ERP Faculty Research Utilizing the Resources from the SAP University Alliance Membership & ERP Business Simulation Platform

2003 – 2021 Report

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## ERP Faculty Research Utilizing the Resources from the SAP University Alliance Membership & ERP Business Simulation Platform

### Research Summary

#### 2016-2021 Summary

<table>
<thead>
<tr>
<th>Research Activity Types</th>
<th>Numbers</th>
<th>Funding (Shared Credit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Award and Recognitions</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Grants, Contracts, and Corporate Funding</td>
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<tr>
<td>Awarded</td>
<td>21</td>
<td>$184,135.13 ($108,852.04) + Software grants</td>
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<tr>
<td>Additional Submissions</td>
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<td>$116,930 ($63,958.7)</td>
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<td>Research Publications</td>
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<tr>
<td>Referred Journal</td>
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<tr>
<td>Referred Conference Proceeding</td>
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<tr>
<td>Referred Conference Presentations</td>
<td>12</td>
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<tr>
<td>Invited Presentations and Workshops</td>
<td>7</td>
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<tr>
<td>Referred Book Chapters</td>
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<td>Undergraduate Research</td>
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<td><strong>Total</strong></td>
<td>93</td>
<td><strong>$307,565.13 ($179,310.74)</strong></td>
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<tr>
<td><strong>Published and Awarded</strong></td>
<td>90</td>
<td><strong>$190,635.13 (115,352.04)</strong></td>
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</table>

#### 2003-2015 Summary

<table>
<thead>
<tr>
<th>Research Activity Types</th>
<th>Numbers</th>
<th>Funding (Shared Credits)</th>
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</thead>
<tbody>
<tr>
<td>Award and Recognitions</td>
<td>11</td>
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</tr>
<tr>
<td>Grants, Contracts, and Corporate Funding</td>
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<tr>
<td>Awarded</td>
<td>20</td>
<td>$704,316 ($279,491) + Software grants</td>
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<td>Referred Conference Proceeding</td>
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<tr>
<td>Invited Presentations and Workshops</td>
<td>17</td>
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<tr>
<td>Referred Book Chapters</td>
<td>3</td>
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<tr>
<td>Working Papers and White Papers</td>
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<td>Theses and Undergraduate Research</td>
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<tr>
<td>Thesis Advisor</td>
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<td>Thesis Committee Member</td>
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<tr>
<td>Undergraduate Research</td>
<td>24</td>
<td>$21,000</td>
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### 2016-2021 Research Activities

#### Awards and Recognitions

2. Lea, B-R, Outstanding Teacher Award, Missouri University of Science & Technology, December 2018.
3. Lea, B-R, Eng., L, Instructional Innovation Award, Annual Conference, Decision Science Institute, November 2018
5. Lea, B-R, Excellence in Service to Students Award, National Society of Leadership and Success - Sigma Alpha Phi, Missouri S&T Chapter, April 2018.
6. Chiu, Y., 2018, Faculty Achievement Award Recipient, Missouri University of Science and Technology, 2018
7. Chiu, Y., 2017, Outstanding Contributions to Graduate Studies Nominee, Graduate Faculty Council, Missouri University of Science and Technology, 2017
8. Lea, B-R, Outstanding Professor Award of Excellence, Global Learning, Missouri University of Science & Technology, March 2017.
9. Lea, B-R, Outstanding Teacher Award, Missouri University of Science & Technology, December 2016.

#### Grants, Contracts, and Corporate Funding

**Grants & Funding Received** *(Total Funded: $184,135.13 + Software Grants, Share Credit: $108,852.04 + Software Grants)*

1. Lea, B-R, (PI, 100%), 2021-2022, The Role of Personality and Affect on Student Preference, Level of Engagement, and Learning Outcome between Instructor-led In-Person computer Exercises and the Use of Recorded Computer Tutorials, $2,601.99, Center for Advancing Faculty Excellence (CAFÉ), Missouri University of Science and Technology, July 2021 – December 2022.
3. Lea, B-R, (PI, 100%), 2019, Expanding Research and Teaching Productivity through Collaboration with ABB, Clemson University, and University of Missouri – St. Louis, Mini-Sabbatical Grant, Center for Advancing Faculty Excellence (CAFÉ), Missouri University of Science and Technology, $7,402.16.
4. Lea, B-R, (PI, 100%), 2019, ERP Simulation Competition Sponsorship, $2,000.
6. Lea, B-R, (PI, 100%), 2018, ERP Simulation Competition Sponsorship, $2,734, various companies.


9. Lea, B-R, (PI, 100%), Software grant: SAP BusinessObjects Software: BI Platform Server 1.0, Crystal Xcelsius, Metadata Bridges, Reporting, Enterprise Information, Query and Analysis, SAP, 2010- present.


11. Lea, B-R, (PI, 100%), 2017, ERP Simulation Competition Sponsorship, $1,980, various companies.

12. Lea, B-R, (PI, 100%), 2016, ERP Simulation Competition Sponsorship, $1,760, various companies.


14. Lea, B-R, (PI, 100%), ERP Simulation Competition Sponsorship, $900, various companies.


16. Lea, B-R (PI, 45%), Smith, G. (Co-PI, 45%), 2014-2016, Utrecht, D. (Co-PI, 10%), HANA Appliance in Research & Teaching Support, as a part of Missouri S&T Virtualization and Big Data Infrastructure Laboratory, $128,241.98.

17. Lea, B-R (PI, 50%), Yu, W (Co-PI, 50%): 2015-2016, Applications and Literature Review of In-memory Data Warehouse Architecture and Big Data Visualization Modeling in Medical Diagnostics Decision Process, $5,000, Business & Information Technology.

18. Lea, B-R (PI, 100%), 2015-2016, Business Analytics & Big Data, $1,000, Deloitte, 2015-2016


20. Lea, B-R (PI, 100%), 2015-2016, Autism Spectrum Disorder & Visualization, Eastman Chemical, $1,500.

21. Lea, B-R (PI, 65%), Donald Wunsch (Co-PI, 35%), 2015-2016, In-Memory Database Design to Support Visualization in ASD Research, $15,000 (shared credit: $9,750), Missouri S&T Innovation Teams.

Additional Grants Submission History

1. Lea, B-R, (PI, 100%), Online Delivery of Computer Intensive Classes, $5,000, Center for Advancing Faculty Excellence (CAFÉ), Missouri University of Science and Technology, July 2021.

2. Lea, B-R (PI: 50%), Mirchandani, Dinesh (CO-PI, 30%), Goggins, Sean (CO-PI, 20%), UM Intercampus Course Sharing: ERP, University of Missouri, $81,993, April 2017.

Publications and Research

Refereed Journals


Refereed Proceedings


16. Lea, B-R, Yu, W., Claybaugh, C, Utrecht, D., 2016, Utilizing Genotype and Phenotype Data in Visual Discovery to support Evidence-Based Practice in Descriptive, Predictive, and Prescriptive, Ozark Biomedical Initiative Collaborative Research Symposium, February 24, 2016, Rolla, MO, USA.


Refereed Presentations


Invited Presentations and Workshops

1. Lea, B-R, 2019, Missouri University of Science & Tech - Enterprise Security and Digital Supply Chain Chapter, SAP Next-Gen Chapter Conference, Milwaukee, WI, July 14-15, 2019
4. Claybaugh, C., 2018, Zhejiang University of Technology, Hangzhou, P.R.China, April.
5. Claybaugh, C., 2018, Wuhan University of Technology, Wuhan,Hubei, P.R.China, April.
6. Claybaugh, C., 2018, Hubei University of Technology, Wuhan,Hubei, P.R.China, April.
7. Claybaugh, C., 2018, Hohai University, Nanjing, Jiangsu, P.R.China, April.

Referred Book Chapter


Theses and Undergraduate Research

Undergraduate Research Project Advisor (total funded amount: $27,500, view abstracts at http://erp.mst.edu/research/undergraduateresearch)

Lea, B-R

2. Samuel Holtmeier, OURE Fellow project, $2,000 (Fall 2016 – Spring 2017), Dashboard Implementation and Hypothesis Testing of Influence of Prior ASD Knowledge on Teachers’ Ability for Early ASD Diagnosis Using Performance Dashboards
3. Scott Neustadt, OURE Fellow project, $2,000 (Fall 2016 – Spring 2017), Improving Information Retention and Discovery of Genetic Autism Data: The Roles of Colors and High Dimensional Graphs
4. Samuel Holtmeier, OURE project, $1000, (Fall 2015 – Spring 2016), Influence of Prior ASD Knowledge on Teachers’ Ability for Early Autism Spectrum Disorder (ASD) Diagnosis: Literature Review
5. Scott Neustadt, OURE project, $1000, (Fall 2015 – Spring 2016), Visualizing Genetic Influence on Autism Spectrum Disorder (ASD) Diagnosis: The Roles of Color and High Dimensional Graphs
## 2003-2015 Research Activities

### Awards and Recognitions

2. Yu, W., 2015, Missouri University of Science and Technology Outstanding Teaching Award for 2014-15”, Missouri University of Science and Technology, November 2015.
4. Lea, B-R, Inspirational Women Award, Leadership and Cultural Programs and Women's Programs, Missouri University of Science & Technology, 2014
5. Lea, B-R, Outstanding Scholar Award, Midwest Chinese American Science & Technology Association, St. Louis, MO, 2014
9. Lea, B-R, Global Learning 2010 Outstanding Teaching Commendation Award, Missouri University of Science & Technology, 2010
10. Lea, B-R, Outstanding Teacher Award, Business & Information Technology, Missouri University of Science & Technology, 2009.

### Grants, Contracts, and Corporate Funding

**Grants & Funding Received (Total Funded: $704,316 + Software Grants, Share Credit: $279,491 + Software Grants)**

1. Lea, B-R, (PI, 100%), 2015, ERP Simulation Competition Sponsorship, $1,200, various companies.
2. Lea, B-R, (PI, 100%), 2015, Deloitte Case Competition, $1,000.
3. Lea, B-R, (PI, 100%), 2015, Assess effectiveness and efficiency of an in-memory HANA database utilizing column- and row-based design in supporting visual analytics, Eastman Chemical, $1,000.
4. Lea, B-R, (PI, 100%), August – December, 2014, Utilizing In-memory Computing in Teaching and Research: A Case Tutorial, $1,500, Information Technology Missouri University of Science and Technology.
6. Lea, B-R, (PI, 100%), 2013-2014, HANA: In-Memory Analytics, $4,000 ($3,000 from Avent, $1,000, Accenture.
7. Lea, B-R, (PI, 100%), 2012-2015, Union Pacific Research Project, $2,000 per year, Union Pacific.
8. Lea, B-R, (PI, 100%), 2015, ERP Simulation Competition, $750, Union Pacific, Junction Solutions.
9. Lea, B-R, (PI, 100%), 2013, ERP Simulation Competition, $1,200, Accenture, Junction Solutions, Avnet.
11. Lea, B-R, (PI, 100%), 2012, Employee Portal Monitoring and Usability Analysis,$2,000, Peabody Energy.
16. Yu, W., (Co-PI, 15%), 2007-2010, Introduction of GIS into Civil Engineering Curricula”, National Science Foundation, award #: 0717241, Division of Undergraduate Education.. Received: $499,794, shared credit: $74,969.

Additional Grants Submission History (Total Submitted: 4149489, Shared Credit: 142,4978.9)

2. Lea, B-R (PI, 50%), Yu, W-B. (50%), Improve Commercialization Success through Intelligent Cost Modeling and Simulation, $82,304, Bureau of Energy at Ministry of Economic Affairs, Taiwan, July 2009.
5. Lea, B-R, (PI, 100%), 12,000, The Boeing Welliver Faculty Fellowship, submitted on January 16 2008.


12. Lea, B-R, (Co-PI, 30%), Text Mining: A New Approach for Fossils and Geoinformatics, National Science Foundation, $35,244, (shared credit: $105,732), July 2004

13. Lea, B-R, (Co-PI, 10%), What Small And Medium Enterprises Want, Need, And Are Willing To Buy: Technology Needs Assessment of Midwestern SMEs, $145,089 (shared credit: 10%), SAP Small and Medium Enterprises RFP, submitted on March 26, 2004


15. Lea, B-R, (PI, 100%), Create Inventory Visualization Model with Simulation Data, $21,000 (shared credit: $21,000), IC Logistics/NSF, Submitted on December 2004.

**Publications and Research**

**Refereed Journals**


**Refereed Proceedings**

1. Claybaugh, C. C., 2015, To Believe or Not to Believe a Call to Action: An Empirical Investigation of Source Credibility, HCI International 2015, Los Angeles, CA, USA, 2-7 August 2015, Thematic Area: HCI in Business.


27. Min, H., and Yu, W., 2005, Reengineering Call Center Operations Using Simulation: A Case Study,
Proceedings of the 10th Annual Meeting of Asia-Pacific Decision Sciences Institute (APDSI, on CD ROM, Taipei, Taiwan, June 28 - July 2.

Refered Presentations
9. Claybaugh, C. and Nazareth, D., 2009, Measuring Severity of Internet Abuse in the Workplace: Creation of a Thurstone Scale, in the 15th Americas Conference on Information Systems (AMCIS ‘09), San Francisco, California, August 6 - 9,


18. Yu, W., 2007, Information Driven Business Forecasting: A Text Mining Approach” Invited talk presented in a research seminar for the Department of Industrial Engineering and Management of I-Shou University, Taiwan ROC, June 20th.


20. Qi, L, 2007, A Multiple and Dynamic Sourcing Problem for a Supply Chain with Supply Disruptions”, IIE Annual Conference, Nashville, TN.


**Invited Presentations and Workshops**


**Referred Book Chapter**


**Working Papers & White Papers**


**Theses and Undergraduate Research**

**Graduate Student Thesis Advisor** (view abstracts at [http://erp.mst.edu/research/thesis](http://erp.mst.edu/research/thesis))

Lea, B-R


2. Ran Cai (Spring 2010 – August 2011), Improve Student Learning Outcome through Personal Response System


4. Madhu Chopra (Fall 2009 – December 2010), Improve Commercialization Success using Performance Dashboards and Scorecards

5. Daniel Sequeira (Fall 2009 – December 2010), Role-Based Enterprise Portal and Corporate Governance: A Human Resource Portal Case Study

6. Y. P. Han (Fall 2009 – December 2010), Application of Performance Dashboard Technology in Transportation Infrastructure Management

7. Lin Zhu (Fall 2007 – December 2009), Impact of A Dashboard Based Corporate Performance Management System in an ERP Environment


9. David Hall (Fall 2006 – Completed in May 2007), A Balanced Scorecard Prototype in Support of Strategic Decision Making in a State Department of Transportation

10. Prashanth Kannan (Fall 2004 – May 2006), Designing, Managing And Evaluating A Social Network Based Information City For Innovation Success

11. Nisha Maguluru (Fall 2004 – December 2005), Social Networks: Role of Personalization and Interaction in Virtual Community for Enhancing Business

12. Senthil Kumar (Spring 2004 – August 2005), Measuring the Performance of Theory of Constraints based Supply Chain: A Simulation Study

Yu, W.
1. Nitsawan Katerattanaku (completed in 2010), A pilot study in an application of text mining to learning system evaluation
2. Aravindh Sekar (completed in 2011), Applying text mining in corporate spin-off disclosure statement analysis: understanding the main concerns and recommendation of appropriate term weights.
3. Prashanth Kannan (completed in 2006, Co-advisor: Bih-Ru Lea), Designing, managing and evaluation a social network based information city for innovation success
5. Shreyas Deokule (completed in 2005), A conceptual framework of using collaborative filtering algorithms to enhance keyword search.

Graduate Student Thesis Committee Member

Lea, B-R.
4. Yashesh Chhaya (Spring 2005 – Fall 2007)
7. Shreyas S. Deokule (Completed in August 2005), A Conceptual Framework of Using Collaborative Filtering Algorithms to Enhance Keyword Search
8. Aparna Jyothi Patsa (completed in January 2005), A Framework and Graphical User Interface (GUI) for Moving Object Simulation
9. Toby Kurien Thomas (completed in December 2004)

Undergraduate Research Project Advisor (total funded amount: $21,000, view abstracts at http://erp.mst.edu/research/undergraduate research)

Lea, B-R
3. Thomas Cooper, OURE project, $1000, (Fall 2014-Spring 2015), Text Mining and Data Visualization in Big Data Context.
4. Patrick Witbrod, OURE project, $1,000, (Fall 2014), Improving Student Employee Tracking Through Performance Dashboards.
5. Mayela Roa-Correa, $1,000, (Fall 2014-Spring 2015), SDOWP Pre-College Programs Impact on the Completion Rates of Minority Students.
6. Brian Locke, OURE project $1,000, (Fall 2013 – Spring 2014), Realizing Competitive Advantages through Enterprise Mobile Strategies.
9. Sean Howell, $1,000, (Fall 2013 – Spring 2014), Usability Framework of Performance Dashboard: A Case Study
10. John Volosin, OURE project, $1,000, (Fall 2012 – Spring 2013), Measuring Impact of a Banking and Insurance Performance Dashboard
11. Kyle Schraier, OURE project, $1,000, (Fall 2012 – Spring 2013), Design, Implementation, and Evaluation of U.S. Census Bureau Performance Dashboard
12. Ivy Miller, OURE project, $1,000, (Fall 2011 – Spring 2012), Impact of Performance Dashboards on Strategic Alignment: An AACSB Accreditation Case
13. Thomas Maerz, OURE project, $1,000, (Fall 2011 – April 2012), The Role of Employee Portal in Corporate Strategic Governance: Portal Strategies and Implementation Tactics
14. Pamela Ryder, OURE project, $1,000, (Fall 2011 – December 2011), The Role of Employee Portal in Corporate Strategic Governance
15. Samantha Riechers, Pelleg, Yael (October 2011 – May 2012)
16. Jonathan Freeman, OURE project, $1,000, (Spring 2011 – December 2011), Improve Strategic Alignment through Performance Dashboards: A Case Study
17. Joseph Pieczynski, OURE project, $1,000, (Spring 2010 – May 2011), Virtual Communities In An Enterprise Portal And The Effect On Corporate Governance For Generation Y
18. Ivy Miller, Jonathan Freeman, Joseph Pieczynski, Steven Pringle (Fall 2010 – December 2011)
   o 3rd Place, Research Oral Presentation Competition, 2011 Undergraduate Research Conference
   o Best Bibliography Award, 2011 Undergraduate Research Conference
21. Kristen Duvell, OURE project, $1,000, (Fall 2006 –Spring 2007), Feasibility of Opening a Coffee and Tea House in Rolla, Missouri
   o 3rd Place, Research Poster Competition, 2007 Undergraduate Research Conference
22. Lisa Liou, OURE project, $1,000, (Fall 2005 –Spring 2006), Market Trend Analysis For Computer Integrated Software Design Industry
   o 3rd Place, Research Poster Competition, 2005 Undergraduate Research Conference
24. Nguyet Nguyen, Opportunity for Undergraduate Research OURE project, $1,000, (FS2004 –Spring 2005), The Impact of RFID Technology on Supply Chain Management