

Raunak Shrestha

Ph.D. Candidate in Bioinformatics, University of British Columbia.

Laboratory of Advanced Genome Analysis (LAGA), Vancouver Prostate Centre,
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Last Updated: July 23, 2017

POST-SECONDARY EDUCATION

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| SEPT 2012 - CURRENT | Doctor of Philosophy in BIOINFORMATICS, University of British Columbia , Canada
under CIHR Bioinformatics Training Program for Health Research
Supervisors: Dr. Colin Collins and Dr. Cenk Sahinalp |
| SEPT 2011 - AUG 2012 | Master of Science in BIOINFORMATICS, Simon Fraser University , Canada
under CIHR Bioinformatics Training Program for Health Research
(Transferred to PhD program) |
| 2005 - 2009 | Bachelors of Technology (B.Tech.) in BIOTECHNOLOGY, Kathmandu University , Nepal |

RESEARCH & TRAINING EXPERIENCE

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| <i>Current</i>
SEPT 2012 | PhD Candidate at Laboratory for Advanced Genome Analysis
<i>Vancouver Prostate Centre, Vancouver, BC, Canada</i>
supervised by Dr. Colin Collins and Dr. Cenk Sahinalp |
| MAY-AUG 2012 | Research Student at Laboratory for Advanced Genome Analysis
<i>Vancouver Prostate Centre, Vancouver, BC, Canada</i> |
| JAN-APRIL 2012 | Research Student at Dr. Fiona Brinkman's Laboratory
<i>Simon Fraser University, Burnaby, BC, Canada</i> |
| SEPT-DEC 2011 | Research Student at Dr. Jack Chen's Laboratory
<i>Simon Fraser University, Burnaby, BC, Canada</i> |
| JULY 2009 - JULY 2011 | Research Associate at
<i>Center for Molecular Dynamics Nepal, Kathmandu, Nepal</i> |
| JAN-JUNE 2009 | Research Student at
<i>Genetics Nepal, Kathmandu, Nepal</i> |

AWARDS AND HONORS

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| 2016-2018 | Mitacs Accelerate PhD Fellowship. |
| 2015-2016 | Prostate Cancer Foundation - British Columbia (PCF-BC) Research Awards - 2015. |
| 2014-2016 | Faculty of Science Graduate Award, University of British Columbia. |
| 2014 | International Society for Computational Biology (ISCB) Travel Fellowship (RECOMB-2014). |
| 2011-2013 | CIHR Bioinformatics Training Program for Health Research. |

PUBLICATIONS

- **Shrestha R**, Hodzic E, Sauerwald T, Dao P, Yeung J, Wang K, Anderson S, Haffari G, Collins CC, and Sahinalp SC. *HIT'nDRIVE: Patient-Specific Multi-Driver Gene Prioritization for Precision Oncology*. [Genome Research](#). doi:10.1101/gr.221218.11. PMID:2872058
- Campbell PJ, Getz G, Stuart JM, Korbel JO, Stein LD, Pan-Cancer Analysis of Whole Genomes Network. (2017) *Pan-cancer analysis of whole genomes*. (PCAWG Consortium paper) ([Preprint](#))
- Pan-Cancer Analysis of Whole Genomes Network. (2017) *Pathway and network analysis of 2,500 whole cancer genomes*. (PCAWG Consortium paper) (*upcoming*)
- Luk I, **Shrestha R**, Xue H, Wang Y, Zhang F, Lin D, Haegert A, Wu R, Dong X, Collins CC, Zoubeidi A, Gleave ME, Gout PW, and Wang Y. (2016) *BIRC6-targeting as potential therapy for advanced, enzalutamide-resistant prostate cancer*. [Clin Cancer Res](#). 2016 Sep 23. PMID:27663589
- Gill E, Chan L, Winsor G, Dobson N, Lo R, Sui SH, Dhillon B, Taylor P, **Shrestha R**, Spencer C, Hancock R, Unrau P, and Brinkman F. High-throughput detection of RNA processing in bacteria. (2016) ([Preprint](#))
- Yamada M, Tang J, Lugo-Martinez J, Hodzic E, **Shrestha R**, Saha A, Ouyang H, Yin D, Mamitsuka H, Sahinalp C, Radivojac P, Menczer F, and Chang Y. *Ultra High-Dimensional Nonlinear Feature Selection for Big Biological Data*. (2016) ([Preprint](#))
- **Shrestha R.**, Hodzic E., Yeung J., Wang K., Sauerwald T., Dao P., Anderson S., Beltran H., Rubin MA., Collins C., Haffari G. and SC. Sahinalp. (2014) *HIT'nDRIVE: Multi-Driver Gene Prioritization based on Hitting Time*. In Sharan R, editor, *Research in Computational Molecular Biology: 18th Annual International Conference, RECOMB 2014, Pittsburgh, PA, USA, April 2-5, 2014*, [Proceedings, pages 293–306](#). Springer International Publishing.
- Wyatt A, Mo F, Wang K, McConeghy B, Brahmabhatt S, Jong L, Mitchell D, Johnston R, Haegert A, Li E, Liew J, Yeung J, **Shrestha R**, Lapuk A, McPherson A, Shukin R, Bell R, Anderson S, Bishop J, Hurtado-Coll A, Xiao H, Chinnaiyan A, Mehra R, Lin D, Wang Y, Fazli L, Gleave M, Volik S, and Collins CC. (2014) Heterogeneity in the inter-tumor transcriptome of high risk prostate cancer. [Genome Biol](#). 15(8):426. PMID:25155515
- Wang K., **Shrestha R.**, Wyatt AW., Reddy A., Lehar J., Wang Y., Lapuk A. and CC. Collins. (2014) A Meta-Analysis Approach for Characterizing Pan-Cancer Mechanisms of Drug Sensitivity in Cell Lines. [PLOS ONE](#) 9(7). PMID:25036042

CONFERENCE PRESENTATIONS

Selected Oral Presentations

- Translating Big-Data to Precision Oncology. Vancouver Prostate Centre / Terry Fox Seminar, February 17, 2017, Vancouver General Hospital, Vancouver, Canada.
- HIT'nDRIVE: Patient-Specific Multi-Driver Gene Prioritization for Precision Oncology. Vancouver Bioinformatics User Group (VanBUG) November 3, 2016, Vancouver, Canada
- HIT'nDRIVE: Patient-Specific Multi-Driver Gene Prioritization for Precision Oncology. 10th Annual Lorne D. Sullivan Lectureship & Research Day. June 21, 2016, Vancouver General Hospital, Vancouver, Canada.
- HIT'nDRIVE: Patient-Specific Multi-Driver Gene Prioritization to Guide Precision Cancer Medicine. Workshop on Network Biology (Algorithmic Challenges in Genomics). April 11-15, 2016, Simons Institute for the Theory of Computing, UC Berkeley, Berkeley, CA, USA. <https://simons.berkeley.edu/talks/raunak-shrestha-04-12-16>

- Computational Detection and Prioritization of Driver Alterations in Cancer. Vancouver Prostate Centre / Terry Fox Seminar, November 3, 2014, Vancouver General Hospital, Vancouver, Canada.
- HIT'nDRIVE: Multi-Driver Gene Prioritization based on Hitting Time. 18th Annual International Conference on Research in Computational Molecular Biology (RECOMB). April 2-5, 2014, Pittsburgh, PA, USA.
- Analysis of KatG Ser315Thr Mutation in Multidrug Resistant Mycobacterium tuberculosis and SLC11A1 Polymorphism in Multidrug Resistance Tuberculosis in Central Development Region of Nepal Using PCR-RFLP Technique: A Pilot Study. 2nd International Symposium on Biotechnology, June 29-30, 2010, Kathmandu, Nepal

Selected Poster Presentations

- **Raunak Shrestha**, Ermin Hodzic, Thomas Sauerwald, Phuong Dao, Kendric Wang, Jake Yeung, Shawn Anderson, Fabio Vandin, Gholamreza Haffari, Colin C. Collins and S. Cenk Sahinalp.(2016). HIT'nDRIVE: Patient-Specific Multi-Driver Gene Prioritization for Precision Oncology. The 27th International Conference on Genome Informatics, October 3-5, 2016, Fudan University, Shanghai, China.
- Noushin Nabavi, **Raunak Shrestha**, Yuzhuo Wang and Colin C. Collins (2016). Characterization of intertumor heterogeneity in Malignant Mesothelioma. 13th International Conference of the International Mesothelioma Interest Group (iMIG 2016), May 1-4, 2016, Birmingham, UK. (As a first co-author).
- **Raunak Shrestha**, Ermin Hodzic, Fan Mo, Anna Lapuk, S. Cenk Sahinalp and Colin C. Collins (2015). Computational Detection and Prioritization of Driver Alterations in Prostate Cancer from Multi-Omics Data. Eighth Annual Prostate Cancer Program Retreat (SPOR), March 15-17, 2015, Fort Lauderdale, Florida, USA. **(Selected among the top-eight poster of the conference.)**
- **Raunak Shrestha**, Kendric Wang, S. Cenk Sahinalp, Anna Lapuk and Colin Collins (2013). Exploring the Biology of Prostate Cancer Progression using Systems Biology Approach. The Eleventh Asia Pacific Bioinformatics Conference, January 21-23, 2013, Vancouver, Canada.

International Conference Attended

- The 4th Canadian Cancer Research Conference Nov. 5-7, 2017, Vancouver, BC, Canada.
- The American Society of Human Genetics 66th Annual Meeting, October 18-22, 2017, Vancouver, BC, Canada.
- The 27th International Conference on Genome Informatics, October 3-5, 2016, Fudan University, Shanghai, China.
- Workshop on Network Biology (Algorithmic Challenges in Genomics). April 11-15, 2016, Simons Institute for the Theory of Computing, UC Berkeley, Berkeley, CA, USA.
- The PanCancer Analysis of Whole Genomes (PCAWG) Meeting. April 7-8, 2016, Barcelona, Spain.
- Eighth Annual Prostate Cancer Program Retreat (SPOR), March 15-17, 2015, Fort Lauderdale, Florida, USA.
- 18th Annual International Conference on Research in Computational Molecular Biology (RECOMB). April 2-5, 2014, Pittsburgh, PA, USA.
- The Eleventh Asia Pacific Bioinformatics Conference, January 21-23, 2013, Vancouver, BC, Canada.

ACADEMIC PAPERS PEER REVIEWED

(numbers in the brackets include the number of papers reviewed)

Nature Communications	sub-reviewer	(3)
BMC Genomics	sub-reviewer	(1)
BMC Bioinformatics	sub-reviewer	(1)
Bioinformatics	sub-reviewer	(1)
Research in Computational Molecular Biology (RECOMB)	sub-reviewer	(2)
International Conference on Intelligent Systems for Molecular Biology (ISMB)	sub-reviewer	(1)
The Asia Pacific Bioinformatics Conference (APBC)	sub-reviewer	(1)
Workshop on Algorithms in Bioinformatics (WABI)	sub-reviewer	(1)
Nepal Journal of Biotechnology	reviewer	(7)

PROFESSIONAL MEMBERSHIPS

- International Society for Computational Biology (ISCB): General Member
- Vancouver Bioinformatics User Group (VanBUG): Development Group
- Biotechnology Society of Nepal (BSN): Life time Member and Former Executive Member
- Science Development Initiative Nepal (SDI-Nepal): Committee Member