hotel/airline costs; the dollar amount has not been set yet; a rough estimate is \$800
3. Checks will be made out to student and sent to mailing address he/she provides after the conference.

##### Instructions:

1. Fill out form completely
2. Attach abstract(s) of submitted presentation(s) to this form
3. Attach curriculum vita (up to two pages) to this form
4. Email completed form (in pdf or Word format) in **one file** to [travelawards@20nam.org](mailto:travelawards@20nam.org) with subject line "**Kokes Award Application – YOUR NAME**"
5. At the latest, applications are due 4 weeks after abstract submission deadline. The earlier the submission, the better the chance of funding.

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GRADUATE STUDENT NAME:

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EMAIL ADDRESS:

NAME OF THESIS ADVISOR:

•

UNIVERSITY:

•

MAILING ADDRESS:

•

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•

TITLE(S) OF SUBMITTED PRESENTATION(S):

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It is noted that this application could have been improved by requiring the applicants (1) to submit provide all the information in English; (2) to provide the abstract number(s) would have facilitated the cross-referencing with the accepted abstracts database, and (3) to list their primary thesis advisor (if they have more than one). These Awards are for graduate students, but there is no compelling reason to disqualify undergraduate students who demonstrate graduate-level research ability.

The Committee received over 150 applications, making Awards to over 50% (Table 3). The application deadline was extended to April 13, 2007, to accommodate those who waited until the acceptance of their abstracts. Additional criteria (not listed on the application form) were that no research group was to receive more than 2 Awards. Each applicant was informed of receiving or not receiving an Award via email on May 6, 2007. Postdoctoral researchers were not eligible. Undergraduate students were technically not eligible, but one exception was made to an otherwise well-qualified undergraduate researcher.

Table 3. Breakdown of Original Set of Awardees.

<b>Students from...</b>	<b>#Applicants</b>	<b>Percentage of applicant pool</b>	<b>#Awardees</b>	<b>Success rate</b>
US Universities	115	74%	68	59%
Canadian Universities	9	6%	5	56%
Mexican Universities	22	14%	12	55%
<i>Subtotal</i>	<i>146</i>	<i>94%</i>	<i>85</i>	<i>58%</i>
Non-North American Universities <sup>a</sup>	10	6%	4	40%
<b>Total</b>	<b>156</b>		<b>89</b>	<b>57%</b>

<sup>a</sup>Recipients of a SWCS Travel Award

## Final List of Travel Awardees

There were changes to the original list, even up until the week of the conference. Some Awardees cancelled their trip early enough so that alternates were chosen. However, some cancelled their trip too late and some just no-showed, leaving 4 unclaimed Awards. It was decided to identify the 3 best poster and oral presentations at the Meeting, and give them Awards. Only 2 were awarded this way, as the third person was a post-doctoral researcher. The remaining two were given to 2 alternates.

At the end of the meeting, all 89 Awards were given out (Table 4), though this led to the inconsistency of 2 research groups receiving more than 2 Awards. The 4 SWCS Awardees came from India, Italy, and the Netherlands.

Table 4. Breakdown of Final Set of Awardees.

<b>Students from...</b>	<b>#Applicants</b>	<b>Percentage of applicant pool</b>	<b>#Awardees</b>	<b>Success rate</b>
US Universities	115	74%	70	61%
Canadian Universities	9	6%	5	56%
Mexican Universities	22	14%	10	45%
<i>Subtotal</i>	<i>146</i>	<i>94%</i>	<i>85</i>	<i>58%</i>
Non-North American Universities <sup>a</sup>	10	6%	4	40%
<b>Total</b>	<b>156</b>		<b>89</b>	<b>57%</b>

<sup>a</sup>Recipients of a SWCS Travel Award

## At the Conference Site

Most of the Awards were distributed on Sunday, the first day of the Meeting. Many of the Awardees were asked to volunteer to help the poster session organizers, the registration desk, and ushering at the Opening Night Reception that night. There were many more Awardees than volunteer slots. Banquet tickets were given to Kokes/SWCS Awardees who volunteered, with lower priority to Kokes/SWCS Awardees who did not volunteer. Eventually, there were more banquet tickets than Awardees, and so these were given to any graduate student attendee.