

Amit Dutt, Ph.D

Principal Investigator, Scientist F, ACTREC, Navi Mumbai •E-mail:adutt@actrec.gov.in
http://www.actrec.gov.in/pi-webpages/AmitDutt/dutt_index.html

ACADEMIC QUALIFICATION

Ph.D in Developmental Biology, University of Zürich, Switzerland 2000-2004
Ph.D in Chloroplast Biology, ICGEB (Int Center for Genetic Engg & Biotech) / Jamia Millia Islamia 1998-2000

PROFESSIONAL EXPERIENCE/ EMPLOYMENT

Principal Investigator, Scientist “F”, ACTREC, Tata Memorial Center, Navi Mumbai 2010- till date
Post Doctoral Research Fellow, Broad Institute of MIT & Harvard (Cancer Genomics) 2005-2010
Post Doctoral Research Fellow, Univ Hosp of Zurich, Switzerland (Prion Biology) 2004-2005

HONORS & AWARDS

2019 Technical Expert Committee core Member for Medical Biotechnology-I for North Eastern Region (NER), DBT
2018 Technical Expert Committee core Member for Human Genetics and Genome Analysis Program, DBT
2018 DST SERB Expert Committee core Member of Life Sciences, Depart of Science of Technology, Govt of India
2018 YIM Boston Young Scientist Award 2018
2018 Scientific Advisory Committee, Member, IBAB, Bangalore
2017 Distinguished Alumni Award, conferred by the Vice Chancellor, Jamia Millia Islamia, New Delhi
2017 Shanti Swarup Bhatnagar Prize for Science and Technology 2017 in Medical Sciences
2016 Editorial board member of *PLOS ONE* and *BMC Genomics*
2015 Nominated as Faculty Member in Medical Genetics- F1000 Prime
2011 Wellcome Trust/ DBT India Alliance Intermediate Fellowship
2010 Ramalingaswami Fellowship Award, Department of Biotechnology, Govt of India
2005 Awarded Swiss National Science Foundation Postdoctoral fellowship, SNSF, Switzerland
2004 Awarded Julius Klaus Foundation Fellowship, University of Zürich, Switzerland. A Postdoctoral grant
2003 Awarded complete sponsorship by The Genetics Society of America, Bethesda and a Plenary talk at LA, US

RESEARCH GRANTS (including the one under consideration)

2011-2012	Profiling the incidence of novel alteration discovered in human lung cancer	Seed-In-Air grant, Tata Memorial Center
2012-2015	Epidemiological study to evaluate the prevalence of epidermal growth factor receptor(EGFR mutation status in non-small cell lung cancer(NSCLC) in india.	Roche sponsored
2012-2015	Profiling the incidence of novel alteration discovered in human lung cancer	Terry Fox Foundation
2013-2017	Whole genome sequencing for identification of oncogenic mutations in cervical adenocarcinoma.	Terry Fox Foundation
2012-2017	Progestonomics of human breast cancer: a translational approach	Tata Memorial Center
2012-2017	Genome-wide RNAi screen with human pooled tyrosine kinase shRNA libraries in head and neck squamous cell carcinoma (HNSCC) cell lines	DBT- RNAi taskforce
2012-2018	Defining the cancer genome of head and neck squamous cell carcinoma (HNSCC) with snp arrays and next generation sequencing technology”	Wellcome Trust/ DBT India Alliance
2018-2021	Understanding the mechanistics of resistance to tyrosine kinase inhibitors in non-small cell lung cancer patients.	SERB, Dept of Science and Technology
2017-2022	Multi-Omics analysis to decipher mechanisms of hormone resistance and development of novel assays and therapeutic targets in endocrine receptor positive breast cancer	Dept of Biotechnology (DBT)/ VNCI

2018

- 55: Godbole M, Togar T, Patel K, Dharavath B, Yadav N, Janjuha S, Gardi N, Tiwary K, Terwadkar P, Desai S, Prasad R, Dhamne H, Karve K, Salunkhe S, Kawle D, Chandrani P, Dutt S, Gupta S, Badwe RA, **Dutt A***. Up-regulation of the kinase gene *SGKI* by progesterone activates the AP-1—NDRG1 axis in both PR-positive and -negative breast cancer cell. *J Bio Chem*. 2018. [[The Hindu](#)]
- 54: Bajaj KP, Nguyen TT.....**Dutt A**.....Jura N, Seshagiri S. Actionable Activating Oncogenic ERBB2/HER2 Transmembrane and Juxtamembrane Domain Mutations. *Cancer Cell*. 2018
- 53: Iyer P, Shrikhande SV, Ranjan M, Joshi A, Gardi N, Prasad R, Dharavath B, Thorat R, Salunkhe S, Sahoo B, Chandrani P, Kore H, Mohanty B, Chaudhari V, Choughule A, Kawle D, Chaudhari P, Ingle A, Banavali S, Gera P, Ramadwar MR, Prabhash K, Barreto SG, Dutt S, **Dutt A***. *ERBB2* and *KRAS* Alterations Mediate Response to EGFR Inhibitors in Early Stage Gallbladder Cancer. *International Journal of Cancer*. 2018 [[natureINDIA](#)][[wellcomedbt](#)] [[The Hindu](#)]
- 52: Salunkhe S, Chandran N, Chandrani P, **Dutt A**, Dutt S. CytoPred: 7 gene pair metric for AML cytogenetic risk prediction. *Briefings in Bioinformatics*. 2018; (*In press*)
- 51: Balaji SA, Shanmugam A, Chougule A, Sridharan S, Prabhash K, Arya A, Chaubey A, Hariharan A, Kolekar P, Sen M, Ravichandran A, Katragadda S, Sankaran S, Bhargava S, Kulkarni P, Rao S, Sunkavalli C, Banavali S, Joshi A, Noronha V, **Dutt A**, Bahadur U, Hariharan R, Veeramachaneni V, Gupta V. Analysis of solid tumor mutation profiles in liquid biopsy. *Cancer Med*. 2018 Sep 27. doi: 10.1002/cam4.1791.
- 50: Barreto SG, **Dutt A**, Sirohi B, Shrikhande SV. Gallbladder cancer: a journey of a thousand steps. *Future Oncol*. 2018 Jun;14(13):1299-1306. doi: 10.2217/fon-2017-0576.
- 49: Veldore VH, Choughule A, Routhu T, Mandloi N, Noronha V, Joshi A, **Dutt A**, Gupta R, Vedam R, Prabhash K. Validation of liquid biopsy: plasma cell-free DNA testing in clinical management of advanced non-small cell lung cancer. *Lung Cancer (Auckl)*. 2018 Jan 3;9:1-11.
- 48: Chatterjee S, Chaubal R, Maitra A, Gardi N, **Dutt A**, Gupta S, Badwe RA, Majumder PP, Pandey P. Pre-operative progesterone benefits operable breast cancer patients by modulating surgical stress. *Breast cancer research and treatment*. 2018; 170(2):431-438.
- 47: Rajendra J, Datta KK, Ud Din Farooq SB, Thorat R, Kumar K, Gardi N, Kaur E, Nair J, Salunkhe S, Patkar K, Desai S, Goda JS, Moiyadi A, **Dutt A**, Venkatraman P, Gowda H, Dutt S. Enhanced proteasomal activity is essential for long term survival and recurrence of innately radiation resistant residual glioblastoma cells. *Oncotarget*. 2018; 9(45):27667-27681.

2017

- 46: Godbole M, Chandrani P, Gardi N, Dhamne H, Patel K, Yadav N, Gupta S, Badwe R, **Dutt A***. *miR-129-2* mediates down-regulation of progesterone receptor in response to progesterone in breast cancer cells. *Cancer Biology & Therapy*. 2017 [[wellcomedbt](#)] [[The Hindu](#)]
- 45: Godbole M, Sharma K, Badwe R, Gupta S, **Dutt A***. Progesterone suppresses the invasion and migration of breast cancer cells irrespective of their progesterone receptor status. *Cellular Oncology* 2017; 40(4):411-417. [[wellcomedbt](#)] [[The Hindu](#)]
- 44: Upadhyay P, Gardi N, Desai S, Chandrani P, Joshi A, Dharavath B, Arora P, Bal M, Nair S, **Dutt A***. Genomic characterization of tobacco/nut chewing HPV-negative early stage tongue tumors identify MMP10 as a candidate to predict metastases. *Oral Oncology* 73 (2017) 56–64 [[natureINDIA](#)] [[IndiaBioscience](#)] [[wellcomedbt](#)] [[The Hindu](#)][[Atlas of Science](#)][[The Hawk](#)]
- 43: Noronha V, Chougule A, Patil VM, Joshi A, Kumar V, Philip DSJ, Banavasi S, **Dutt A**, Prabhash K. Epidermal growth factor receptor exon 20 mutation in lung cancer: types, incidence, clinical features and impact on treatment. *OncoTargets and Therapy*. 2017; 10:2903-2908.
- 42: Bhat S, Gardi N, Hake S, Kotian N, Sawant S, Kannan S, Parmar V, Desai S, **Dutt A**, Joshi NN. Impact of intratumoral IL17A and IL32 gene expression on T-cell responses and lymph node status in breast cancer patients. *Journal of Cancer Research and Clinical Oncology*. 2017; 143(9):1745-1756.
- 41: Mittra I, Samant U, Sharma S, Raghuram GV, Saha T, Tidke P, Pancholi N, Gupta D, Prasanna P, Gaikwad A, Gardi N, Chaubal R, Upadhyay P, Pal K, Rane B, Shaikh A, Salunkhe S, Dutt S, Mishra PK, Khare NK, Nair NK,

Dutt A (2017). Cell-free chromatin from dying cancer cells integrate into genomes of bystander healthy cells to induce DNA damage and inflammation. *Cell Death Discovery* 3, 17015; 2017 [[IndiaBioscience](#)]

2016

- 40: Chandrani P, Prabhash K, Choughule A, Prasad R, Sethunath V, Ranjan M, Iyer P, Aich J, Dhamne H, Iyer DN, Upadhyay P, Mohanty B, Chandna P, Kumar R, Joshi A, Noronha V, Patil V, Ramaswamy A, Karpe A, Thorat R, Chaudhari P, Ingle A, **Dutt A***. Drug-sensitive *FGFR3* mutations in lung adenocarcinoma. *Annals of oncology: official journal of the European Society for Medical Oncology*. 2016 [[natureINDIA](#)] [[IndiaBioscience](#)] [[wellcomedbt](#)] [[Indian Express](#)]
- 39: Rekhi R, Upadhyay P, Ramteke M, and **Dutt A***. *MYOD1* (L122R) Mutations Are Associated with Spindle cell / Sclerosing Rhabdomyosarcomas with Aggressive Clinical Outcomes. *Modern Pathology* 2016.
38. Barreto SG and **Dutt A***. To improve outcomes of gallbladder cancer we need to better understand it! *Hepatobiliary Surg Nutr* 2016;5(4):379-381. doi: 10.21037/hbsn.2016.05.06
37. Kaur E, Sahu A, Hole AR, Rajendra J, Chaubal R, Gardi N, **Dutt A.**, Moiyadi A, Krishna CM, Dutt S. Unique spectral markers discern recurrent Glioblastoma cells from heterogeneous parent population. *Sci Rep*. 2016 May 25;6:26538
36. Upadhyay P, Gardi N, Desai S, Sahoo B, Singh A, Togar T, Iyer P, Prasad R, Chandrani P, Gupta S, **Dutt A***. TMC-SNPdb: an Indian germline variant dataset derived from whole exome sequence. *Database*, 2016, 1–8. [[TMC-SNPdb](#)] [[Wellcomedbt](#)]
35. Upadhyay P, Nair S, Kaur E, Aich J, Dani P, Sethunath V, Gardi N, Chandrani P, Godbole M, Sonawane K, Prasad R, Kannan S, Agarwal A, Kane S, Gupta S, Dutt S, **Dutt A***. Notch pathway activation is essential for maintenance of stem-like cells in early tongue cancer. *Oncotarget* 2016 [[Wellcomedbt](#)]
- 34: Iyer P, Barreto SG, Sahoo B, Chandrani P, Ramadwar MR, Shrikhande SV, **Dutt A*** Non-typhoidal Salmonella DNA traces in gallbladder cancer. *Infect Agent Cancer*. 2016 Mar 3;11:12. [[IndiaBioscience](#)] [[Wellcomedbt](#)]

2015

33. Integrated Genomics Approach to Identify Driver Alteration. Chandrani P, Upadhyay P, Iyer P, Tanna M, Shetty M, Raghuram GV, Oak N, Singh A, Chaubal R, Ramteke M, Gupta S, **Dutt A***. *BMC Genomics*. 2015 Nov 14;16(1):936. doi: 10.1186/s12864-015-2138-4.
32. CRE: a cost effective and rapid approach for PCR-mediated concatenation of *KRAS* and *EGFR* exons. Ramteke MP, Patel KJ, Godbole M; Vyas M, Karve K, Choughule A, Prabhash K, **Dutt A***. *f1000Research* 06/2015; 4(160).
31. Barreto SG, Barreto M, Chaubal R, **Dutt A** The fight against cancer: Is it worthwhile? *Indian J Med Paediatr Oncol.* 2015 Apr-Jun;36(2):85-6. doi:10.4103/0971-5851.158833.
- 30: Chandrani P, Kulkarni V, Iyer P, Randeep Singh, **Dutt A***. NGS Based Approach to Determine the Presence of HPV and Their Sites of Integration in Human Cancer Genome. *Br J of Cancer*. 2015 May 14. [[HPVDetector](#)] [[Wellcomedbt](#)]
- 29: Mitra I, Khare NK.... **Dutt A**. Circulating nucleic acids damage DNA of healthy cells by integrating into their genome and induce oncogenic transformation. *J Biosci*. 2015 Mar;40(1):91-111.

2014

- 28: Choughule A, Sharma R, Trivedi V, .. Aich J, Prabhash K, **Dutt A***. Coexistence of *KRAS* mutation with mutant but not wild type *EGFR* predict response to tyrosine-kinase inhibitors in human lung cancer. *British J of Cancer* : 12 August 2014.
- 27: Upadhyay P, Dwivedi R, **Dutt A*** Application of NGS in Cancer Research. *Current Science*, 2014; 107 (5), 795
- 26: Barreto SG, **Dutt A***, Adarsh Chaudhary. A Genetic Model for Gallbladder Carcinogenesis and its Dissemination. *Annals of Oncology* 2014 [[A commentary on this article](#)]

2013

- 25: A, Prabhash K, Noronha V, Joshi A, Thavamani A, Chandrani P, Upadhyay P, Utture S, Desai S, Jambhekar N, **Dutt A***. Frequency of *EGFR* Mutations in 907 lung adenocarcinoma Patients of Indian Ethnicity. *PLoS One*. 2013 Oct 4;8(10):e76164.
- 24: Chougule A, Prabhash K, Noronha V, Joshi A, Thavamani A, Chandrani P, Upadhyay P, Utture S, Desai S, Jambhekar N, **Dutt A***. *EGFR* Mutation Subtypes and Geographical Distribution Among Indian NSCLC Patients. *Indian J Cancer*. 2013 Apr-Jun;50(2):107-11.
- 23: Noronha V, Prabhash K, ... **Dutt A***, Mulherkar R. EGFR Mutations in Indian Lung Cancer Patients: Clinical Correlation and Outcome to EGFR Targeted Therapy. *PLoS One*. 2013 Apr 19;8(4):e61561
- 22: Kumar R, Horvath A... **Dutt A** et al. The Global Cancer Genomics Consortium's Second Annual Symposium : Genomics Medicine in Cancer. *Genes & Cancer* 2013. DOI: 10.1177/1947601913484582

2012

- 21: Eswaran J, Gupta S, **Dutt A**, et al. The Global Cancer Genomics Consortium: Interfacing Genomics and Cancer Medicine. *Cancer Res*. 2012 May 24.

2011

- 20: Cho J, ..., **Dutt A**, et al Glioblastoma-derived EGFR carboxyl-terminal deletion mutants are transforming and are sensitive to EGFR-directed therapies. *Cancer Res*. 2011
- 19: **Dutt A*** et al. Inhibitor-sensitive FGFR1 amplification in human non-small cell lung cancer. *PLoS One*. 2011;6(6):e20351.
- 18: Hammerman P, Sos ML, Ramos AH, Xu C, **Dutt A** et al. Mutations in the DDR2 kinase gene identify a novel therapeutic target in squamous cell lung cancer. *Cancer Discovery* 2011.

2010 and earlier (from Post Doc and Ph.D.)

- 17: Zhou W, Hur W, McDermott U, **Dutt A** et al. A Structure-guided Approach to Creating Covalent FGFR1 Inhibitors. *Chem Biol*. 2010 Mar 26;17(3):285-95
- 16: Bass AJ, Watanabe H... **Dutt A** et al. SOX2 Is an Amplified Oncogene in Lung and Esophageal Squamous Cell Carcinoma. *Nat Genet*. 2009 Nov;41(11):1238-42.
- 15: Ramos AH^s, **Dutt A**^s et al. Amplification of chromosomal segment 4q12 in non-small cell lung cancer. *Cancer Biol Ther*. 2009 Nov;8(21):2042-50. ^s first authors.
<http://tandfonline.com/doi/pdf/10.4161/cbt.8.21.9886?needAccess=true>
- 14: **Dutt A**, Salvesen H, Greulich H, Sellers WR, Beroukhim R, Meyerson M. Somatic mutations are present in all members of the AKT family in endometrial carcinoma. *British Journal of Cancer* ; 2009 Oct 6;101(7):1218-9
- 13: Salvesen HG, Cartel L, Mannelqvist M, **Dutt A** et al., Gene expression profiles identify an aggressive subtype of endometrial carcinoma associated with amplification and of PIK3CA. *Proc Natl Acad Sci USA*. 2009
- 12: Ding L, Gedz Gad ... **Dutt A** et al. Somatic mutations affect key pathways in lung adenocarcinoma. *Nature*. 2008 Oct 23;455(7216):1069-75.
- 11: **Dutt A**, et al.. Drug-sensitive *FGFR2* mutations in endometrial carcinoma. *Proc Natl Acad Sci U S A*. 2008 Jun 24;105(25):8713-7.
- 10: Thomas RK... **Dutt A** et al. High-throughput oncogene mutation profiling in human cancer. *Nat Genet*. 2007 Mar;39(3):347-51.
- 9: **Dutt A**, Beroukhim R. Single nucleotide polymorphism array analysis of cancer. *sCurr Opin Oncol*. 2007 Jan;19(1):43-9. Review.
- 8: **Dutt A**, Wong KK. Mouse models of lung cancer. *Clin Cancer Res*. 2006 Jul 15;12(14 Pt 2):4396s-4402s. Review.
- 7: Murtaza I... **Dutt A** et al. A study on p53 gene alterations in esophageal squamous cell carcinoma and their correlation to common dietary risk factors among population of the Kashmir valley. *World J Gastroenterol*. 2006 Jul 7;12(25):4033-7.
- 6: Murtaza I. **Dutt A**. A preliminary investigation demonstrating the effect of quercetin on the expression of genes related to cell-cycle arrest, apoptosis and xenobiotic metabolism in human CO115 colon-adenocarcinoma cells using DNA microarray. *Biotechnol Appl Biochem*. 2006 Jul;45(Pt 1):29-36.
- 5: Murtaza I, **Dutt A**, Mushtaq D, Ali A. Molecular cloning and genetic analysis of functional merB gene from indian isolates of Escherichia coli. *Curr Microbiol*. 2005 Nov;51(5):297-302.
- 4: **Dutt A**, Canevascini S, Froehli-Hoier E, Hajnal A. EGF signal propagation during C. elegans vulval development mediated by ROM-1 rhomboid. *PLoS Biol*. 2004 Nov;2(11):e334.

- 3: Murtaza I, **Dutt A**, Ali A. Relationship between the persistence of mer operon sequences in *Escherichia coli* and their resistance to mercury. *Curr Microbiol.* 2002 Mar;44(3):178-83.
- 2: Murtaza I, **Dutt A** and Ali Arif 2002 Biomolecular engineering of organomercurial lyase in *Escherichia coli*. *Indian J. Biotech.* 2002;1:117-120. (ISSN: 0972-5849)
- 1: Murtaza I, **Dutt A** and Ali Arif. 2001 Inducible mercury operons in Broad Spectrum *Escherichia coli* *Ind. J. Microbiol.* 2001; 41:169-172, (ISSN: 0046-899)

PUBLICATIONS (Book Chapters)

- 1: Pratik Chandrani and **Amit Dutt** Domain specific Targeting of Cancer. Chapter XII in Book entitled, "Nuclear Signaling Pathways and Targetting Transcription in Cancer", Springer Science & Business Media, 2013; 299-310
- 2: Next Generation Sequencing and Cancer Biology, by **Amit Dutt**-- an invited article in "Cutting Edge", May 2012, A Spinco Biotech Publication

PROFESSIONAL CO-CURRICULAR ACTIVITIES

14. On the expert panel of Dept of Science and Technology, Govt of Haryana for Haryana Vigyan / Yuva Vigram Ratan Awards for 2017 and 2018
13. Innovative Young Biotechnologist Award (IYBA) Expert Screening Committee Member for 2018, DBT
12. Organizer of the Cancer Informatics pre-Conference Workshop at the 38th Annual IACR Conference, Chandigarh
11. Organizer of the 7th Molecular Pathologist Association of India (MPAI) meeting 2019 at ACTREC, Tata Memorial Centre, Mumbai (<http://mpai.co.in/conference.html>), along with a pre conference workshop on NGS Data Analysis
10. Organizer of the UK-India Cancer Bioinformatics Workshop on 'Next-Generation Sequencing Data Analysis' – jointly funded by Tata Memorial Centre and Kings College London—from Oct 28-31 2018.
9. Organizer of DBT Sponsored Cancer Informatics Workshop on Next Gen Data Analysis from Jan 28-30, 2013
8. Co-organized the TMC 75th Platinum jubilee conference with theme, “A conference of new ideas in cancer - challenging dogmas” from Feb 24-26, 2016 in Mumbai.
7. Advisory Board of DiseaseBiology.info; of Aegle Sciences; and, inDNA Research Labs Pvt Ltd.
6. Organized the DBT Sponsored Cancer Informatics Workshop on Next Gen Data Analysis from Jan 28-30, 2013 (http://www.actrec.gov.in/pi-webpages/AmitDutt/cwi_workshop.html)
5. Organized the Second Global Cancer Genome Consortium (GCGC) TMC Symposium at ACTREC, Nov 2012—an initiative by three leading academic institutions; George Washington University, USA, Oxford University, UK and Tata Memorial Centre India (<http://www.gcgc.in>)
4. Organized the first Global Cancer Genome Consortium (GCGC) TMC Symposium at ACTREC, Nov 2011—an initiative by three leading academic institutions; George Washington University, USA, Oxford University, UK and Tata Memorial Centre India (<http://www.gcgc.in>)
3. Organized (along with a group fellow scientists) The Young Investigator Meeting Boston 2010 at The Broad Institute of Harvard and MIT-- <http://www.yimboston.org>.
2. Active organizer and volunteer for the USA-India Biopharma Summit for the years 2008, 2009, 2010 and for 2011- <http://www.usaindiachamber.org/current-events.shtml>
1. Initiated and established (along with a group of fellow graduate students) Indian Student Association of Zurich- <http://www.insaz.ethz.ch/>

SELECTED NEWS MEDIA REPORTS

[Potential therapy for drug-defying gallbladder cancer](#)

[Existing drug can be used for treating gallbladder cancer](#)

[How progesterone protects breast cancer patients unravelled](#)

[TMC overcomes resistance to hormonal therapy for breast cancer](#)

[Biomarker tells of tongue cancer spread](#)

[Genetic signature for tobacco/nut chewing HPV-negative early tongue cancer & prognostic biomarker for metastasis](#)

[New genetic marker for oral cancer](#)

[Potential therapy for lung cancer](#)

[A new and free computational tool for HPV detection](#)

[For lung cancer patients in India, key to treatment could be malfunctioning gene](#)

[Novel genetic marker identified for lung adenocarcinoma](#)

[Non-typhoidal Salmonella in gallbladder cancer](#)

[Fighting cancer is team work at Tata Memorial](#)

[How genetic data of Indian lung cancer patients can now help them get better treatment](#)

[\[Lignum Vitae, Xaviers College, Mumbai\]](#)

[It is a moment of pride for Jamia Millia Islamia](#)

[\[Wikipedia\] \[The Wire\] \[The Hindu\]](#)