
Education

Doctor of Philosophy, Computer Science University of Arizona · Tucson, AZ · 2016

Advisor: John Kececioglu.

Dissertation: “Parameter Advising for Multiple Sequence Alignment”

Minor: Ecology and Evolutionary Biology

Master of Science, Computer Science University of Central Florida · Orlando, FL · 2009

Advisor: Shaojie Zhang

Thesis: “New Computational Approaches to Multiple RNA Alignment and RNA Search”

Bachelor of Science, Computer Science University of Central Florida · Orlando, FL · 2007

Professional Experience

Lane Fellow Carnegie Mellon University · Pittsburgh, PA · 9/2016–present

Computational Biology Department, School of Computer Science

Advisor: Carl Kingsford

Graduate Research Assistant University of Arizona · Tucson, AZ · 8/2010–6/2016

Fellow of the NSF IGERT in Comparative Genomics Grant DGE-0654435 (2010-2013)

Funded under NSF Grant IIS-1217886 (2013-2016)

Research Associate II Sanford-Burnham Institute for Medical Research · Orlando, FL · 5/2010–8/2010

Software development and data analysis of RNA-Seq and Chip-Seq experiments related to melanoma classification.

Graduate Research Assistant University of Central Florida · Orlando, FL · 8/2007–8/2010

Department of Engineering Technology, College of Engineering and Computer Science

Project was to interface with local law enforcement to improve communication

Developer Cloudspace · Orlando, FL · 8/2005–8/2007

Develop and maintain web-based applications

Worked on both server side and client facing development

Mentorship

Fiyinfoluwa Gbosibo May–July 2017

iBRIC (Internship in Biomedical Research, Informatics and Computer Science) student

Currently a graduate student at Bentley University

Kwanho Kim September 2017–May 2019

MSCB at CMU

Thesis title: “Analyzing the Influence of Assessment Metrics on Automated Transcript Assembly Parameter Selection”

Book

- [1] **Parameter advising for multiple sequence alignment.** Dan DeBlasio and John Kececioglu. Springer International Publishing, 2018.

Theses

- [1] **Parameter advising for multiple sequence alignment.** [Daniel F DeBlasio](#). PhD Thesis. University of Arizona, Tucson, Arizona, 2016.
- [2] **New Computational Approaches For Multiple RNA Alignment And RNA Search.** [Daniel F DeBlasio](#). Masters Thesis. University of Central Florida, Orlando, Florida, 2009.

Publications

- [1] **Practical universal k-mer sets for minimizer schemes.** [Dan DeBlasio](#), Fiyinfoluwa Gbosibo, Carl Kingsford, and Guillaume Marçais. *under review. bioRxiv*, 652925, 2019.
- [2] **Locality sensitive hashing for the edit distance.** Guillaume Marçais, [Dan DeBlasio](#), Prashant Pandey, and Carl Kingsford. *The joint proceedings of the 26th International Conference on Intelligent Systems for Molecular Biology (ISMB) and the 18th European Conference on Computational Biology (ECCB)*. *bioRxiv*, 534446, 2019.
- [3] **Towards building an automated bioinformatician: more accurate transcript assembly via parameter advising.** [Dan DeBlasio](#), Kwanho Kim, and Carl Kingsford. *The proceedings of The Workshop on Computational Biology at The International Conference on Machine Learning (WCB@ICML)*. *bioRxiv*, 342865, 2019.
- [4] **Boosting Alignment Accuracy by Adaptive Local Realignment.** [Dan DeBlasio](#) and John Kececioglu. *accepted to Journal of Computational Biology*, 25(7), July 2018,
originally appeared as **Boosting Alignment Accuracy by Adaptive Local Realignment.** [Dan DeBlasio](#) and John Kececioglu. *Proceedings of the 21st Conference on Research in Computational Molecular Biology (RECOMB)*, April 2017.
- [5] **Asymptotically optimal minimizers schemes.** Guillaume Marçais, [Dan DeBlasio](#), and Carl Kingsford. *Proceedings of the 26th International Conference on Intelligent Systems for Molecular Biology (ISMB)*, July 2018.
- [6] **Core column prediction for protein multiple sequence alignments.** [Dan DeBlasio](#) and John Kececioglu. *Algorithms for Molecular Biology*, 12(1), April 2017,
originally appeared as **Predicting Core Columns of Protein Multiple Sequence Alignments for Improved Parameter Advising.** [Dan DeBlasio](#) and John Kececioglu. *Proceedings of the 16th International Workshop on Algorithms in Bioinformatics (WABI)*, August 2016.
- [7] **Genome Sequence of Ophidiomyces ophiodiicola, an Emerging Fungal Pathogen of Snakes.** Mana Ohkura, Robert R. Fitak, Jennifer H. Wisecaver, [Dan DeBlasio](#), Faheem Niazi, Michael Egholm, Steven D. Rounsley, Chinnappa D. Kodira, and Marc J. Orbach. *Genome Announcements*, 5(30), July 2017.
- [8] **SICLE: a high-throughput tool for extracting evolutionary relationships from phylogenetic trees.** [Dan F. DeBlasio](#) and Jennifer H. Wisecaver. *PeerJ*, 4, August 2016.
- [9] **Ensemble Multiple Sequence Alignment via Advising.** [Dan DeBlasio](#) and John Kececioglu. *Proceedings of the 6th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB)*, September 2015.
- [10] **Learning Parameter-Advising Sets for Multiple Sequence Alignment.** [Dan DeBlasio](#) and John Kececioglu. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 14(9), May 2017,
originally appeared as **Learning Parameter Sets for Alignment Advising.** [Dan DeBlasio](#) and John Kececioglu. *Proceedings of the 5th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB)*, September 2014.
- [11] **Accuracy estimation and parameter advising for protein multiple sequence alignment.** John Kececioglu and [Dan DeBlasio](#). *Journal of Computational Biology*, 20(4), April 2013,
originally appeared as **Estimating the accuracy of multiple alignments and its use in parameter advising.** [Dan DeBlasio](#), Travis Wheeler, and John Kececioglu, *Proceedings of the 16th Conference on Research in Computational Molecular Biology (RECOMB)*, April 2012.
- [12] **A Memory Efficient Method for Structure-Based RNA Multiple Alignment.** [Daniel DeBlasio](#), Jocelyne Bruand, and Shaojie Zhang. *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, 9(1), January 2012,
originally appeared as **PMFastR: A New Approach to Multiple RNA Structure Alignment.** [Dan DeBlasio](#), Jocelyne Bruand, and Shaojie Zhang. *Proceedings of the 9th International Workshop on Algorithms in Bioinformatics (WABI)*, September 2009.

- [13] **Epigenetic regulation of microRNA genes and the role of miR-34b in cell invasion and motility in human melanoma.** Joseph Mazar, Divya Khaitan, [Dan DeBlasio](#), Cuncong Zhong, Subramaniam S Govindarajan, Sharmila Kopanathi, Shaojie Zhang, Animesh Ray, and Ranjan J Perera. *PLoS ONE*, 6(9), September 2011. (cited ≥ 75 times).
- [14] **Epigenetic regulation of microRNA-375 and its role in melanoma development in humans.** Joseph Mazar, [Dan DeBlasio](#), Subramaniam S Govindarajan, Shaojie Zhang, and Ranjan J Perera. *FEBS Letters*, 585(15), August 2011. (cited ≥ 96 times).

Service Related Publication

- [1] **Nurturing tomorrow's leaders: The ISCB Student Council Symposia in 2018.** Daniele Parisi*, Gabriel J. Olguin-Orellana*, Eli J. Draizen*, Nilson Da Rocha Coimbra, Nikolaos Papadopoulos, Susanne Kirchen, Yvonne Saara Gladbach, Numrah Fadra, Nazeefa Fatima, Aishwarya Alex Namasivayam, Sayane Shome, [Dan DeBlasio](#), Alexander M. Monzon, Farzana Rahman, and R. Gonzalo Parra. *F1000Research*, 8(ISCB Community Journal), January 2019 (editorial without peer-review).
- [2] **Reflections on a journey: a retrospective of the ISCB Student Council symposium series.** Mehedi Hassan, Aishwarya Alex Namasivayam*, [Dan DeBlasio](#)*, Nazeefa Fatima*, Benjamin Siranosian, R. Gonzalo Parra, Bart Cuypers, Sayane Shome, Alexander Miguel Monzon, Julien Fumey, and Farzana Rahman. *BMC Bioinformatics*, 19(12):347, October 2018.
- [3] **The ISCB Student Council Internship Program: Expanding computational biology capacity world-wide.** Jigisha Anupama, Margherita Francescatto, Farzana Rahman, Nazeefa Fatima, Al berto Santos, Pandurang Kolekar, Avinash Kumar Shanmugam, Venkata Satagopam, [Dan DeBlasio](#), Magali Michaut, and Emre Guney. *PLOS Computational Biology*, 14(1), January 2018.
- [4] **Highlights of the second ISCB Student Council Symposium in Africa, 2017.** Candice N. Rafael, Efejiro Ashano, Yumna Moosa, Sayane Shome, and [Dan DeBlasio](#). *F1000Research*, 6(ISCB Community Journal), December 2017 (editorial without peer-review).
- [5] **Highlights from the 11th ISCB Student Council Symposium 2015.** Katie Wilkins, Mehedi Hassan, Margherita Francescatto, Jakob Jespersen, R. Gonzalo Parra, Bart Cuypers, [Dan DeBlasio](#), Alexander Junge, Anupama Jigisha, and Farzana Rahman. *BMC Bioinformatics*, 17(3), February 2016 (editorial without peer-review).
- [6] **Highlights from the tenth ISCB Student Council Symposium 2014.** Farzana Rahman, Katie Wilkins, Annika Jacobsen, Alexander Junge, Esmeralda Vicedo, [Dan DeBlasio](#), Anupama Jigisha, and Tomás Di Domenico. *BMC Bioinformatics*, 16(Suppl 2):A1, January 2015 (editorial without peer-review).
- [7] **Parameter advising for multiple sequence alignment.** [Dan DeBlasio](#) and John Kececioglu. *BMC Bioinformatics*, 16(Suppl 2):A10, January 2015 (editorial without peer-review).

Posters

- [1] **Practical universal k-mer sets for minimizer schemes.** [Dan DeBlasio](#), Fiyinfoluwa Gbosibo, Carl Kingsford, and Guillaume Marçais. ISMB/ECCB 2019.
- [2] **The Bioinformatics Internship Program: An Initiative of The ISCB Student Council.** Emre Guney, Farzana Rahman, Nazeefa Fatima, Jigisha Anupama, and [Dan DeBlasio](#). ISMB 2018. *F1000 Poster Award*.
- [3] **Automatically eliminating errors induced by suboptimal parameter choices in transcript assembly.** [Dan DeBlasio](#), Kwanho Kim, and Carl Kingsford. ISMB 2018, ECCB 2018, WCB@ICML 2019.
- [4] **Adaptive local realignment via parameter advising.** [Dan DeBlasio](#) and John Kececioglu. ISMB 2016, WABI 2016, ACM-BCB 2016.
- [5] **Ensemble multiple sequence alignment using advising.** [Dan DeBlasio](#) and John Kececioglu. ISMB/ECCB 2015.
- [6] **Learning parameter sets for alignment advising.** [Dan DeBlasio](#) and John Kececioglu. ACM-BCB 2014.
- [7] **Learning advisors for multiple sequence alignment.** [Dan DeBlasio](#) and John Kececioglu. ISMB 2014.
- [8] **FACET: a feature-based accuracy-estimation tool for protein multiple sequence alignments.** [Dan DeBlasio](#) and John Kececioglu. ISMB/ECCB 2013, MAGE 2013, IGERT Symposium on Deep Genomics.

- [9] **Improving the Quality of Protein Sequence Alignments.** [Dan DeBlasio](#) and John Kececioglu. IGERT online poster competition, 2013, video: <http://posterhall.org/igert2013/posters/350>.
- [10] **Estimating the Accuracy of Protein Multiple Alignments Without a Reference.** [Dan DeBlasio](#), Travis Wheeler, Vladamir Filkov, and John Kececioglu. ISMB/ECCB 2011.
- [11] **A New Approach to Multiple RNA Structure Alignment.** [Dan DeBlasio](#), Jocelyn Bruand, Vineet Bafna, and Shaojie Zhang. RECOMB 2009.

Invited Talks

- “Building an automated bioinformatician—More accurate, large-scale genomic discovery using parameter advising”
· Biological Data Science · Cold Spring Harbor, NY · November 2018
- “Multiple sequence alignment accuracy estimation and its role in creating an automated bioinformatician”
· StringBio 2018 · Orlando, FL · October 2018
- “Building an automated bioinformatician: More accurate, large-scale genomic discovery using parameter advising”
· ESCS 2018 · Athens, Greece · September 2018
- “Building an automated bioinformatician: More accurate, large-scale genomic discovery using parameter advising”
· ISMB 2018 · Chicago, IL · July 2018
- “Adaptive local realignment via parameter advising” · ISMB 2016 · Orlando, FL · July 2016.
- “Parameter advising for multiple sequence alignment” · Carnegie Mellon University · Pittsburgh, PA · May 2016.
- “Parameter advising for multiple sequence alignment” · Reed College · Portland, OR · March 2016.
- “Advising multiple sequence alignments” · ISCB Student Council Symposium 2014 · Boston, MA · July 2014.

Released Software

Scallop Parameter Advising github.com/Kingsford-Group/scallopadvising

Feature-based Accuracy Estimator (Facet) facet.cs.arizona.edu

Opal v3.0 opal.cs.arizona.edu

Sister Clade Extractor (SiClE) eebweb.arizona.edu/sicle/

Profile based Multiple Fast RNA alignment (PMFastR) genome.ucf.edu/PMFastR

Teaching Experience

Instructor Carnegie Mellon University · Pittsburgh, PA
Advanced Topics in Computational Genomics (02-715), Spring 2018.

Instructor University of Arizona · Tucson, AZ
Evolutionary and Functional Genomics Lab (ECOL 553L), Fall 2012.

Teaching Assistant University of Arizona · Tucson, AZ
Evolutionary and Functional Genomics (ECOL 553), Fall 2012.

Teaching Assistant University of Central Florida · Orlando, FL
Burnett Honors College Summer Institute (high school programming summer camp), Summer 2008.
Burnett Honors College Summer Institute (high school programming summer camp), Summer 2007.
Introduction to C Programming, Fall 2006

Honors and Awards

Outstanding Poster Presentation, ISMB 2018 (presenting author for the EIC poster)
Lane Fellowship, CMU CBD, 2016-present
UA Department Fellowship, 2013,2014,2015
UA Department Service award, 2013
UA Department Scholarship award, 2016
NSF IGERT Fellow, 2010-2013
NSF REU in Computer Vision, 2006
Travel Fellowships
 {Event} — {Location} — {Funding Agency}
 ECCB 2018 — Athens, Greece — ISCB Student Council
 ISMB 2018 — Chicago, IL — ISCB
 ISMB/ECCB 2017 — Prague, Czech Republic — ISCB Student Council
 ISMB 2016 — Orlando, FL — ISCB Student Council
 ISMB/ECCB 2015 — Dublin, Ireland — ISCB Student Council
 ACM-BCB 2014 — Newport Beach, CA — NSF
 ISMB 2014 — Boston, MA — ISCB Student Council
 ISMB/ECCB 2013 — Berlin, Germany — NSF
 RECOMB 2012 — Barcelona, Spain — UA GPSC
 RECOMB 2012 — Barcelona, Spain — NSF
 ISMB/ECCB 2011 — Vienna, Austria — UA GPSC
 WABI 2009 — Philadelphia, PA — UCF Graduate Council
 RECOMB 2009 — Tucson, AZ — RECOMB
 RECOMB 2009 — Tucson, AZ — UCF Graduate Council

Service and Leadership Activities

Member Professional organizations

International Society for Computational Biology (ISCB)
Association for Computing Machinery (ACM), ACM SIGBio, ACM SIGAct
Upsilon Pi Epsilon

Committee Member International conferences and workshops.

Organizing Committee

Workshop on the Future of Algorithms in Biology (FAB) 2018; ISCB SCS 2014, 2015, 2017;
ISCB SCS-Africa 2017; ISCB SCS-Latin America 2018;

Program Committee

IEEE ICCABS 2017

Student Activities Co-Chair

ACM-BCB 2016

Reviewer

Journals

Bioinformatics, PLOS One, PeerJ, Nucleic Acids Research, Journal of Health Informatics Research, Current Bioinformatics.

Conferences

ISCB SCS (2014-19), ISCB SCS-LA (2014), ISCB ESCS (2016), RECOMB (2017-19), WABI (2017), ISMB/ECCB (2017,19), IEEE ICCABS (2017), ISMB (2018), ACM-BCB (2018), Grace Hopper (2019), ESA (2019).

Competitions

ISMB Posters (2017-18), RECOMB Posters (2019), ISCB Wikipedia Competition (2017-18)

Other

ISCB SCS Travel Grants (2016-18), UA GPSC Travel Grants (various 2011-2014)

Board of Directors International Society for Computational Biology · 2017–2019

Student Council representative
advocate for students needs within the society
help make decisions on the societal operations

Executive Team International Society for Computational Biology Student Council · 2017–2019

oversee and advise on committee actions and conference planning
help make decisions on the council operations

Web Committee Co-chair International Society for Computational Biology Student Council · 2012–2017

managed a group of student volunteers to maintain the ISCB-SC website
oversaw the development and maintenance of the conference submission system

AGCCS Computer Science Representative University of Arizona · 7/2012–5/2013

Associate Graduate Council for the College of Science at the University of Arizona
advocate for students in the Computer Science department in affairs to the deans and college administration

Chair, Graduate Student Council University of Arizona · 7/2011–5/2012

organized events for graduate students and prospective students in the Computer Science Department
coordinate discussions with the department administration

Volunteer Coordinator, Graduate Student Council University of Arizona · 7/2010–5/2011

find volunteers to organize department seminar setup and tear down
coordinate responsibilities for department events planned by the council

Co-chair, Science Salon University of Arizona · 7/2011–5/2013

organized discussions about interdisciplinary science
vetted topic ideas and assisted in their presentation
guided discussion at events

Conference Volunteer

ISMB 2012, RECOMB Satellites 2019

Conference Attendance

ACM-BCB 2014, 2015, 2016

Cold Spring Harbor Laboratory: Biological Data Sciences 2018

ECCB 2018

ESCS 2018

FoCS 2009

ICML 2019

IGERT Symposium on Deep Genomics 2013

International Workshop on String Algorithms in Bioinformatics (StringBio) 2018

ISMB/ECCB 2011, 2013, 2015, 2017, 2019

ISMB 2012, 2014, 2016, 2018

MAGE 2013

RECOMB 2009, 2012, 2017, 2019

ISCB-SCS 2012, 2013, 2014, 2015, 2016

WABI 2009, 2015, 2016

Workshop on Emerging Technologies for Sequence Analysis 2018

Workshop on the Future of Algorithms in Biology 2018