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## *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

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## *Professional Experience*

**Assistant Professor** University of Texas at El Paso · El Paso, TX · 08/2019–present  
Department of Computer Science, College of Engineering

**Lane Fellow** Carnegie Mellon University · Pittsburgh, PA · 9/2016–08/2019  
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

**Graduate Research Assistant** University of Central Florida · Orlando, FL · 8/2007–8/2010  
Department of Engineering Technology, College of Engineering and Computer Science

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

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## *Mentorship*

**Fiyinfoluwa Gbosibo** May–July 2017  
iBRIC (Internship in Biomedical Research, Informatics and Computer Science) student at CMU/Pitt  
Last known position: Data Scientist at Visa

**Kwanho Kim** September 2017–May 2019  
MSCB at CMU  
Thesis: Analyzing the Influence of Assessment Metrics on Automated Transcript Assembly Parameter Selection  
Last known position: Associate Computational Biologist at the Broad Institute

**Md. Easin Hasan** December 2019–  
MS Bioinformatics, PhD Data Science at UTEP

**Hector Richart Ruiz** November 2019–  
BS Computer Science at UTEP

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## Book

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

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## 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.

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## Publications

- [1] **How much data is sufficient to learn high-performing algorithms? Generalization guarantees for data-driven algorithm design.** Maria-Florina Balcan, [Dan DeBlasio](#), Travis Dick, Carl Kingsford, Tuomas Sandholm, and Ellen Vitercik. *Proceedings of the 53rd Annual ACM SIGACT Symposium on Theory of Computing (STOC)*, 2021.
- [2] **More Accurate Transcript Assembly via Parameter Advising.** [Dan DeBlasio](#), Kwanho Kim, and Carl Kingsford. *The Journal of Computational Biology*, August 2020,  
originally appeared as **Towards building an automated bioinformatician: more accurate transcript assembly via parameter advising** Dan DeBlasio, Kwanho Kim, and Carl Kingsford, *Proceedings of the Workshop on Computational Biology at The International Conference on Machine Learning (WCB@ICML)*, June 2019.
- [3] **Practical universal k-mer sets for minimizer schemes.** [Dan DeBlasio](#), Fiyinfoluwa Gbosibo, Carl Kingsford, and Guillaume Marçais. *Proceedings of the 10th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB)*, September 2019. **Best Student Paper Award.**
- [4] **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)*, July 2019.
- [5] **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.
- [6] **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.
- [7] **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.
- [8] **Genome Sequence of Ophidiomyces ophidiicola, 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.
- [9] **SICLE: a high-throughput tool for extracting evolutionary relationships from phylogenetic trees.** [Dan F. DeBlasio](#) and Jennifer H. Wisecaver. *PeerJ*, 4, August 2016.
- [10] **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.
- [11] **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 Kececioğlu. *Proceedings of the 5th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM-BCB)*, September 2014.
- [12] **Accuracy estimation and parameter advising for protein multiple sequence alignment**. John Kececioğlu 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 Kececioğlu, *Proceedings of the 16th Conference on Research in Computational Molecular Biology (RECOMB)*, April 2012.
- [13] **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.
- [14] **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  $\geq 79$  times).
- [15] **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  $\geq 100$  times).

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## *Service Related Publication*

- [1] **Global network of computational biology communities: ISCB’s Regional Student Groups breaking barriers**. Sayane Shome, ... 39 others ..., [Dan DeBlasio](#), and Farzana Rahman. *F1000Research*, 8(1574), August 2019 (editorial without peer-review).
- [2] **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).
- [3] **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.
- [4] **The ISCB Student Council Internship Program: Expanding computational biology capacity worldwide**. Jigisha Anupama, Margherita Francescato, 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.
- [5] **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).
- [6] **Highlights from the 11th ISCB Student Council Symposium 2015**. Katie Wilkins, Mehedi Hassan, Margherita Francescato, 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).
- [7] **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).
- [8] **Parameter advising for multiple sequence alignment**. [Dan DeBlasio](#) and John Kececioğlu. *BMC Bioinformatics*, 16(Suppl 2):A10, January 2015 (editorial without peer-review).

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## 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.

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## Invited Talks

- University of Texas at El Paso Biology Department Seminar · El Paso, TX · October 2019** · “Toward building an automated bioinformatician: more accurate transcript assembly via parameter advising”
- Workshop on Automated Algorithm Design at the Toyota Technical Institute · Chicago, IL · August 2019** · “Toward building an automated bioinformatician: more accurate transcript assembly via parameter advising”
- Rutgers University, Camden · Camden, NJ · April 2019** · “Toward building an automated bioinformatician: parameter advising for improved scientific discovery”
- University of Texas at El Paso · El Paso, TX · February 2019** · “Toward building an automated bioinformatician: parameter advising for improved scientific discovery”
- Biological Data Science · Cold Spring Harbor, NY · November 2018** · “Building an automated bioinformatician—More accurate, large-scale genomic discovery using parameter advising”
- StringBio 2018 · Orlando, FL · October 2018** · “Multiple sequence alignment accuracy estimation and its role in creating an automated bioinformatician”
- 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** · “Building an automated bioinformatician: More accurate, large-scale genomic discovery using parameter advising”
- ISMB 2016 · Orlando, FL · July 2016** · “Adaptive local realignment via parameter advising”
- Carnegie Mellon University · Pittsburgh, PA · May 2016** · “Parameter advising for multiple sequence alignment”
- Reed College · Portland, OR · March 2016** · “Parameter advising for multiple sequence alignment”
- ISCB Student Council Symposium 2014 · Boston, MA · July 2014** · “Advising multiple sequence alignments”

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## Released Software

Scallop Parameter Advising [github.com/Kingsford-Group/scallopadvising](https://github.com/Kingsford-Group/scallopadvising)

**Feature-based Accuracy Estimator (Facet)** [facet.cs.arizona.edu](http://facet.cs.arizona.edu)

**Opal v3.0** [opal.cs.arizona.edu](http://opal.cs.arizona.edu)

**Sister Clade Extractor (SiClE)** [eebweb.arizona.edu/sicle/](http://eebweb.arizona.edu/sicle/)

**Profile based Multiple Fast RNA alignment (PMFastR)** [genome.ucf.edu/PMFastR](http://genome.ucf.edu/PMFastR)

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## *Teaching Experience*

**Instructor** University of Texas at El Paso, El Paso, TX  
Elementary Data Structures (CS 2401), Spring, Fall 2020.  
Algorithmic Foundations of Computational Biology (CS 4390/5390), Fall 2019.  
Algorithms for Computational Biology (CS 4364/5364), Spring 2021.

**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

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## *Honors and Awards*

Best Student Paper Award, ACM-BCB 2019 (to advisee Fiyin Gbosibo)  
Outstanding Poster Presentation, ISMB 2018 (presenting author for the EIC poster)  
Lane Fellowship, CMU CBD, 2016-2019  
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

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## *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

**Editor**  
**Social Media Editor & Editorial Board**  
Journal of Computational Biology

**Committee Member** International conferences and workshops.  
**Program Committee**  
IEEE ICCABS 2017; RECOMB-SEQ 2020, 2021; ISMB(/ECCB) 2020, 2021  
**Outreach Coordinator**  
ACM-BCB 2020  
**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;  
**Student Activities Co-Chair**  
ACM-BCB 2016  
**Publicity Chair**  
ACM-BCB 2020

**Reviewer**  
**Research Grants**  
NSF BIO Directorate (2019, 2021), NSF CISE Directorate (2021), U.S.-Israel Binational Science Foundation (2021), Antwerp University Association (2021)  
**Books**  
CRC Press  
**Journals**  
Bioinformatics, BMC Bioinformatics, Journal of Computational Biology, AI (MDPI), 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 (2017-20), WABI (2017), ISMB/ECCB (2017,19,21), IEEE ICCABS (2017), ISMB (2018,20), ACM-BCB (2018-21), Grace Hopper (2019), ESA (2019).  
**Competitions**  
ISMB Posters (2017-18), RECOMB Posters (2019), ISCB Wikipedia Competition (2017-20)  
**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, 15, 16, 19, 20  
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 2011,13, 15, 17, 19  
ISMB 2012, 14, 16, 18, 20  
MAGE 2013  
RECOMB 2009, 12, 17, 19, 20  
ISCB-SCS 2012, 13, 14, 15, 16  
WABI 2009, 15, 16, 20  
Workshop on Automated Algorithm Design at the Toyota Technical Institute 2019  
Workshop on Learning-Based Algorithms at the Toyota Technical Institute 2019  
Workshop on Emerging Technologies for Sequence Analysis 2018  
Workshop on the Future of Algorithms in Biology 2018