

communication skills among graduate students, affording graduate students the opportunity to present their research to an audience of peers, and increasing the breadth of knowledge of the participants through a diversity of topics. In addition, the benefits exceedingly outweigh the time investment of the program administrators.

The largest problem in the organization and operation of such a program is generating sufficient interest to fill the available seminar slots. Overall, however, the program has been very beneficial to our department and to the graduate students involved in planning the program and presenting seminars. A summer seminar program similar to the one described here may be applicable at other universities.

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## REFERENCES

1. Felder, R.M., "A Course on Presenting Technical Talks," *Chem. Eng. Ed.*, **22**, 84 (1988)
2. Brewster, B.S., and W.C. Hecker, "A Course on Making Oral Technical Presentations," *Chem. Eng. Ed.*, **22**, 48 (1988)
3. Modi, A.K., and P.T. Bowman, "The ChEGSA Symposium: A Continuing Tradition at Carnegie Mellon University," *Chem. Eng. Ed.*, **23**, 100 (1989)
4. The VPI&SU Graduate Assembly is a graduate student-run governance organization for the entire graduate community. It is administered under the auspices of the Graduate School. □

## ChE stirred pots

*(Tune: Battle Hymn of the Republic)*

*Free energy and entropy were whirling in his brain  
With partial differentials and Greek letters in their  
train;  
For delta, sigma, gamma, theta, epsilon, and pi  
Were driving him distracted as they danced before his  
eye.*

*(Refrain)*

*Glory, glory, dear old thermo.  
Glory, glory, dear old thermo.  
Glory, glory, dear old thermo.  
I'll learn you by and by*

*Heat content and fugacity revolved within his mind  
Like molecules and atoms that you never have to wind.  
With logarithmic functions doing cake walks in his  
dreams  
And partial molal quantities devouring chocolate  
creams.*

*(Refrain)*

*They asked him on the final if a mole of any gas  
In a vessel with a membrane through which hydrogen  
could pass  
Were compressed to half its volume, what the entropy  
would be,  
If two-thirds delta sigma equalled half of delta P?*

*(Refrain)*

*He said he guessed the entropy would have to equal  
four,  
Unless the Second Law would bring it up a couple  
more.  
But then it might be seven if the thermostat were good,  
Or it might be almost zero if once rightly understood.*

*(Refrain)*

*The professor read his paper with a corrugated brow,  
For he knew he'd have to grade it, but he didn't know  
quite how.  
Till a sudden inspiration in his cerebellum smote,  
And he seized his trusty fountain pen and this is what  
he wrote:*

*(Refrain)*

*"Just as you guessed the entropy, I'll have to guess your  
grade,  
But the Second Law won't raise it to the mark you  
might have made;  
For it might have been a hundred if your guess had  
been quite good,  
But I think it must be zero till you've rightly under-  
stood."*

*(Refrain)*

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