Ghanshyam Chandra

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Education

Indian Institute of Science — Bangalore, India
PhD in Computational and Data Sciences — *Oct 2020 – Present*

National Institute of Technology — Raipur, India
Bachelor of Technology (Hons) in Mechanical Engineering — *July 2016 – July 2020*

Honors and Awards

- **Winner** National HPC Hackathon 2021. (Awarded `AWS` credits worth 10,000 USD)
  Organised by Intel India and AWS in association with Govt. of India.

Journal Publication

- **Genome Research 2024**
  Haplotype-aware Sequence-to-Graph Alignment.
  Ghanshyam Chandra and Chirag Jain.
  Genome Research. (Invited paper, RECOMB'24 extended version)

- **Algorithms for Moleculer Biology 2024**
  Co-linear Chaining on Pangenome Graphs.
  Jyotshna Rajput, **Ghanshyam Chandra** and Chirag Jain.
  Algorithms for Moleculer Biology. (Invited paper, WABI'23 extended version)
  doi.org/10.1186/s13015-024-00250-w

- **Journal of Computational Biology 2023**
  Gap-Sensitive Co-Linear Chaining Algorithms for Acyclic Pangenome Graphs.
  Ghanshyam Chandra and Chirag Jain.
  Journal of Computational Biology. (Invited paper, RECOMB'23 extended version)
  doi.org/10.1089/cmb.2023.0186

Refereed Conference Publications

- **RECOMB 2024**
  Haplotype-aware Sequence-to-Graph Alignment.
  Ghanshyam Chandra and Chirag Jain.
  International Conference on Research in Computational Molecular Biology. (acceptance rate: 16%)
  doi.org/10.1101/2023.11.15.566493

- **WABI 2023**
  Co-linear Chaining on Pangenome Graphs.
  Jyotshna Rajput, **Ghanshyam Chandra** and Chirag Jain.
  Workshop on Algorithms in Bioinformatics. (WABI 2023) doi.org/10.4230/LIPIcs.WABI.2023.12

- **RECOMB 2023**
  Sequence to Graph Alignment Using Gap-Sensitive Co-linear Chaining.
  Ghanshyam Chandra and Chirag Jain. International Conference on Research in Computational Molecular Biology. (acceptance rate: 20%) doi.org/10.1007/978-3-031-29119-7_4

Teaching and Mentoring

- **Parallel Programming (DS295) 2024**
  Teaching Assistant.

Talks

- **2024**
  Haplotype-aware Sequence-to-Graph Alignment.
  RECOMB 2024, MIT, USA.

- **2024**
  Accelerating Whole-Genome Alignment using Parallel Chaining Algorithm.
  RECOMB-Seq 2024, MIT, USA.

- **2024**
  Scalable Algorithms for Genome-aware Sequence-to-Graph Alignment.
  EECS Symposium 2024, IISc Bangalore, India.

- **2024**
  Why Use Human Genome Graphs as a Reference? Insights into Scalable Genome Graph Algorithms.
  IEEE IISc CS&CIS/HKN Mu Xi Deep Tech Outreach Seminar Series, Bangalore, India.

- **2023**
  Sequence to Graph Alignment using Gap-Sensitive Co-linear Chaining.
  RECOMB 2023, Istanbul, Turkey.

- **2023**
  A Scalable Algorithm for Sequence to Graph Alignment.
  EECS Symposium 2023, IISc Bangalore, India.

Poster Presentation

- **RECOMB-Seq 2023**
  Minichain: A New Method for Pangenome Graph Construction.
  Ghanshyam Chandra and Chirag Jain. RECOMB Satellite Conference on Biological Sequence Analysis.
  RECOMB-Seq 2023, Istanbul, Turkey.

- **HiPC 2022**
  Scaling Sequence to DAG Alignment With Parameterized Gap-Sensitive Co-linear Chaining Algorithms.
  Ghanshyam Chandra and Chirag Jain. IEEE International Conference on High Performance Computing, Data, and Analytics. HiPC 2022, Bangalore, India.

Fellowships

- **Intel Research Fellowship 2023-24**
- **Kotak-IISc AI ML Center Fellowship**
- **RECOMB 2023 Travel Fellowship**

References

- **Dr. Chirag Jain,** Department of Computational and Data Sciences, Indian Institute of Science Bangalore, India
  Contact: chirag@iisc.ac.in

- **Dr. Daniel Gibney,** Department of Computer Science, The University of Texas at Dallas, USA
  Contact: daniel.gibney@utdallas.edu