Information Systems & Analytics

2021/22 - How Do We Create a New Normal?

Hi Everyone,

It is a pleasure to write this year's newsletter as we move forward in our "new" normal. We learned a lot during the pandemic. Combining what we learned, with what made us so good for so long, should make us even better.

Our faculty and students have their feet firmly back under them and I think we are poised for a very good year. Our curriculum continues to evolve. And our programs are growing nicely. There is a lot to be excited about, as you will see in this summary of the year.

As always, please stay in touch. If you are in the area, be sure to let me know so we can catch up. If you can't come back, send me an update or let's connect virtually. I truly enjoy hearing about your exploits.

Skip

Hard to believe another year has come and gone. The good news is that the pandemic seems to have faded into the background. We all learned a lot over the last couple of years and now we all seek a new version of normal as the pendulum for many of us is not likely to swing completely back to our pre-Covid ways. That is true at Miami as well.

On the surface, we have predominantly returned to what makes us great. That is high touch, face-to-face delivery of an educational experience loaded with inquiry-based, experiential learning, with an increasing focus on skills to accompany a solid base from which to learn. However, across the business school, FSB faculty, who were forced to learn new methods for technology-supported delivery of course material, exercises, and methods of student interaction, are now leveraging these new methods to make our traditional face-to-face experience even more impactful on students.

We not only returned to face-to-face classes, most activities on campus are back to that mode. We now leverage virtual interaction when it makes sense.

Our ISA advisory board met in person in both the fall and spring.   Our annual fall recruiting event also returned to in person and we had eleven if of our advisory board companies participate. It was really nice seeing everyone again.

A big part of the new normal for ISA is continued growth. Not only is our Business Analytics (BA) major booming, we believe that the Information and Cybersecurity Management (ICM) major and the MS in Business Analytics (MSBA) are both poised for solid growth as well. Beginning this fall we will teach the fall courses for a new Masters in Sports Analytics (MSA). The MSA is launching with a pilot of five students this fall and will be offered online to a full cohort in fall 2023.

To help support this growth, two new tenure track faculty will join us in the fall and we will be searching for another this year. We also added two new permanent teaching faculty and will be searching for two more this year. See page 2 for details.

Here are highlights of our very successful year. There is much more detail on the following pages.

In its first year, our new stand alone BA major attracted over 140 first year students. This is tenfold growth over our regular first year numbers when BA was a track in our ISA major.   We now have more than 240 BA majors enrolled.

Our Ernst & Young funded Cybersecurity initiative is off and running. The ICM major ended its first year with 34 enrolled ICM students to accompany 70 third and fourth year Information Systems students. We are poised to graduate the first Cyber Management track students next May.

The MSBA Graduated its second cohort, again with 100% placement. This year's average starting salary was north of $72,000. Our incoming cohort will likely be our largest yet at more than 25 students.

Fifty four BA and 39 IS majors graduated in 2022 with average starting salaries of just over $70,000. We ended the spring 2022 semester with 682 students declared in our programs compared to 664 at that time last year. Currently we are at 615 declared students compared to 581 at this time last year.

ISA faculty also had success in the last year. Two ISA faculty now hold leadership positions at prestigious journals, Dr. Allison Jones Farmer is Editor in Chief at *The Journal of Quality Technology* and Dr. Gabe Lee is Senior Editor at *Decision Support Systems*. Dr. Fadel Megahed was named an Endres Endowed Associate Professor and Dr. Maria Weese received the 2022 Lloyd S. Nelson award recognizing one of her papers as the most impactful of 2021.

None of this would be possible without the amazing support we receive from our alumni and corporate partners. The time, knowledge, experience and financial support that you collectively added to the mix truly enabled us to keep the needle moving.

Thank you to all of our partners and alumni who helped to make all of this possible. Continuing budget uncertainties combined with our increased need to constantly innovate and learn make us more reliant than ever on external support for success. Every little bit helps and is greatly appreciated. If you are interested in contributing to our efforts in any way, please contact me or your favorite ISA faculty member. There is also a link and URL on page 4 to make contributions to Miami directed to ISA.

I hope you enjoy catching up with what we have accomplished in the past year.

MIAMI UNIVERSITY

FARMER SCHOOL OF BUSINESS

Faculty and Staff News:

ISA Faculty Serving as Leaders for Two Top Journals

Dr. Allison Jones Farmer and Dr. Gabe Lee are the Editor in Chief and a Senior Editor of the *Journal of Quality Technology (JQT) and Decision Support System,* (DSS) respectively. *JQT* is ranked as one of the most cited journals in the areas of industrial engineering, management science, and statistics. *DSS* focuses on theoretical and technical issues in the support of enhanced decision making and is a recommended journal of six special interest groups of the Association for Information Systems. These are both key roles in the academy.

Dr. Maria Weese Receives the 2022 Lloyd S. Nelson Award

Maria's co-authored paper entitled "Response surface models: To reduce or not to reduce?" was selected as the winner of the 2022 Lloyd S. Nelson Award that recognizes the paper appearing in the Journal of Quality Technology's 2021 volume with the "greatest immediate impact to practitioners." Recipients are chosen by the American Society for Quality's Statistical Division.

Dr. Fadel Megahed & Dr. Maciej Rysz Receive External Research Funding

Dr. Fadel Megahed and Dr. Maciej Rysz both had their grant funding continued. Fadel was awarded $120,000 from the National Institute of Occupational Safety & Health to fund a study of Warehouse Worker Fatigue analyzing data from wearable devices. Maciej was awarded more than $50,000 by the Air Force Research Laboratory to fund his work focusing on identifying influential clusters in randomly changing networks using radar data.

Dr. Fadel Megahed Awarded Endres Associate Professorship

Just recently Fadel received recognition in the form of a named associate professorship. Endres Associate Professorships are awarded to Farmer School faculty members who have held the rank of associate professor for at least one year and have shown significant commitment and progress toward promotion to professor.
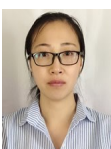
Dr. Joseph Nwankpa Becomes FSB Director of Cybersecurity Initiatives

Joseph has been a key leader in our push to launch our managerially focused Cybersecurity programming in the department. Spurred by funding from Ernst and Young to push the needle even further, this directorship was created. He will not only lead efforts within the Department of ISA to develop unique cybersecurity programs for Farmer School students, he is also charged with identifying ways to better integrate cybersecurity into the curriculum throughout the Farmer School.

Two New Tenure Track Faculty

We are excited to welcome two new faculty members this fall. Yicheng Kang joins us after five years on the faculty at Bentley University. His Ph.D. in Statistics is from the University of Minnesota. His research is in data-driven methods, deep learning and image intelligence. Ozge Surer's Ph.D. in Industrial Engineering and Management Science is from Northwestern University. She spent a year as a post doc with Argonne Institute of Science & Engineering. Her research includes machine learning, computational statistics, and predictive modelling.

Two New Clinical Teaching Faculty

Dr. Vivian Chen is now an Assistant Teaching Professor and Michael Gowins is an Assistant Teaching Instructor. Vivian will be teaching and coordinating our Principles of Analytics course in the FSB core. Michael will teach our IT and the Intelligent Enterprise FSB core class, as well as the Introductory IT classes in both our Masters in Management and Professional MBA.

New Visiting Faculty Members

We have four new visiting faculty members joining us in the fall. Dr. Jordan Tait, Ph.D. in Quantitative Methods from Michigan State and Mark Kesh, MS in Industrial Engineering from North Carolina A&T will join us to teach our Business Analytics classes in the FSB core. Dr. Mani Sharifi, Ph.D. in Industrial Engineering from IAU in Iran will teach Computational Thinking in the First Year Integrated Core and Mohamed Farrag, DBA from Case Western, will teach the FSB core IS class..

Other Highlights:
Many other exciting things happened, a few summarized in the bullets below. More details on some of them are provided in the following sections.

- We rebranded the Information Systems Major to Information and Cybersecurity Management and added a Cybersecurity Management track in addition to the IS/Information Management track.

- We held our fifth Cyber security symposium in the spring to a packed Taylor Auditorium. We are planning to add a fall Artificial Intelligence symposium to the mix this year.

- We awarded $12,000 in scholarships to ISA students at our spring awards event. Thank you to everyone who contributed!! (see page four for this year's recipients).

- We began a student mentorship program connecting new and upper level ISA students to both support our big first year classes and maintain a strong sense of ISA community as we grow.

Follow us on

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MS in Business Analytics Rolling Well and Partnering with Sports Management

The second year of our MSBA program was a continued success story. Our class of 13 students are all employed and launching their careers in the field. Starting salaries were up slightly over the first cohort at $72,000.

Faculty made several changes based on their experience during the initial launch in 2020/21. We added professional development sessions and a coding bootcamp prior to the fall semester, a client project was added to ISA 616, Communicating with Data, and we increased focus on combining data from multiple sources and aggregating data. The faculty also worked to make sure that learning was coordinated across courses.

In the winter and spring terms, Business Analytics Practicum teams of 4-5 students worked with one of three clients. Transparent Partners and the Chamberlain Group mentored five students to develop a model and dashboard to better understand measures of customer lifetime value. For DHL, five students developed a model to predict the weekly turnover of DHL warehouse employees. The solution included dashboards of weekly predictions for warehouse managers as well the health of the model over time. CyberVillage Networkers, a technology solution provider, worked with a team of four students to model customer engagement and insight data for one of their clients. This team provided first-ever insights, predictions and visualizations into data from a complex database. Students delivered their solutions including presentations, code, and a detailed documented analytics workflow that can be directly implemented at each in early May.

We designed the MSBA as a stackable set of two graduate certificates (GS). The first, the GS in Analytics, provides foundational skills and knowledge relevant to the application of analytics in any domain. The second, the GS in Advanced Business Analytics, focuses on applications of analytics in business contexts. The six credit hour experiential component along with the two GSs complete the MSBA.

Our vision was always that the fall GS in Analytics certificate would eventually serve as foundational knowledge upon which certificates from other domains could be stacked to complete other Masters programs. This is coming to fruition. We have partnered with Sports Leadership and Management to develop a Masters of Sports Analytics (MAS).

The MAS is being piloted face to face with five students this year and will launch fully online in fall 23. We are currently working on online versions of our fall GS courses to support their fall 23 cohort.

For the foreseeable future, the MSBA will remain a full-time, face-to-face, nine-month program, targeted toward anyone with an undergraduate degree (regardless of discipline) and an interest in data driven decision making. It is offered as a combined (or plus one) degree option to high caliber Miami students.

We look forward to our third cohort of 22-25 students set to join us in the fall.

EY Cybersecurity Initiative Off to a Solid Start

The Cybersecurity Initiative launched successfully in the fall semester. The first step was naming a leader for this important area for the division. In November, Dr. Joseph Nwankpa became the first FSB Director of Cybersecurity Initiatives. Joseph quickly hired two students and got to work on the Initiative website.

They did extensive curriculum research of programs across the US to identify "best practices" in business Cybersecurity education. The initiative also funded our spring Cybersecurity Symposium on March 30, the summer faculty research grants, and hosted an EY Cybersecurity day on April 7.

As designed, it also pushed curriculum innovations. The first success, done in partnership with the Department of Accountancy, was to develop an Undergraduate Certificate in Cybersecurity Management for Accountancy. The certificate is designed for all accountancy students, but will especially help those who wish to be well prepared for the new, optional, Cybersecurity section of the CPA exam.

As part of this effort, increased Cybersecurity content will be added to the Accounting Information Systems course, ACC 361, which is a required course in the certificate. We hope to have the certificate approved and available by fall 23.

Overall, a solid first eight months for the Initiative. We are excited to see what comes next.

Thank you EY for having the vision and investing in this important business need. We will move the needle much quicker and in more impactful ways with this funding in place.

Formal ISA DEI Strategy in Place

Dr. Doug Havelka led the development of a departmental DEI Strategy. Belinda Cross , our administrative assistant, was a key contributor leveraging what she learned in MIAMI's DEI Certificate program this spring. Our immediate plans are to modify ISA governance to encourage DEI efforts, create a standing department committee to execute and report on ISA DEI activities, work to invite a more diverse set of external ISA speakers, and finally ensure our hiring practices are inclusive.

Cybersecurity Symposium Draws a Crowd

Our fifth Cybersecurity Symposium, organized by Dr. Joseph Nwankpa, FSB Director of Cybersecurity Initiatives, was held on March 30. Don Sinko, Chief Integrity Officer for the Cleveland Clinic, and David Slade, a Consulting Partner from EY's Chicago office, led a hearty discussion about the growing threat of ransomware, its impact, and how organizations are both preparing for and responding to attacks. A large crowd of students and faculty from across campus took away valuable insight into this growing issue companies face.

The symposium was sponsored by the EY Cybersecurity Initiative.

Other Program and Curriculum Highlights

There are plenty of other changes that are happening or have happened. This section highlights some of our curricular/programming efforts we are currently working on.

Hybrid ISA 235 Version a Success

The hybrid version of ISA 235 meets one day per week where students discuss content they learned asynchronously online and do in-class activities and projects to reinforce that material. Dr. Carol McGuire who coordinates ISA 235, IT and the Intelligent Enterprise, teamed up with Dr. Jyoti Ray in the spring for the final test of the pilot for the new hybrid version of ISA 235. Together they taught four sections in the new format. Students reacted very well to class and learning outcomes were virtually equivalent to the other sections of the course.

We are offering five hybrid sections in the coming semester. We will also be deciding soon whether to switch completely to hybrid delivery for the class.

Online Version of Grad Certificate in Analytics

To support our colleagues in Sports Management and Leadership in the launching of their Masters in Sports Analytics, work is underway to develop online versions of the courses in the certificate. As part of this effort, we are adding ISA 544, Business Forecasting as an elective in the certificate. 544 will replace ISA 616, Communicating with Data, in the online version of the certificate.

The target date for the launch of the online masters program is fall 2023.

Blockchain & Data Driven Security are back

Two casualties of the pandemic were our two newest courses, ISA 335, Blockchain and Business Applications, and ISA 419, Data Driven Security. Neither has been offered since Spring of 2020 due to resource constraints from the pandemic.

Both are important parts of our new Cybersecurity Management program and are being offered again this fall. Dr. Arthur Carvalho with teach 335 and Dr. Fadel Megahed 419.

What's in Store for 22/23

- **Prepare for enrollment growth in all of our academic programs**

- **Hire key new permanent faculty**

- **Continue advancing the Cybersecurity Initiiative in the department and the division with a focus on establishing our niche and delivering it well.**

- **Continue developing and begin implementation of the department DEI strategy**

- **Develop online versions of the fall courses in the MSBA to support the new Masters in Sports Analytics.**

- **Support FSB strategic efforts to increase data and technology skills and knowledge in all FSB graduates.**

- **Leverage knowledge from delivering through the pandemic as we work toward a new and better norm.**

- **Engage our industry partners in more creative and mutually beneficial ways.**

- **As we grow, increase our focus on the strong sense of community that has always been part of ISA faculty and students.**

- **Support other areas of campus in their efforts to grow data and tech knowledge in their graduates.**

Interested in Helping the Cause?
We Rely Now, More Than Ever, on External Support

For the foreseeable future, our operating budget from the university is the smallest it has been in a decade. We have some reserves to keep the lights on so no worries there, but for us to continue to break new ground in our curriculum and programming, we are going to need external funds.

*We absolutely need financial support from our alumni and corporate partners to continue to move the needle as we have. **Every little bit helps**.*

The quality of our programs is outstanding. Keeping them strong requires us to constantly learn new technologies and methods as well as keep up with changes in what our industry partners are doing. Continuing to evolve ISA programs and deliver both the quality and quantity of our pipeline of ISA students takes resources beyond our slice of the university pie. We already rely heavily on financial support from outside the university for success. The most important areas where ISA could use outside gifts are:

- *Faculty training on emerging tools and techniques in IS, Cybersecurity and Analytics*
- *Curriculum and course development efforts*
- *Software and Hardware necessary for all of our academic ventures*
- *Research Support to keep in touch with evolving business processes and issues faced and to play our part in expanding the field of knowledge.*

Because our needs in these areas are very different from (i.e. much more than) and we tend to innovate far more that the typical Miami academic department, we tend to be woefully underfunded by the university. To stay ahead of our growing number of competitors, we must continue to learn and use that knowledge to evolve our programming.

If you would like to contribute financially, simply click on the image below or copy and paste the URL into a browser.

ISA Giving *https://securelb.imodules.com/s/916/16/interior-flah.aspx?sid=916&gid=1&pgid=6010&cid=11236&dids=98&bledit=1*

If you prefer, you can mail your gift directly to me at the address on page one. Please make the check payable to Miami University and write Information Systems & Analytics on the memo line.

Remember that no gift is too small. Every little bit helps.

ISA Student Award Winners

Best of Graduates

Margaret Knyszek
Best Business Analytics Major

Rebekah Poth
Best Information Systems Major

Jonathon Federer
Best Information Systems Minor

Leah Cox
Best Information Security Minor

Elizabeth David
Best Business Analytics Minor

EY, KPMG & Advisory Board Scholarships

Evelyn Marchant
KPMG

Jacob Palmer
KPMG

Audrey Fix
EY

Nhi Nguyen
EY

Abigail Larson
EY

Samantha Erne
ISA Adv Bd

Molly Wimer
ISA Adv Bd

Zachary Roemer
ISA Adv Bd

Lydia Geygan
ISA Adv Bd

Jay Patel
ISA Adv Bd