

*Artificial Intelligence and Emerging Technologies Newsletter
Spring 2006*

AIET Section Newsletter, Spring 2006 Newsletter Editor: L. Murphy Smith

Letter from the Section President:

Dear AIET section members,

How quickly a year passes! As I sit to write my second, and last, President's letter for the newsletter I realize it is only 2 months to the National Meeting in Washington and the hand over to the next President. The last 10 months have gone quickly! What has the section managed to achieve this year? This newsletter gives some exciting details of the various activities members are up to. Do take some time to look over this – and perhaps send in some of your own contributions in future to help share around the interesting stuff we are all involved with.

Guido Geerts, as our programme coordinator for the National Meeting, has put together an excellent set of sessions for our time in Washington in August- see the details of what you can expect later in this newsletter. Together with the annual workshop that Carol Brown, Amelia Baldwin and Sev Grabski are currently pulling together, this looks like it is shaping up to be another unmissable event this year! Do try and make it if you can. Thanks to all of you who have been willing to submit papers to one or both of these calls – your support enables us to ensure we have exciting sessions at this meeting each year.

Don't forget that also at this meeting we have our annual section business meeting. While these are rarely exciting events (!) they are critical to the health of organizations, and ours is no different. If you can be there please try to do so to ensure we get as full a representation on the issues we need to discuss as we can. Amongst other things, at the meeting this year we need to discuss the next stage of life for the journal, as Miklos Vasarhelyi's term as our first editor draws to an end, to launch our new website – more of which in a moment – and discuss plans for a membership drive next year.

Also at this meeting we will be announcing the results of the voting for the next 'generation' of office holders for the section. I am very pleased we have an excellent set of members to follow the lead of others in the past to help grow the section further over the next few years – and assuming you all endorse this opinion in your voting (!) then we look forward to welcoming these officers into their new posts at this meeting. Do please exercise your vote and let us know of your support (or otherwise!) for these candidates. You should all have received email instructions how to do this on the AAA voting system by the time you get this newsletter. If you haven't had that then let me know and I'll forward them to you again.

The key mission I took on this year as President was to launch a new website for the section on which we can then base a membership drive. I admit this has taken me a little longer to pull together than I expected it would – but then don't jobs like this always do

so! However, with the considerable help of the section's Exec, we will be in a position to launch the new site at the national meeting in August – so something to look out for.

Sev and I (as President Elect and President) attended the half yearly AAA Council meeting in Sarasota in April. For a Brit, it was nice to be able to hang out in Florida in August for a few days! However, some important business was undertaken at that meeting that I want to summarize quickly for you. Two issues most directly affect the future of the section – both with financial impacts for us.

Firstly, the section currently has around 260 members and we are just about keeping our head above water – largely due to revenues from our workshop to supplement the membership fees we get. Printing the journal is by far our key expense for the last two years – actually currently eating into our small reserves too. However, in addition to our usual expenses the AAA has now decided that all expenses for the attendance at future council meetings is to be borne by the sections. Currently the President's expenses for the April meeting is borne by the AAA itself, and we pick up the bill for the President Elect as we think it is good policy to have the incoming President involved as an observer at the meeting the year before they become an active voting member to ensure smooth progression of section management etc (all the expenses of the second meeting each year, held at the annual meeting, are of course borne by the individual officers as part of their costs of attending the national meeting – the section doesn't incur costs for this meeting). This policy of full recharging, following a trend to so do in other areas (like journal production) to pass on central costs to sections clearly has significant cost implications for us as smaller sections. While these costs are not large in absolute terms, this policy change will have a big impact on our ability to stay financially viable as a section. I voiced our concerns to the AAA Council on behalf of the smaller sections who are clearly disproportionately hit by this policy change – but to no effect- the decision had already been made by the AAA Exec and was not up for debate! We, as a section, therefore need to consider how this affects our financial situation and the impact this has for the range of other things we do e.g. workshop costs, journal printing, etc – and whether or not we can then afford to continue our policy of sending 2 members to this Spring council meeting. I would value people's input on this issue.

The second issue of direct concern for the section relates to income from the journal. At present the section bears directly all the costs of journal production (including a fee to AAA to typeset the journal, printing fees for publishing it with the AAA printers and postage charges to mail out print copies to all members all as part of our low section membership fees!). In return for this it would seem to the casual observer that income from the section would then come back to the section to help offset these costs – where any such income exists. This is not entirely the case at present. While, as a new journal, our income is not really worth worrying about just yet, currently the AAA is withholding all fees they receive from electronic sales of all AAA journals centrally and pooling this pending decisions about the future for AAA Intellectual Property management. While I think this makes some sense in terms of our collective future proofing efforts, clearly the section is taking a hit in terms of income from this policy that will increase over time as these funds continue to be withheld. I would urge the incoming officers to watch these

developments carefully to ensure that we do continue to receive journal incomes due to us to help offset the costs we have to bear, while of course ensuring we play our full part as wider Association members. I just wanted members to be aware of this issue, and its impact on our 'not that rosy' financial position.

In light of these two financially related issues, please do consider how we can grow our incomes over the near future. I am sure Sev, as incoming President, will be pleased to hear any ideas you have, but do in particular, think about who you could encourage to become section members over the next year as this is clearly core to both our income levels being maintained/grown some, and to the other value of membership aspects of being part of this kind of specialist section. The more members we have, the more we will all benefit in all kinds of ways! Look out for emails in the next few months from our membership chair (Ram Sririam) whose team is planning a membership campaign on the back of our revamped website as they are working up some resources we can all use to tempt in new members!

Thanks for the chance to be your President this year, and a special thanks to all those of you who were willing to hold the various positions for the section this year to help make the year what I think was a good one for the Section. I look forward to seeing as many of you as can make it to Washington this August. Do, of course, feel free to email me on any of the above issues, or anything else you think I need to hear!

Regards

Andy Lymer
President, AIET Section 2005/6 & Birmingham Business School, UK

Call for Nominations for Editor of JETA

The Research and Publications Committee is soliciting nominations for the next Editor of Journal of Emerging Technologies in Accounting. The incoming Editor will begin working with Miklos Vaserhelyi, the current editor, on August 15, 2006, and will assume full editorial responsibility on August 16, 2007.

The committee is seeking nominations of senior researchers with an established record of research and publications in academic journals. To make a nomination, please forward a one-page letter outlining the credentials of the candidate that you believe will make a good editor of JETA and any additional information that you feel the committee should consider in its evaluation. After the initial screening process, the committee will contact all qualified applicants to insure interest in the position and solicit a vita along with other supporting documentation.

Please forward inquiries about or nominations for the editorship to the chair of the Research and Publications Committee, Vicky Arnold, at varnold@bus.ucf.edu by May 31, 2006.

AIET Committee Reports:

From Ingrid Fisher, Report from the NE Regional Coordinator

NE Region has two items of interest:

1. The University at Albany-SUNY now offers a newly developed full-time MBA program in Information Assurance that combines the technological foundations of information systems and accounting with business management skills. The Full-Time MBA Program is AACSB-accredited and focuses on laying the foundation for building a career around these principles. It has a strong emphasis on using information technology to manage people, products and projects and incorporates lots of hands-on, resume-building experience in addition to a strong academic curriculum.

2. The Department of Accounting and Law at the University at Albany-SUNY is proposing an Interdisciplinary Forensic Accounting initiative compact to address the needs of the professional practice of Accounting as well as all those entering the corporate and governmental world in areas dealing with integrity of investigatory and reporting systems. For the long run, the Department of Accounting and Law looks at this initiative as a partnership with Departments within the School of Business, with the College of Computing and Information and the School of Criminal Justice, with the Albany Law School, the large international professional Accounting firms, and corporations. This initiative leverages the department's excellent relationships with the professional firms as well as committed and dedicated alumni of the Department of Accounting and Law. It also resonates well with the campus-wide forensics initiatives in Biology as well as the Information Assurance initiative that culminated in the formation of the New York State Center for Information Forensics and Assurance (CIFA).

From Akhilesh Chandra, Report from the Ohio Regional Coordinator

Two significant events were organized during the current academic year:

1. Global Supply Chain Strategy & Technology Seminar - November 18, 2005 (this was a half-a-day event with leading speakers in the area of Global Supply chain), and 2. Assurance of Financial Information Systems Integrity Post Sarbanes-Oxley - February 24, 2006 (this was a full day event with nationally and internationally renowned speakers)

In the Security Symposium, two of the sessions included were:

1. XBRL enabled assurance by Liv Watson, Vice President, Edgar Online, Inc.
2. Introduction to BioLock by Tom Neudenberger, realtime America, Inc.

Both events sessions were well attended and highly acclaimed. Both events are annual symposia and are open to all Ohio region AIET members and to whom information was sent either directly or through their Chairs/Deans. For more info, contact Akhilesh Chandra (email: ac10@uakron.edu).

Calls for Papers:

1. CALL FOR PAPERS: FIFTEENTH ANNUAL AI/ET RESEARCH WORKSHOP, SATURDAY, AUGUST 5, 2006

The Fifteenth Annual Research Workshop on AI/ET in Accounting, Auditing and Tax will be held Saturday, August 5, 2006, from 8:00 am - 4:30 pm in Washington, DC. The workshop is sponsored by the Artificial Intelligence/Emerging Technologies Section in conjunction with the Annual Meeting of the American Accounting Association. The AAA meeting is scheduled from August 6-9, 2006 also in Washington DC.

TOPICS: Papers should be related to education, application or research and address both financial and artificial intelligence/emerging technology areas.

Financial areas: accounting, auditing, tax and other financial domains.

Artificial intelligence areas: expert systems, neural networks, case-based reasoning, machine learning, natural language processing, intelligent databases, intelligent agents, intelligent devices (smart phone, intelligent TV) and other artificial intelligence areas.

Emerging technology areas: security (system uptime, authenticity), image processing, communications technologies, internet and public on-line services, world wide web, training and technology competency, electronic commerce, workflow technology, private networks (local, wide, municipal, intranets), EDI, XBRL, XML, data mining, group technologies, continuous assurance services, voice recognition, wireless connectivity, Java and other emerging technologies.

Research Issues: literature reviews, organizing research issues; task selection; feasibility analysis; knowledge acquisition; explanation; knowledge representation (e.g. structure of rule base, neural network, case base etc.); knowledge processing; uncertainty; integration; intelligent databases; validation and verification; changes in usage; innovative uses; impacts on organizations, management, education, practice; legal implications, deeper understanding of financial domains; cognitive modeling and other issues.

MANUSCRIPT GUIDELINES: Papers submitted elsewhere will be considered. Early stage papers are encouraged. Papers will be considered for the AI/ET Section Journal, Journal of Emerging Technologies in Accounting (JETA), at the option of the author.

If you want your paper considered for JETA, please indicate that in your covering letter. Please include your email address. Papers should be single spaced and in a two column format with the figures placed at the appropriate place in the text. Please use Times New Roman 10 point font for the body of the paper.

SUBMISSION DEADLINE: Items submitted for consideration must be received by Monday, June 5, 2006. Emailed papers in Word or rich text format are required. Please do not FAX papers. We expect to inform individuals of accept/reject decisions for the Workshop by July 1, 2006. Notification will be made by email.

In order to encourage doctoral student participation, the Workshop registration fee will be waived for doctoral students. Doctoral students (who do not submit a manuscript) must contact the workshop organizers prior to June 20, 2006 and state that they are a current doctoral student and specify their institution. Doctoral students who submit a manuscript should include the required information with the manuscript submission.

Send one copy of your properly formatted paper by email to all three:
Severin Grabski - grabski@bus.msu.edu
Carol Brown - BrownC@bus.oregonstate.edu
Amelia Baldwin - abaldwin@cba.ua.edu

Research & Publications by AI/ET Members:

By Ash Deshmukh:

Ash Deshmukh has written a book titled *Digital Accounting: The Effects of the Internet and ERP on Accounting*, which was published by The Idea Group. The primary focus of this book involves describing and analyzing recent e-commerce/ERP developments and their influence on the traditional accounting cycles. This treatment provides a framework for accounting practitioners, students, and educators to relate to the current and future e-commerce developments. This book also has in-depth coverage of EDI and XBRL. The table of content is available on Amazon.com.

By Mohamed Hussein and Kinsun Tam:

Prof. Hussein of the University of Connecticut and Prof. Tam of SUNY at Albany jointly developed an interactive activity-based costing (ABC) case. The case is implemented as a dynamic Website available online at all times. Students working on the case will simply read the case description, choose cost allocation options from an allocation menu, and hit the submit button. The case is supported by application logic to compute product costs based on user-selected cost drivers. Relieved of computation burdens, students will have more time to understand the sensitivity of product costs and profit margins to allocation options. The authors sincerely invite you and/or your colleagues to review the case for adoption in managerial accounting courses. The case has been published in Vol.

19(4) of *Issues in Accounting Education*, 2004. The dynamic version is freely available at the following Websites:

<http://www.nobelresearch.com/macc/index.html>

and

<http://cayley.bus.albany.edu:3838/macc/index.html>

By Robert E Pinsker:

Pinsker R., and S. Li. Costs and Benefits of XBRL Adoption: Early Evidence. *Communications of the ACM*, forthcoming.

By Murphy Smith:

Reflections on Accounting Education Research, edited by Murphy Smith, is a collection of essays that break new ground. The theme is the value of accounting research to a variety of important objectives. Most notably, the monograph contains pieces that show that the volume of educational scholarship has made valuable contributions to our ability to be effective in the classroom, and to enrich accounting practice. In other words, the schisms that are often bemoaned may not be as impervious as thought.

By Jeff Wong:

Dow, K., A. Serenko, O. Turell, and J. Wong. 2006. Assessing User Satisfaction With E-Mail Systems: Using The American Customer Satisfaction Index Approach, *International Journal of e-Collaboration*, v.2, No.2, pp.46-64.

Dow, K., G. Hackbarth, and J. Wong, Enhancing customer value through IT Investments: A NEBIC Perspective, Forthcoming in a special issue of *Database* in 2006.

Members on the Move:

Congratulations go to Jeff Wong who has accepted a position as assistant professor at the University of Nevada at Reno, starting Fall 2006.

Congratulations go to Ash Deshmukh who was promoted to Professor of Accounting and MIS at Penn State - Erie.

Other Items of Interest:

Available from Clive Spenser is a LPA Software CD connected to The Open University course, "T396: Artificial Intelligence for Technology". This course, which has been running for over ten years, aims to teach Artificial intelligence and Knowledge-based systems and introduces the concepts and applications of rules, handling uncertainty

(including Bayesian updating, certainty theory and fuzzy logic), object-oriented systems and intelligent agents (see website: <http://technology.open.ac.uk/tel/cor/t396/>). The book supplied with the course is Intelligent Systems for Engineers and Scientists, 2nd edition, by A.A.Hopgood, published by CRC Press. Also included on the CD are various AI tools covering logic programming, expert systems, bayesian nets, fuzzy logic, agents, data mining, CBR, large corpora such as WordNet etc. If you would like to receive the free CD, please contact: Clive Spenser (clive@lpa.co.uk).

Upcoming Meeting Programs:

American Accounting Association, Annual Meeting, Washington, D.C., Aug 6-9, 2006:

SESSION 1: PANEL SESSION

Continuous Monitoring/Auditing: Are synergies present in today's regulatory and economic environment for management and auditors to "stop talking and begin implementing" continuous processes in addressing Sarbanes-Oxley requirements?

Don Warren

SESSION 2: TRADITIONAL PAPER SESSION

Continuous Auditing

Continuous Monitoring of Business Process Controls: A Pilot Implementation of a Continuous Auditing System at Siemens

Michael Alles, Gerard Brennan, Alexander Kogan, Miklos Vasarhelyi

Analytical Procedures in Continuous Auditing: Continuity Equations Models for Analytical Monitoring of Business Processes

Michael Alles, Alexander Kogan, Miklos Vasarhelyi, Jia Wu

A Framework for Independent Continuous Auditing of Financial Statements

Hui Du, Saeed Roohani

SESSION 3: PANEL SESSION

XBRL goes to Washington

Glen Gray

SESSION 4: TRADITIONAL PAPER SESSION

Decision Making

An Investigation of Decision Aids in Audit Firms: Current Practice and Opportunities for Future Research

Carlin Dowling, Stewart Leech

Cost Benefit Analysis of Internal Control over Financial Reporting Consulting Services in Belief Function Framework

Chan Li, Raj Srivastava

Use of Knowledge Management Systems and the Impact on Declarative Knowledge Acquisition

Holli McCall, Vicky Arnold, Steve Sutton

SESSION 5: TRADITIONAL PAPER SESSION

Artificial Intelligence Research

An Analysis Of The “Going Concern Assumption”: Text Mining From Japanese Financial Report.

Cindy Yoshiko Shirata, Amanabu Sakagami

An Application of Machine Learning Fuzzy Expert System in Bankruptcy Prediction

Lin Chin, Chen Hsueh, Qiu Qiong

An Ontology-Based Dynamic Enterprise Model: A Proposal for Enterprise Planning

Kimberly Swanson, Rod Smith

SESSION 6: TRADITIONAL PAPER SESSION

Emerging Technologies and Their Application in Accounting Practice and Education

Radio Frequency Identification (RFID) and AIS: Overview and Research Issues

Dan O’Leary

A Design Model for Information Preparers to Construct an Effective XBRL-based Business Information Supply Chain

Chi-Chun Chou, Yung-Ming Lee

Building Taxonomies and Instance Documents in The Tiny Reporting of Business Language (TRBL) -- An XBRL Teaching Language

Roger Debreceeny, Skip White

Journal Editors Talk about Emerging Technology Research

Sunday, Aug 6, 2006/ 1:00 pm-4:30 pm

The objective of the workshop is to provide attendees access to information about what journal editors are looking for in the areas of emerging technologies and artificial intelligence research.

Journal editors and associate editors will discuss what they feel are some of the key research issues.

Journal editors and associate editors will each have the stage for a portion of the session to discuss research issues that they are interested in and research issues that they would like to see more research on.

Short Articles by Members:

Democratization of Data Mining and Future of Accounting Education, Based on Scientific Methods

by John J. Cheh, The University of Akron

AI/ET Section International Coordinator for Asia Region

In recent years, industry practitioners in accounting profession have been utilizing data mining as an important business tool to harness data for providing high quality information. Among the challenges that educators faced in adopting this technology --- for bringing the contemporary industry practices into classrooms --- has been the significant cost of licensing expensive data mining software. In the past, the licensing cost of popular data mining software --- like Salford Systems's CART/MARS, SAS's Enterprise Miner, or SPSS's Clementine --- has been considerable for an academic institution. For example, it could be an expensive proposition for justifying the licensing cost for a small size class like Assurance Services and Data Mining; such a class is often offered as an elective.

However, all of this may change --- as Microsoft vigorously entered this analysis and data mining industry with sophisticated analysis and data mining software provided as part of SQL Server 2005 Analysis Services. Since the licensing cost of using the Microsoft SQL Server 2005 can be spread over a bundled cost of using various Microsoft products across a number of disciplines in an entire university --- compared with vendors of other data mining products that allow only a few simultaneous use because of the high licensing cost for a large number of simultaneous use in an academic institution --- accounting educators can now use this reasonably priced Microsoft analysis and data mining software in a number of accounting classes; these classes include Assurance Services and Data Mining, Accounting and Assurance Project, Enterprise Risk Management and Assurance, Enterprise Resource Planning and Data Communications, Financial Statement Analysis, International Financial Reporting and Analysis, Accounting Theory, Contemporary Accounting Issues, Cost Management, Advanced Managerial Accounting, or any other accounting classes --- that require students to scientifically analyze data for producing information and making better business decisions. As Microsoft brings competitive pressure to the analysis services and data mining industry, however, other data mining vendors may bring the license costs down to be competitive; thus, in the long run, licensing costs for analysis and data mining software may come down to a reasonable level for all vendors --- even for use in large size classes.

Data mining software with its visualization tools extends human mind in a user-friendly and graphical way. As students use this data mining software in a class, they start recognizing business patterns initially hidden in data; they also see the relevance of statistical analytic methods and scientific thinking --- coming alive --- to accounting practices, as their search for information on business decisions is answered in a visualized and easy to understand manner --- after only a few simple steps of graphical interface with the data mining tools such as Analysis Services, CART/MARS, Clementine, or Enterprise Miner. Just like any scientific endeavors, in this type of accounting classes, besides the graphical interface, students also need to immerse themselves --- to ask right

questions, appropriately define a study, patiently work on data collection and preparation, understand the data and underlying concepts beneath a number of scientific models, building a scientific model, analyze data with various configurations, interpret the results, and write a balanced report. Yet, educating accounting students to be involved in this process of scientifically framing a business issue and rigorously exploring possible answers for the issue on hand is consistent with a typical education process --- grounded on scientific methods --- and also this endeavor can be a rewarding and worthwhile effort for accounting educators to share with accounting students and future accounting professionals what they do as accounting scholars and researchers. Furthermore, this process of instilling scientific methods into accounting education will inspire accounting students to be better accounting practitioners of tomorrow --- who can defend themselves in a court --- based on scientific methods and principles, and also firmly standing on scientifically produced information.

As accounting practitioners have been moving towards becoming various types of information specialists of business data, scientific education in accounting discipline was foreseen. Now, all the crucial elements on this type of new ways of teaching accounting students --- grounded on scientific methods --- are in place; among these, the most critical role will be played by accounting educators who will embrace this new paradigm of educating accounting students. AI/ET Section of American Accounting Education has been steadfastly providing a conducive, encouraging, and safe learning environment for accounting educators in all areas of accounting field --- to experiment new teaching and research tools and bring them to their home institutions. Therefore, joining AI/ET Section will provide an opportunity for the accounting educators to feel safe in learning these new scientific tools; furthermore, active participation of the section through scholarly activities will handsomely reward accounting academics --- particularly young scholars and researchers who plan to stay in this noble business for a long time --- no matter in which specialties they have been working in the past, bringing them gratifying fruits from their own research endeavors, not to mention the satisfaction of nurturing their students to move closer to 21st century accounting practices, and of building a new foundation for accounting education at its core.

Contact the Newsletter Editor:

Please send me items of interest for next newsletter, including:

- Recent books or journal articles related to AIET - whether you have published them or you have seen other peoples you think others should know about. Conferences and calls for papers related to AIET - make sure all regional or local events you may be involved with get good billing this way.

- This could include non-AAA events too (if directly relevant to section members' interests) - Have you been to an interesting meeting recently? Why not write a few paragraphs for us describing who presented what so we can all benefit in some way from events we couldn't attend?

- Personal accomplishments e.g. promotions or awards (don't be shy now!) Have you changed jobs recently? Let people know where you are now via the newsletter perhaps!

- New research projects started or updates on current ones you may be working on. PhD students - tell us what you are doing and what you are finding out - there may be people out there who can help you in all kinds of ways you hadn't thought about - ask!
- Other items related to AIET e.g. comments or questions you'd like answers to or help with. Maybe someone out there has an answer that can help you with an issue you are facing? Ask!

Best regards,

MURPHY

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