

E&Y CARAT NEWS BRIEFS

Ernst & Young Center for Auditing Research and Advanced Technology (E&Y CARAT)

*These are the 1998-1999
Ernst & Young Student Fellows*



DIRECTOR'S NOTE

Let me begin with holiday greetings to you all! It's hard to believe that three years have already passed since the inception of the E&Y CARAT. However, I am pleased to report that we have accomplished a lot in these three years through our various programs.

Under the student fellowship program, we have awarded 20 Ernst & Young Student Fellowships so far, including five this semester. This program not only provides financial support to high quality students majoring in accounting and information systems, but also provides them with opportunities to work closely with faculty members (Ernst & Young Faculty Mentors) on their research and teaching projects. This program has helped all three constituents.

Students get financial help in addition to gaining knowledge, faculty get bright students to help them in their

research and teaching, and the profession receives experienced, well-trained students.

This program has yielded both research publications and teaching materials. For research publications, please see the list presented in later pages of this newsletter. Students selected as E&Y Fellows have varied interests ranging from auditing, information systems to taxes. All this has been made possible through the generous support of the "Ernst & Young Family." I sincerely thank them for their ongoing support.

Distinguished Visitors

Under the Visiting Scholars Program, we have hosted more than a dozen scholars at the Center since its inception. Some return to the Center on frequent visits to work with us on projects that are of mutual interest, and some have just come to give a seminar and share their research with us. This program has provided a unique opportunity to expose our students and faculty to the research being done by other scholars

around the world and benefit from it.

Also, it has provided us with an opportunity to collaborate with scholars at other schools on a continuous basis. In the last three and half years,

we have had visitors not only from US Universities but also from universities around the globe: Germany, India, and Spain, for example.

These collaborations have resulted in some very exciting projects currently underway at the Center. The FRAANK (Financial Reporting and Auditing with Net Knowledge) project is one such endeavor where such prolific scholars

(continued on next page...)



*Rajendra P. Srivastava,
Ernst & Young Professor and
Director, The Ernst & Young
CARAT*

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Professor Miklos Vasarhelyi, William Von Minden Distinguished Professor of Accounting and Information Systems, and Professor Alex Kogan from Rutgers University, and KU researchers are working together. This project deals with issues related to continuous monitoring, continuous auditing, on-line reporting,

are also involved with me on the above project (see the publication list given later in this newsletter for details).

I am very pleased with the visiting scholars program; it is helping the Center to attract the best minds to work with us and provides a stimulating environment for our faculty to benefit from. Thanks

again to the "E&Y Family" for their generous support.

Research Support

Along the dimension of knowledge dissemination, the Center provides nominal travel

money to faculty and Ph.D. students to attend conferences and present research papers. Under this program Hai Lu, a Ph. D. student, has attended the 1998 Mid-West American Accounting Association Meeting held in St. Louis.

Also, through the support of the Center, along with the support from the University of Kansas and other sources, the E&Y CARAT has been represented at several national and international conferences.

Moreover, during the spring semester of 1998 while I was on my sabbatical leave from KU, I had the opportunity to visit several Universities in Florida and also several Universities in Australia. It was a rewarding experience to share the work being done at the Center. Invariably, everywhere I presented the work, the faculty would ask me how they could become a part of the E&Y CARAT. How could they collaborate with us on some of our research projects?

Well, I don't want to bore you with too many details, but if you would like to know more, see the list of presentations and publications later in the newsletter. In fact, I am impressed by this list.

Acknowledgements

I would like to recognize and thank all those who have helped us in creating the Center and providing the financial support.

In particular, I would like to thank Ellen Glazerman, Executive Director, Ernst & Young Foundation; Jim Searing, Director of Research, Ernst & Young LLP; John Wilgers, Partner at the Kansas City Office; Bob Crawford, Chet Vanatta, and Bob Mueller, Retired Partners, for their



Professor Ted Mock with Raj Srivastava

and on-line auditing. Another project that has generated a stream of research deals with how auditors analyze, aggregate, and search for subsequent piece of evidence for audit decisions.

Professor Theodore J. Mock, Arthur Andersen Alumni Distinguished Professor of Accounting at the University of Southern California, and Professor Arnold Wright, Arthur Andersen Professor of Accounting at Boston College,

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personal support and encouragement. Special thanks are due to Bill Taylor, Partner at the Kansas City Office, for his continued untiring support and enthusiasm. Thanks to the E&Y Student Fellows, E&Y CARAT Associates, and E&Y Visiting Scholars for doing such a superb job.

Please visit our home page:
<http://lark.cc.ukans.edu/srivasta/>.

PROFILES OF THE 1998-1999 E&Y STUDENT FELLOWS

Hai Lu is working with Professor Rajendra Srivastava. Hai has a BS in Engineering from Zhejiang University in China, and an M.Eng, PhD in Optoelectronics from the Chinese Academy of Sciences. He worked in the Australian CSIRO Division of Telecommunication and Engineering Physics from 1991-1993. He just completed his MBA from KU last year,



Hai Lu

and is currently pursuing a Ph.D. in Accounting and Information Systems. He is working on the FRAANK Project, a joint project of KU and Rutgers. His responsibilities include the intelligent agent programming and analysis of on-line auditing. He is also going to work on audit decision-making under uncertain items of evidence.

Chris Abrams is a senior pursuing a B.S. in Accounting and Business Administration with an emphasis in Information Systems.



Chris Abrams

Additionally, he is in the University of Kansas Honors Program. Following the completion of undergraduate work, he will enter the Masters program at KU in the spring of 2000. Chris is currently working with Professor Kay Nelson as a webmaster for faculty in the division of Accounting and Information Systems.

Yoas Agung Wiradharma came to the United States from Indonesia in 1995. Yoas received his

undergraduate degree in 1998 in business administration and accounting with an emphasis in information systems. He is currently in the graduate program studying for a masters in accounting and information systems and is expecting to graduate in May 1999. Yoas is working with Prof. Mike Ettredge and Prof. Raj Srivastava developing an audit risk model program using Excel and Visual Basic.

Vickie Voris is a first-year MBA student, with an undergraduate degree in Chemical Engineering from the University of Missouri-Rolla. Upon graduation, she was employed at Exxon Chemical Company in Baton Rouge as a process engineer. As an E&Y fellow, she will be working with Dr. Jim Nelson.

Meredith Zeppetella is currently pursuing an undergraduate degree in Accounting. She plans to enter the Master's of Accounting and Information Systems program in January 1999. Meredith is working with Professor Rajen-



Yoas Agung
Wiradharma



Vickie Voris

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dra Srivastava and Hai Lu on the FRAANK Project. She is doing intelligent agent programming for this project. In

addition to being involved in the Ernst & Young Fellowship Program, Meredith received an Undergraduate Research Award from the University of Kansas in 1998. With the assistance of Dr. Kay Nelson and Professor Susan Scholz, the research Meredith is doing

under this award involves examining the context of non-financial information on corporate web sites.



Meredith Zeppetella

E&Y CARAT SUPPORTED RESEARCH PAPERS IN PROGRESS OR PUBLISHED AND/OR PRESENTED AT CONFERENCES SINCE THE INCEPTION OF E&Y CARAT

1. Prentice, R., V. Richardson, and S. Scholz, "Corporate Web Site Disclosure and Rule 10b-5: An Empirical Evaluation," Working Paper, School of Business, University of Kansas.

2. Ettredge, M., V. Richardson, and S. Scholz. 1998. "Financial

Data at Corporate Web Sites: Do Information Clientele Matter?" Working Paper, School of Business, University of Kansas.

3. Ettredge, M., and R. P. Srivastava, "Using Digital Analysis to Enhance Data Integrity," *Issues in Accounting Education* (forthcoming).

4. Ettredge, M., V. Richardson, and S. Scholz. 1998. "The Presentation of Financial Data at Corporate Web Sites" This paper is under review at *Accounting Horizons*.

5. Dutta, S. K., and R. P. Srivastava, "Belief Revisions In Auditing: A Theoretical Investigation," in *Soft Computing in Financial Engineering*, edited by R. Ribeiro, R. R. Yager, H. J. Zimmermann and J. Kacprzyk, Physica-Verlag, Heidelberg, Springer-Verlag Company (forthcoming).

6. Srivastava, R. P. and Hai Lu, "Evidential Reasoning Under Uncertainty Using Belief Functions: A Structural Analysis of Audit Evidence," Proceedings of the 32nd Hawaii International Conference on Systems Science, January 5-8, 1999.

7. Wright, A., T. J. Mock, and R. P. Srivastava, "Audit Program Planning using A Belief Function Framework," Deloitte & Touche/ University of Kansas Symposium on Auditing Problems, May 1998.

8. Dutta, S. K., K. Harrison, and R. P. Srivastava, "The Audit Risk Model Under the Risk of Fraud," in *Applications of Fuzzy Sets & The Theory of Evidence to Accounting II*, Vol. 7, edited by P. Siegel, K. Omer, A. Korvin, and A. Zebda, published by Jai Press Inc., 1998, pp. 221-244.

9. Srivastava, R. P., A. Wright, and T. J. Mock, "Analytical Modeling of Multiple Hypotheses Evaluation in Auditing," at the 36th Bayesian Research Conference, February 19-20, 1998. Also, this paper was presented at the 1997 International Conference on Audit Judgment, Singapore, June, and at the 1998 Annual Meeting of the American Accounting Association, August 16-17.

10. Srivastava, R. P., and T. J. Mock, "A Decision Theoretic Approach to Web Trust Assurance Services Using Belief Functions," at the 1998 International Symposium on Auditing Research, Sydney, June 25-26. This paper was also presented at the 1998 International Conference on Contemporary Accounting Issues, Taipei, Taiwan, July 3-6, and the Online Auditing and Reporting Conference: Accounting 2000 Series, January 16, 1998, Rutgers University, Newark.

11. Nelson, K., A. Kogan, R. P. Srivastava, and M. Vasarhely, "Virtual Auditing Agents: The Edgar Agent Example," Hawaii

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International Conference on Systems Science, Jan. 6-9, 1998.

12. A. Kogan, K. Nelson, R. P. Srivastava, and M. A. Vasarhelyi, "Towaard Internet Auditing with 'FRAANK'," III International Conference on Accounting, Finance, and Tax, "Punta Umbria, Spain, September 25-26, 1997.

13. Srivastava, R. P., "Evidential Reasoning Under Uncertainty Using Belief Functions: A Structural Analysis of Audit Evidence," the British Accounting Association National Conference, March 24-26, 1997, Birmingham, UK.

14. Srivastava, R. P., "Emerging Trends in Auditing Research," Third International Accounting Research Conference, Calcutta, India, January 4-5, 1997.

15. Gillett, P. and R. Srivastava, "Integrating Statistical and Non-Statistical Audit Evidence in Attribute Sampling," presented at II International Artificial Intelligence Conference in Accounting, Auditing, and Tax, held on September 27-28, 1996, at Huelva, Spain. An earlier version of this paper was presented at the 1995 Annual Meeting of the American Accounting Association

16. Srivastava, R. P., "Audit Decisions Using Belief Functions: A Review," **Control and Cybernetics**, Vol. 26, No. 2, 1997, pp. 135-160.

17. Srivastava, R. P., "Decision Making Under Ambiguity: A Belief-Function Perspective," **Archives of Control Sciences**, Vol. 6 (XLIII), 1997, No. 1-2, pp. 5-27.

18. Srivastava, R. P., "Integrating Statistical and Non-Statistical Evidence Using Belief Functions," **Encyclopedia of Computer Science and Technology**, Vol. 37, edited by Allen Kent, James G. Williams, and Carolyn M. Hall, published by Marcel Dekker, Inc., New York, Supplement 22, 1997, pp. 157-174.

19. Srivastava, R. P., "Discussion of An Empirical Test of Bentham's Theory of the Persuasiveness of Evidence," **Auditing: A Journal of Practice and Theory**, Supplement, Vol. 15, 1996, pp. 23-32.

20. Srivastava, R. P., S. K. Dutta, and R. Johns, "An Expert System Approach to Audit Planning and Evaluation in the Belief-Function Framework," **International Journal of Intelligent Systems in Accounting, Finance and Management**, Vol. 5, No. 3, 1996, pp. 165-183.

21. Inaugural speech on "Impacts of Technology on Accounting," at the 19th All India Accounting Conference held on December 26-27, 1995, at the Vikram University, Ujjain, India.

22. Srivastava, R. P. "Evidential Reasoning in Auditing," AI/ES Research Workshop at the 1995

American Accounting Association Annual Meeting, Orlando, FL, August 1995 (invited).

23. Gillett, P. "Dollar Unit Sampling under Belief Functions," Working Paper, School of Business, The University of Kansas, 1996.

24. Srivastava, R. P., "Value Judgments using Belief Functions," **Research in Accounting Ethics**, Vol. 2, 1996, pp. 109-130.

25. Fanning, K., K. Cogger, and R. P. Srivastava, "Detection of Management Fraud: A Neural Network Approach," **International Journal of Intelligent Systems in Accounting, Finance**



Raj Srivastava and Arnold Wright

and Management, Vol. 4, 1995, pp. 113-126.

26. Srivastava, R. P., P.P. Shenoy, and G. Shafer, "Propagating Beliefs in an 'AND' Tree," **International Journal of Intelligent Systems**, Vol. 10, 1995, pp. 647-664.

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E&Y CARAT'S RESEARCH WORKSHOP CALENDAR

The Ernst & Young Center for Auditing Research and Advanced Technology offers two research workshops on Friday each semester, where faculty and Ph. D students share findings and exchange research ideas.

The following seminars were held in Fall 1998 semester:

Management Science and Information Systems Seminars, 10:3-12:00 pm, 502 Summerfield Hall

Aug. 28 Catherine Shenoy/
Some Issues in Constructing
Bayes Net Models for Portfolio
Risk and Return

Sept. 4 Prakash P. Shenoy/
Reasoning with Dempster-shafer
Belief Functions

Sept. 11 Prakash P. Shenoy/
Decision Trees, Influence Dia-
gram and Valuation Networks

Sept. 18 Phan Grang/ On
Ordering Formulae in Knowl-
edge Bases

Sept. 25 Russ Winer/ External
Validity in consumer Behavioral
Research: The Role of Scanner
Panel Data

Oct. 2 Sucheta Nadkarni/
Validation of Causal Maps

Oct. 9 Riza Demirer/ Reasoning
with Knowledge

Oct. 16 Michael Ettredge/Incen-
tives and Job Redesign: The Case
of Audit Planning Technology

Oct. 23 Kenneth D. Machenzie/
Knobby Analysis of Knobless
Survey Items

Oct. 30 Jim Nelson/ On Process
Modeling

Nov. 6 Liping Liu/ Representing
Asymmetric Decision Problems
Using Conditional Belief Functions

Nov. 13 Thomas A. Ottaway/
An Adaptive Production Control
System Utilizing Agent Technology

Nov. 20 William Lewis Kuechler,
Jr. / A Goal-based Model of
Coordination in Interoperating
Workflows.

Accounting and Finance Workshops, 1:30-3:30 pm, 426 Summerfield Hall

Aug. 28 Professor Alex
Thevaranjan, Syracuse Univer-
sity, and Professor Kissan
Joseph, University of Kansas,
"Incentives and Job Design: The
Case of the Personal Selling
Function."

Sept. 11 Professors Michael
Ettredge, Vernon Richardson,
and Susan Scholz, University of
Kansas, "Accounting Issues
Related to Targeted Stock."

Sept. 25 Professor Theodore
Mock, Arthur Andersen alumni
Professor, University of Southern
California, Arnold Wright,
Arthur Andersen Professor,
Boston college, and Professor

Rajendra Srivastava, University
of Kansas.

Oct. 5 (Monday) Professor B.
Banerjee, Calcutta University,
"Regulation of Corporate
Financial Reporting in India."

Oct. 9 Professor Paul Koch,
University of Kansas, "The
Performance of International
Portfolios Selected Using Fore-
casts of Returns, Variances, and
Correlations across National
Equity Markets," co-authored
with Professor Kevin Bracker.

Oct. 16 Professor V. K. Vasal,
University of Delhi, "Determinants
of Voluntary Reporting in India."

Oct. 30 Professor Inder
Khurana, Baird, Kurtz & Dobson
Faculty Fellow, University of
Missouri, "Audit Tenure and
Informativeness of Earnings."

Nov. 6 Professor Ervin Black,
Assistant Professor, University of
Arkansas, "Which is More Value
Relevant: Earnings or Cash Flow?
A Life Cycle Examination."

Nov. 13 Professor Mark Lang,
Assistant Professor, University of
North Carolina-Chapel Hill,
"Voluntary Disclosure During
Equity Offerings: Reducing
Information Asymmetry or
Hyping the Stock?"

Nov. 20 Professor William Lewis
Kuechler, Jr. Assistant Professor,
Accounting and Information
Systems, University of Texas at
San Antonio, "A Goal-based
Model of Coordination in
Interoperating Workflows."