

## Khairi Reda, PhD

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### EDUCATION

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University of Illinois at Chicago	Ph.D., Computer Science	2014
University of Illinois at Chicago	M.S., Computer Science	2009
University of Damascus, Syria	B.S., Computer Science	2005

### APPOINTMENTS

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Indiana University-Purdue University Indianapolis	Associate Professor	2022 – present
Indiana University-Purdue University Indianapolis	Assistant Professor	2016 – 2022
Argonne National Laboratory	Argonne Scholar	2014 – 2016
University of Hawaii at Manoa	Postdoctoral Fellow	2014 – 2015

### PROFESSIONAL ORGANIZATION MEMBERSHIPS

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Association for Computer Machinery (ACM), lifetime member	Since 2014
Special Interest Group on Computer-Human Interaction (SIGCHI), member	Since 2014
IEEE Visualization and Graphics Technical Committee (VGTC), member	Since 2015

### PROFESSIONAL HONORS AND AWARDS

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Research Excellence Award	School of Informatics & Computing, IUPUI	2021
Best Paper (from 173 submissions)	EuroVis conference	2021
NSF CAREER	National Science Foundation	2020
Excellent Reviewing (service award)	ACM CHI conference	2022, 2020 x2, 2017
Robert G. Sachs Award	Argonne National Laboratory	2015
Best Poster Honorable Mention	IEEE Information Visualization conference	2015

Argonne Scholar Argonne National Laboratory 2014-2016

Best Poster Award IEEE Symposium on Large-Scale Data Analysis and Visualization 2014

## TEACHING

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### UNDERGRADUATE:

Course	Title	Format	Role	Term	Enrollment
NEWM-N 328	Visualizing Information	Online	Instructor	Fall'22	38
NEWM-N 328	Visualizing Information	Online	Instructor	Spring'22	35
NEWM-N 328	Visualizing Information	Online	Instructor	Fall'21	21
NEWM-N 328	Visualizing Information	Lecture	Instructor	Spring'21	23
NEWM-N 328	Visualizing Information	Lecture	Instructor	Spring'20	16
NEWM-N 328	Visualizing Information	Lecture	Instructor	Spring'19	16
INFO-I 499	Readings & Research in Informatics (learner: Caleb Potts)	Independent Study	Instructor	Summer'18	1
NEWM-N 328	Visualizing Information	Lecture	Instructor	Spring'18	35
NEWM-N 328	Visualizing Information	Lecture	Instructor	Spring'17	29

### GRADUATE:

INFO-H 517	Visualization Design, Analysis, and Evaluation	Lecture	Instructor	Fall'22	53
INFO-H 517	Visualization Design, Analysis, and Evaluation	Online	Instructor	Spring'22	24
INFO-H 517	Visualization Design, Analysis, and Evaluation	Lecture	Instructor	Fall'21	42
INFO-H 517	Visualization Design, Analysis, and Evaluation	Lecture	Instructor	Fall'20	45
INFO-H 517	Visualization Design, Analysis, and Evaluation	Lecture	Instructor	Fall'19	23
INFO-I 890	Thesis Readings and Research (learner: Ratanond Koonchanok)	Independent Study	Instructor	Fall'19	1
INFO-H 790	Informatics Research Rotation (learner: Carly Daley)	Independent Study	Instructor	Spring'19	1
INFO-H 517	Visualization Design, Analysis, and Evaluation	Lecture	Instructor	Fall'18	30
INFO-H 694	Thesis in Human-Computer Interaction (learner: Swati Mishra)	Independent Study	Instructor	Spring'18	1

INFO-H 517	Visualization Design, Analysis, and Evaluation	Lecture	Instructor	Fall'17	31
INFO-H 694	Thesis in Human-Computer Interaction (learner: Swati Mishra)	Independent Study	Instructor	Fall'17	1
INFO-H 554	Independent Study in Human-Computer Interaction (learner: Adriana Garcia)	Independent Study	Instructor	Spring'17	1
INFO-H 590	Interactive Visual Analytics	Lecture	Instructor	Fall'16	33

## MENTORING

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Amey Salvi	PhD advisor	Aug 2020 – present
Van Lian	Undergraduate research (NSF REU)	2020 – 2021
Abeer Alsairi	PhD thesis committee (U of Illinois Chicago)	2020 – 2021
Abhinav Sikharam	MS research advisor	2020 – 2021
Parul Baser	MS research advisor	Sep 2019 – March 2021
Jendy Martinez	Undergraduate research (NSF REU)	Sep 2019 – Jan 2020
Nathalie Pimentel Gil	Undergraduate research (NSF REU)	Sep 2019 – Jan 2020
Jared Westerfield	Undergraduate research (NSF REU)	Nov 2018 – Jan 2020
Ratanond Koonchanok	PhD advisor	Aug 2018 – present
Jeremy Heyer	PhD advisor	Aug 2018 – Dec 2019
Taylor Childers	MS research advisor	May 2018 – May 2019
Nirmal Kumar Raveendranath	MS research advisor	May 2018 – May 2019
Caleb Potts	Undergraduate research	April 2018 – May 2019
Jeremy Hochstedler	PhD advisor	Aug 2017 – March 2018
Eric Vorm	PhD thesis committee advisor	Aug 2017 – Jan 2019
Kyle Harris	Undergraduate research advisor	May 2017 – May 2018
In Kwon Choi	MS research advisor	Jan 2017 – May 2019
Adriana Alvarado Garcia	MS thesis committee member	Sep 2016 – May 2017
Pratik Nalawade	MS research advisor	Aug 2016 – May 2018

Kate Ansah-Koi	MS research advisor	Aug 2016 – May 2017
Swati Mishra	MS research & thesis advisor	Oct 2016 – May 2018
Takanori Fujiwara	PhD mentor (co-advised with Papka & Ma)	May 2016 – March 2017

## **TEACHING ADMINISTRATION AND CURRICULUM DEVELOPMENT**

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**New Course Development: INFO-H 517** is a graduate course designed to introduce students to core principles and techniques in data visualization and visual analytics. Students develop significant projects to design and create their own interactive visualizations using the latest tools. They also develop competency to undertake empirical research in the field.

**Major Course Revision: NEWM-N 328** is an introductory course in information visualizing. The course has been thoroughly refreshed for its Spring 2017 edition. This new edition conforms to latest pedagogical practices in the field of information visualization. Students also learn to use 3 data visualization tools: Tableau, Polaris, and D3.

## **RESEARCH/CREATIVE ACTIVITY**

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### **FUNDED RESEARCH GRANTS:**

#### *EXTERNAL:*

<b>Project title</b>	<b>Agency</b>	<b>Role</b>	<b>Effort</b>	<b>Amount</b>	<b>Duration</b>
Fatal Overdose Review Teams – Research to Enhance Surveillance Systems (FORTRESS)	NIH	MPI	15%	\$5,134,029	2022 – 2027
CAREER: Towards Trustworthy Analytics	NSF	PI	100%	\$538,140	2020 – 2025
Improving Color Encodings in Scientific Visualizations	Argonne National Lab	PI	100%	\$51,663	2020 – 2022
CRII: CHS: Concept-Driven Visual Analysis	NSF	PI	100%	\$174,977	2018 – 2021
REU Supplement (to Concept-Driven Visual Analysis)	NSF	PI	100%	\$16,000	2018 – 2021

#### *INTERNAL:*

Visual Analysis of Community Health Concerns	Polis Center	PI	100%	\$5,000	2018 – 2019
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### **SUBMITTED BUT NOT FUNDED:**

Collaborative Research: CHS: Medium: A Human-Computer Collaboration Framework for Interactive and Trustworthy Data Science	NSF	Co-PI	15%	\$1,059,370	2020 – 2023
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Computational and Visual Analytic Tools for Single Molecule RNA-sequencing Data	NIH	Co-PI	50%	\$428,013	2020 – 2022
CHS: Small: Enhancing Color Encodings in Visualization by Modeling and Validating Designer Practices	NSF	PI	75%	\$500,000	2020 – 2023
Dynamic Glyphs: Making High-Dimensional Relationships Perceptible through Motion and Shape Morphing	NSF	PI	75%	\$388,334	2018 – 2020
Collaborative Information Visualization Tools for Large Display Surfaces	Prysm, Inc	PI	75%	\$312,000	2017 – 2020
GeoCT: Teaching Computational Thinking Through Middle School Geography	NSF	Co-PI	25%	\$1,249,532	2018 – 2021
STTR Phase I: Precision Care Management Tool (PCMT) for Emergency Department Managers	NSF	Co-PI	20%	\$223,583	2017 – 2018
Accelerating the Discovery of Novel Liquid Electrolytes Through Advanced Simulation and Human-Guided Visual Analytics	Toyota Research Institute	Co-PI	50%	\$965,592	2017 – 2020

**RESEARCH PRESENTATIONS (invited & contributed):**

Towards Trustworthy Visual Analytics	DePaul University, Dept. of Computer Science	11/4/2022
Towards Trustworthy Visual Analytics	University of Utah, Scientific Computing and Imaging Institute	10/26/2022
Color Nameability Predicts Inference Accuracy in Spatial Visualization	EuroVis'21: Eurographics Visualization Conference	6/15/2021
Towards Trustworthy Analytics	Institute for Artificial Intelligence, IUPUI	2/19/2021
Modeling Colormap Design for Graphical Inference	VIS'20: IEEE Visualization Conference	10/27/2020
Data Visualization for Discovery	SoIC - POLIS Research Symposium	10/30/2020
Evaluating Gradient Perception in Color-Coded Scalar Fields	VIS'19: IEEE Visualization Conference	10/25/2019
Dynamic Glyphs: Appropriating Causality Perception in Multivariate Visual Analysis	IEEE Vis X Vision workshop: Novel Directions in Vision Science and Visualization Research	10/20/2019

Visual (dis)Confirmation: Validating Models and Hypotheses with Visualizations	23 <sup>rd</sup> International Conference on Information Visualization	7/17/2019
Concept-Driven Visual Analytics: an Exploratory Study of Model- and Hypothesis-Based Reasoning with Visualizations	ACM CHI'19: Conference on Human Factors in Computing Systems	5/8/2019
Automated or Manual? Qualitative or Quantitative? Keeping the Right Balance in Data Science with Visual Analytics	IUPUI Data Science Summit	3/22/2019
Graphical Perception of Continuous Quantitative Maps: the Effects of Spatial Frequency and Colormap Design	ACM CHI'18: Conference on Human Factors in Computing Systems	4/24/2019
Data Visualization: Design & Critique	IUPUI Community Engagement & Professional Development	3/15/2018
Interactive Visualization and Analysis of Ecological Time Series	Argonne National Laboratory, Division of Environmental Sciences	7/14/2016
Seeing the Forest Despite the Trees: Interactive Visualization Tools for Data Analysis and Communication	Northern Illinois University	3/10/2016
Understanding the Dynamics of the Natural World through Interactive Visualization	University of Utah, Department of Geography	3/8/2016
Data Visualization for Discovery and Learning	Natural History Museum of Utah	2/2/2016
Understanding the Dynamics of the Natural World through Interactive Visualization	University of Utah, School of Computing	2/1/2016
Seeing (Big) Data: Interactive Visualization Tools for Analysis & Communication	Institute for Defense Analyses	2016
Seeing the Forest Despite the Trees: Interactive Visualization Tools for Analysis and Storytelling with Big Data	Texas Tech University	2015
Visualizing Large-Scale 'Omics Data	University of Hawaii, Center for Microbial Oceanography	2015
Visualization Instruments for Big Data	University of Hawaii, Center for Cyberinfrastructure and Information Technology	2015
Advanced Visualization Environments for Scientific Discovery and Collaboration	University of Damascus	2010

## **SERVICE**

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### **UNIVERSITY SERVICE:**

#### **CAMPUS**

Research Affairs	School representative	2022 – present
IUPUI Institute for Artificial Intelligence	Steering committee member	2020 – present

#### **DEPARTMENT**

Data Science Graduate Program	Program director	2022 – present
HCI Graduate Admissions and Curriculum Committee	Committee member	2016 – 2021
Data Science Admissions and Curriculum Committee	Committee member	2016 – present

#### **SCHOOL**

Data Science Lecturer Search Committee	Committee member	2022 – present
Data Science Tenure-Track (TT) Faculty Search	Committee chair	2020 – 2021
Faculty Policy Committee	Elected representative	2018 – 2020
Program Review and Assessment Committee (PRAC)	Committee member	2017 – 2021
Informatics Undergraduate Curriculum Committee	Committee member	2016 – Present
Library & Information Sciences TT Faculty Search	Committee member	2017 – 2018
Data Science TT Faculty Search	Committee member	2016 – 2017

### **PROFESSIONAL SERVICE:**

#### **NATIONAL**

US Department of Energy, Advanced Scientific Computing Research	Grants reviewer & panelist	2022
National Science Foundation	Panelist	2022
National Science Foundation	Panelist	2021
National Science Foundation	Panelist	2020
National Science Foundation	Panelist	2019
National Science Foundation	Panelist	2018
National Science Foundation	Panelist	2017

## INTERNATIONAL

ACM Conference on Human Factors in Computing Systems (CHI'23)	Associate Chair	2022
IEEE Transactions on Visualization and Computer Graphics	Reviewer	2022
IEEE VIS'22 Conference on Visualization	Program committee	2022
EuroVis'22 (Eurographics Visualization conference)	Program Committee	2022
ACM Conference on Human Factors in Computing Systems (CHI'22) (award for Excellent Reviewing)	Associate Chair	2021
IEEE VIS'21 Conference on Visualization	Program committee	2021
ACM Conference on Human Factors in Computing Systems (CHI'21)	Associate Chair	2020
IEEE Symposium on Large-Scale Data Analysis & Visualization (LDAV'20)	Poster co-chair	2020
Workshop on Visualization Psychology	Program committee	2020
IEEE Transactions on Visualization & Computer Graphics (journal)	Paper reviewer	2020
Fisheries Research (journal)	Paper reviewer	2020
ACM Conference on Human Factors in Computing Systems (CHI'20) (received Award for Excellent Reviewing)	Associate Chair	2019
IEEE Symposium on Large-Scale Data Analysis & Visualization (LDAV'19)	Poster co-chair	2019
ACM Conference on Interactive Surfaces and Spaces (ISS'19)	Reviewer	2019
IEEE Symposium on Large-Scale Data Analysis & Visualization (LDAV'18)	Program committee	2018
ACM DIS: Designing Interactive Systems	Paper reviewer	2018
ACM CHI'18: Conference on Human Factors in Computing System	Session chair	2018
ACM CHI (Award for Excellent Reviewing: 2017, 2020x2)	Paper reviewer	2015 – 2019
IEEE Visual Analytics Science and Technology conference (VAST)	Paper reviewer	2013 – 2018

IEEE Information Visualization conference (InfoVis)	Paper reviewer	2015 – 2019
IEEE Scientific Visualization conference (SciVis)	Paper reviewer	2015, 2017
Information Visualization Journal	Reviewer	2017 – 2019
Euro Graphics Visualization Conference (EuroVis)	Paper reviewer	2013 – 2016, 2019
Workshop on In-Situ Extreme-Scale Analysis and Visualization	Program committee	2015
Vienna Science and Technology Fund	Grants reviewer	2015
IEEE Pacific Visualization conference	Paper reviewer	2013 – 2015
3DUI: IEEE Symposium on 3D User Interfaces	Paper reviewer	2015
International Journal of Human-Computer Studies	Paper reviewer	2015, 2018
ACM Computers in Entertainment	Paper reviewer	2012

## PUBLICATIONS

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### Peer-Reviewed Papers (conference, journal, and workshop papers):

All papers are research publications. Note that conference papers are archival publications, and are the main and most impactful publication mechanism in my field. Conference acceptance rate is provided where available. For some conferences (e.g., *IEEE VIS* and *EuroVis*), accepted papers are automatically published as journal articles.

+ indicates student advisees at the time of writing.

1. Koonchanok, R.+ , Daulatabad, V. S, **Reda, K.**, Janga S. C. Sequoia: a Framework for Visual Analysis of RNA Modifications from Direct RNA Sequencing Data. *Methods in Molecular Biology* (in press)
2. **Reda, K.** Rainbow Colormaps: What Are They Good and Bad for? *IEEE Transactions on Visualization and Computer Graphics*, 2022 (impact factor: 5.226)
3. Koonchanok, R.+ , Daulatabad, V. S.; Mir, Q.; **Reda, K.**, Janga S. C. Sequoia: an Interactive Visual Analytics Platform for Interpretation and Feature Extraction from Nanopore Sequencing Datasets. *BMC Genomics* 22(513), 2021 (impact factor: 3.730)
4. **Reda, K.**, Salvi, A.+ , Gray, J.+ , Papka, M. E. Color Nameability Predicts Inference Accuracy in Spatial Visualizations. In Proceedings of the *EuroVis'21* Conference (also appearing as a journal article in *Computer Graphics Forum*), 2021 (*Best Paper award*, acceptance rate: 26%)
5. Koonchanok, R.+ , Baser, P.+ , Sikharam, A.+ , Raveendranath, N. K.+ , **Reda, K.** Data Prophecy: Exploring the Effects of Belief Elicitation in Visual Analytics. In Proceedings of *CHI'21: ACM Conference on Human Factors in Computing Systems*. May 8-13, 2021 (acceptance rate: 26%)
6. **Reda, K.**, Szafir, D. A. Rainbows Revisited: Modeling Effective Colormap Design for Graphical Inference. In Proceedings of *IEEE VIS'20* (also appearing as a journal article in *IEEE Transactions on Visualization and Computer Graphics*), 2020 (acceptance rate: 25%, journal

impact factor: 5.226)

7. Heyer, J., Raveendranath, N. K., **Reda, K.** Pushing the (Visual) Narrative: the Effects of Prior Knowledge Elicitation in Provocative Topics. In Proceedings of *CHI'20: ACM Conference on Human Factors in Computing Systems*. Honolulu, HI, April 25-30, 2020 (acceptance rate: 23%)
8. **Reda, K.**, Papka, M. E. Evaluating Gradient Perception in Color-Coded Scalar Fields. In Proceedings of *VIS'19: IEEE Conference on Visualization (short paper track)*. Vancouver, BC, Canada, Oct 20-25, 2019 (acceptance rate: 31%)
9. **Reda, K.**, Potts, C., Childers, T. Dynamic Glyphs: Appropriating Causality Perception in Multivariate Visual Analysis. In Proceedings of the Vis X Vision workshop: Novel Directions in Vision Science and Visualization Research. Vancouver, BC, Canada, Oct 20, 2019
10. Choi, I. K., Raveendranath, N. K., Westerfield, J., **Reda, K.** Visual (dis)Confirmation: Validating Models and Hypotheses with Visualizations. In Proceedings of *IV'19: the 23rd International Conference on Information Visualization*. Adelaide, Australia, July 16-19, 2019, IEEE
11. Choi, I. K., Childers, T., Raveendranath, N., Mishra, S., Harris, K., and **Reda, K.** 2019. Concept-Driven Visual Analytics: an Exploratory Study of Model- and Hypothesis-Based Reasoning with Visualizations. In Proceedings of *CHI'19: ACM Conference on Human Factors in Computing Systems Proceedings*, Glasgow, Scotland UK, May 4–9, 2019, ACM (acceptance rate: 23.7%)
12. **Reda, K.**, Nalawade, P., Ansah-Koi, K. Graphical Perception of Continuous Quantitative Maps: the Effects of Spatial Frequency and Colormap Design. In Proceedings of the ACM *CHI'18: Conference on Human-Factors in Computing Systems*. Montreal, QC, Canada, April 21-26, 2018 (acceptance rate: 25.7%)
13. Fujiwara, T., Malakar, P., **Reda, K.**, Vishwanath, V., Papka, M., Ma, K. L. A Visual Analytics System for Optimizing Communications in Massively Parallel Applications. In Proceedings of *VAST'17: IEEE Conference on Visual Analytics Science and Technology*. Phoenix, AZ, October 1-6, 2017 (acceptance rate: 30.1%)
14. **Reda, K.**, Johnson, A., Papka, M., Leigh, J. Modeling and Evaluating User Behavior in Exploratory Visual Analysis. *Information Visualization* 15(4):325-339, SAGE 2016 (impact factor: 1.325)
15. J. Aurisano, **Reda, K.**, Johnson, A., Marai, G. E., Leigh, J. A Large-Scale Comparative Genome Visualization for Big Displays. *BMC Bioinformatics* 16(11):6 (Proc. *BioVis'15*), Springer, 2015 (impact factor: 3.242)
16. **Reda, K.**, Johnson, A., Papka, M., Leigh, J. Effects of Display Size and Resolution on User Behavior and Insight Acquisition in Visual Exploration. In proceedings of the *CHI'15 conference on Human Factors in Computing Systems*, Seoul, Korea, Apr 18–23, 2015, ACM (acceptance rate: 25%)
17. Nam, S., **Reda, K.**, Renambot, L., Johnson, A., Leigh, J. Multiuser-Centered Resource Scheduling for Collaborative Display Wall Environments. *Future Generation Computer Systems* 45(1):162–175, Elsevier, 2015 (impact factor: 5.768)
18. Knoll, A., Wald, I., Navratil, P., Bowen, A., **Reda, K.**, Papka, M., Gaither, K. RBF Volume Ray Casting on Multicore and Manycore CPUs. *Computer Graphics Forum* 33(3):71–80 (also

appearing in the Proceedings of *EuroVis '14*), Eurographics Association, 2014 (acceptance rate: 26%)

19. **Reda, K.**, Johnson, A., Leigh, J., Papka, M. Evaluating User Behavior and Strategy During Visual Exploration. Proceedings of the 5th Workshop on Beyond Time and Errors: Novel Evaluation Methods for Visualization (*BELIV'14*), Paris, France, Nov 10, 2014. pp. 41–45, ACM
20. **Reda, K.**, Chau, D., Mostafa, Y., Nagrajan, S., Leigh, J., Nishimoto, A., Kahler, E., Demeter, J. Design Guidelines for Multiplayer Video Games on Multi-touch Displays. *Computers in Entertainment* 11(1):1–17, ACM, 2014
21. **Reda, K.**, Offord, C., Johnson, A., Leigh, J. Expanding the Porthole: Leveraging Large, High-Resolution Displays in Exploratory Visual Analysis. In *CHI'14 EA on Human Factors in Computing Systems*, Toronto, ON, Canada, Apr 26–May 1, pp. 2047–2052, ACM
22. Knoll, A., Brownlee, C., **Reda, K.**, Haymore, B., Papka, M., Pascucci, V. The Desktop is Dead, Long Live the Workstation! In the workshop on the Death of the Desktop: Envisioning Visualization without Desktop Computing, Paris, France, Nov 9, 2014
23. **Reda, K.**, Febretti, A., Knoll, A., Aurisano, J., Leigh, J., Johnson, A., Papka, M., Hereld, M. Visualizing Large, Heterogenous Data in Hybrid-Reality Environments. *Computer Graphics and Applications* 33(4): 38–48, IEEE, 2013 (impact factor: 1.627)
24. **Reda, K.**, Knoll, A., Nomura, K., Papka, M., Johnson, A., Leigh, J. Visualizing Large-Scale Atomistic Simulations in Ultra-Resolution Immersive Environments. In proceedings of the 2013 IEEE Symposium on Large-Scale Data Analysis and Visualization (*LDAV '13*), Atlanta, GA, Nov 13-14, 2013. pp. 59–65, IEEE
25. **Reda, K.**, Mateevitsi, V., Offord, C. A Human-Computer Collaborative Workflow for the Acquisition and Analysis of Terrestrial Insect Movement in Behavioral Field Studies. *EURASIP Journal on Image and Video Processing* 2013:48, Springer, 2013
26. Offord, C., **Reda, K.**, Mateevitsi, V. Context-Dependent Navigation in a Collectively Foraging Species of Ants, *Messor cephalotes*. *Insectes Sociaux* 60(3): 361–368, Springer, 2013
27. **Reda, K.**, Aurisano, J., Febretti, A., Leigh, J., Johnson, A. Visualization Design Patterns for Ultra- Resolution Displays Environments. In proceedings of the workshop on Visualization Infrastructure and Systems Technology (*VISTech'13*), Nov 22, Denver, CO, 2013
28. **Reda, K.**, Johnson, A., Mateevitsi, A., Offord, C., Leigh, J. Scalable Visual Queries for Data Exploration on Large, High-Resolution 3D Displays. In Proceedings of the *SC'12 Companion: High Performance Computing, Networking Storage and Analysis*, Salt Lake City, UT, Nov, 2012. pp. 196–205. IEEE
29. **Reda, K.**, Tantipathananandh, C., Johnson, A., Leigh, J., Berger-Wolf, T. Visualizing the Evolution of Community Structures in Dynamic Social Networks. *Computer Graphics Forum* 30(3):1061– 1070 (also appearing in the Proceedings of *EuroVis'11*), Eurographics Association, 2011 (acceptance rate: 27%)

#### **Peer Reviewed Abstracts and Posters:**

- A1. **Reda, K.** Automated or Manual? Qualitative or Quantitative? Keeping the Right Balance in Data Science with Visual Analytics. Extended Abstract at the IUPUI Data Science Summit. March, 2019

- A2. Choi, I. K., Mishra, S., Harris, K., Kumar, N., Childers, T., **Reda, K.** "Towards Concept-Driven Analytics." Poster at the IEEE Conference of Visual Analytics Science and Technology (VAST). November, 2018
- A3. J. Casey, B. Ji, S. Shaoie, A. Mardinoglu, P. Sarathi Sen, O. Jahn, **K. Reda**, K., J. Leigh, M. J. Follows, J. Nielsen, D. M. Karl. "Prochlorococcus proving ground for constraint-based metabolic modeling and multi-omics data integration." American Geophysical Union, Ocean Sciences Meeting, New Orleans, LA, December, 2016
- A4. **Reda, K.**, Gonzalez, A., Leigh, J., Papka, M. Tell Me What Do You See: Detecting perceptually-separable visual patterns via clustering of image-spaces features in visualizations. Poster at *IEEE VIS'15*, Chicago, IL, Oct 25–30, 2015
- A5. Aurisano, J., Kumar, A., Gonzalez, A., **Reda, K.**, Di Eugenio, B., Leigh, J., Johnson, A. "Show Me Data": Observational study of a conversational interface in visual data exploration. Poster at *IEEE VIS'15*, Chicago, IL, Oct 25–30, 2015
- A6. Aurisano, J., **Reda, K.**, Johnson, A., Leigh, J. Bacterial Gene Neighborhood Investigation Environment: A Large-Scale Genome Visualization for Big Displays. IEEE Symposium on Large-Scale Data Analysis and Visualization (*LDAV'14*), France, Paris, Nov 9-10, 2014, IEEE (Best Poster Award)
- A7. Aurisano, J., **Reda, K.**, Johnson, A., Leigh, J. Bacterial Gene Neighborhood Investigation Environment: A Large-Scale Genome Visualization for Big Displays. Poster at the 4th Symposium on Biological Data Visualization (*BioVis'14*), 2014
- A8. Mateevitsi, V., **Reda, K.**, Leigh, J., Johnson, A. HealthBar: A Persuasive Ambient Display to Improve the Office Worker's Well Being. In Proc. of 5th Augmented Human Conference, ACM
- A9. **Reda, K.**, Tantipathananandh, C., Berger-Wolf, T., Leigh, J., Johnson, A. SocioScape—a Tool for Interactive Exploration of Spatio-Temporal Group Dynamics in Social Networks. Poster at IEEE Information Visualization Conference (*InfoVis'09*), Atlantic City, NJ, 2009

#### **Non-refereed Articles:**

- N1. **Reda, K.**, Gonzalez, A., Leigh, J., Papka, M. Tell Me What Do You See: Detecting and Summarizing Perceptually-Separable Patterns for Exploratory Data Analysis. Argonne National Laboratory Postdoctoral Research Symposium, Argonne, IL, 8, 2015
- N2. **Reda, K.** Exploratory Visual Analysis in Large, High-Resolution Display Environments. PhD Thesis, University of Illinois at Chicago, 2014
- N3. **Reda, K.**, Chau, D., Dargad, R. Understanding the Interaction of Visual and Verbal Metaphors from Eye Gaze Behavior. Technical report, University of Illinois at Chicago, 2011
- N4. **Reda, K.** SocioScape—Spatio-Temporal Visual Analysis of Group Dynamics in Social Networks. MS Thesis, University of Illinois at Chicago, 2009
- N5. Kahler, E., Hur, H., **Reda, K.**, Kooima, R., Chau, D., Jagodic, R., Renambot, L., Johnson, A., Leigh, J. Design Challenges in Creating a High Resolution LCD-based Multi-touch Display. Technical report, Electronic Visualization Laboratory, 2009

I attest that the statements in this document are a fair and accurate representation of my achievements.

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(Date)

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(Signature of Candidate)