

EDUCATION	<p>Princeton University, USA 2012-17 Ph.D., Chemical and Biological Engineering Thesis: Quantitative biology of developmental Ras signaling Advisors: Stanislav Y. Shvartsman and Gertrud M. Schüpbach</p> <p>Indian Institute of Technology (IIT) Gandhinagar, India 2008-12 B.Tech. (Honors), Chemical Engineering</p>
RESEARCH EXPERIENCE	<p>Postdoctoral Researcher, Arjun Raj, University of Pennsylvania, USA 2017- Developing computational and experimental single-cell platforms to study the plasticity and reprogramming paradigms in cancer.</p> <p>Research Intern, Genentech, USA 2016 Assisted in identifying novel regulatory mechanisms underlying the epigenetic control of tumorigenesis in cancer cells.</p> <p>Research Intern, Washington University in St. Louis, USA 2010 Developed a data-driven regression model to predict the metabolic yield for various microbial species.</p> <p>Research Intern, IIT Bombay, India 2009 Performed experiments and quality control tests to produce biodiesel from different feedstocks.</p>
FELLOWSHIPS & AWARDS	<p>Post-PhD</p> <p>Jane Coffin Childs Memorial Fund Fellowship [\$163,500 stipend] 2019- Schmidt Science Fellowship, with the Rhodes Trust [\$100,000 stipend] 2018-19</p> <p>PhD</p> <p>Sir Gordon Wu Fellowship: Highest honor for an incoming engineering graduate student, Princeton University [\$20,000 supplement] 2012-16 William R. Schowalter Travel Fund, Princeton University [\$500/travel] 2015, 2017 Peoples Choice Award, Art of Science, Princeton University 2014</p> <p>Undergraduate</p> <p>Institute Gold Medal: First rank, Chemical Engineering, IIT Gandhinagar 2012 Outstanding Research Award: Class of 2012, IIT Gandhinagar 2012 Award for Undergraduate Publications, IIT Gandhinagar [₹50,000] 2012 Scholarship for Academic Excellence, IIT Gandhinagar [₹20,000] 2011-12 International Travel Grant, DST, Government of India [₹1,00,000] 2011 Merit-cum-Means Scholarship, IIT Gandhinagar [Full tuition+stipend] 2010-11 Travel Grant, McDonnell International Scholars Academy [\$1,500] 2010 MAGEEP Fellowship, Washington University in St. Louis [\$5,000] 2010</p>
JOURNAL PUBLICATIONS	<p>Total: 16; first/co-first author: 10 [* = equal contribution]</p> <p>*Jindal G.A., *Goyal Y., Humphreys J.M., Yeung E., Tian K., Patterson V.L., He H., Burdine R.D., Goldsmith E.J., Shvartsman S.Y., “How activating mutations affect MEK1 regulation and function”, <u>Journal of Biological Chemistry</u>, 2017.</p>

Cuellar T. L., Herzner A-M., Zhang X., **Goyal Y.**, Watanabe C., et. al., “Silencing of retrotransposons by SETDB1 inhibits the interferon response in acute myeloid leukemia”, Journal of Cell Biology, 2017.

Previewed by: Robbez M.L., Tie H.C., and Rowe H.M., Journal of Cell Biology, 2017.

***Goyal Y.**, *Levario T.J., Mattingly H.H., Holmes S., Shvartsman S.Y., and Lu H., “Parallel imaging of *Drosophila* embryos for quantitative analysis of genetic perturbations of the Ras pathway”, Disease Models & Mechanisms, 2017.

Highlighted by: [The Node](#).

*Rogers W.A., ***Goyal Y.**, Yamaya K., Shvartsman S.Y., and Levine M.S., “Uncoupling neurogenic gene networks in the *Drosophila* embryo”, Genes & Development, 2017.

Previewed by: Crews S., Genes & Development, 2017.

***Goyal Y.**, *Jindal G.A., Pelliccia J.L., Yamaya K., Yeung E., Futran A.S., Burdine R.D., Schüpbach T., and Shvartsman S.Y., “Divergent effects of intrinsically active MEK variants on developmental Ras signaling”, Nature Genetics, 2017.

Highlighted by: [F1000Prime](#).

Media coverage: [MedicalXpress](#), [EurekAlert](#), [Technology Org](#), [Medical News](#).

*Jindal G.A., ***Goyal Y.**, Yamaya K., Futran A.S., Kountouridis J., Schüpbach T., Burdine R.D., and Shvartsman S.Y., “In vivo severity ranking of Ras pathway mutations associated with developmental disorders”, PNAS, 2017.

*Johnson H.E., ***Goyal Y.**, Pannucci N., Schüpbach T., Shvartsman S.Y., and Toettcher J.E., “The spatiotemporal limits of developmental Erk signaling”, Developmental Cell, 2017.

Awarded: [Best of 2017, Developmental Cell](#).

Journal cover: [January 23, 2017 issue](#).

Previewed by: Shilo B. and Barkai N., Developmental Cell, 2017.

Highlighted by: [F1000Prime](#).

*Jindal G.A., ***Goyal Y.**, Burdine R.D., Rauen K.A., and Shvartsman S.Y., “Rasopathies: unraveling mechanisms with animal models”, Disease Models & Mechanisms, 2015.

Jenni S., **Goyal Y.**, Grotthuss M.V., Shvartsman S.Y., and Klein D.E., “Structural basis of neurohormone perception by the receptor tyrosine kinase torso”, Molecular Cell, 2015.

Goyal Y., Kumar M., and Gayen K., “Metabolic engineering for enhanced hydrogen production: a review”, Canadian Journal of Microbiology, 2013.

Kumar M., **Goyal Y.**, Sarkar A., and Gayen K., “Comparative economic assessment of ABE fermentation based on cellulosic and non-cellulosic feedstocks”, Applied Energy, 2012

*Colletti P. F., ***Goyal Y.**, Varman A. M., Feng X., Wu B., and Tang Y.J., “Evaluating factors that influence microbial synthesis yields by linear regression with numerical and ordinal variables”, Biotechnology and Bioengineering, 2011.

Highlighted by: [Two year metabolic engineering issue](#), Biotechnology and Bioengineering.

Sahu M., Wu B., Zhu L., Jacobson C., Wang W., Jones K., **Goyal Y.**, Tang Y.J., Biswas P., “Role of dopant concentration, crystal phase, and particle size on microbial inactivation of Cu-doped TiO₂ nanoparticles”, Nanotechnology, 2011.

FORTHCOMING PUBLICATIONS	Paul S., Yang L., Mattingly H.H., Goyal Y. , Shvartsman S.Y., Veraksa A., “Activation-induced substrate engagement in Erk signaling”. (<u>in revision</u>)	
	Goyal Y. , Schüpbach T., Shvartsman S.Y., “A quantitative model of developmental RTK signaling”. (<u>in review</u>)	
	Syal S., Goyal Y. , et. al., “Critical requirement of BMP signaling during embryonic primordial germ cell (PGC) specification”. (<u>in preparation</u>)	
TALKS	Institute of Bioengineering, EPFL, Switzerland	2018
	Developmental Biology, Stanford University, USA	2017
	Chemical Engineering, Indian Institute of Science Bangalore, India	2017
	Mathematical Institute, University of Oxford, UK	2017
	Molecular Biosciences, Imperial College London, UK	2017
	AIChE Annual Meeting, USA	2016
	Discovery Oncology, Genentech, USA	2016
	Molecular Biology, Genentech, USA	2016
	Biophysics, UT Southwestern Medical Centre, USA	2016
	Developmental Colloquium, Princeton University, USA	2016
	Graduate Student Symposium, Princeton University, USA	2015
	Chemical Engineering, IIT Gandhinagar, India	2013
	64 th Annual IChE meeting, India	2011
POSTER PRESENTATIONS	Bioengineering Day [‡] , Princeton University, USA	2015
	4 th International RASopathies Symposium, USA	2015
	56 th Annual <i>Drosophila</i> Research Conference, USA	2015
	111 th American Society for Microbiology General Meeting, USA	2011
	[[‡] best poster award]	
MENTORING	Graduate students	
	Lea Schuh, Mathematics, Technische Universität München	2018
	Shannon Keenan, Chemical Engineering, Princeton University	2016-17
	Eyan Yeung, Molecular Biology, Princeton University	2016-17
	Undergraduate students	
	Kaijia Tian [†] , Chemical Engineering, Princeton University	2016-17
	Kei Yamaya, Molecular Biology, Princeton University	2015-17
	Natalia Chen, Electrical Engineering, Princeton University	2015
	An Chu, Chemistry, Princeton University	2014-15
	Nalin Ratnayake, Physics and Biology, UT Austin	2014
	[[†] best thesis award]	
TEACHING EXPERIENCE	Teaching Assistant , Princeton University, USA	
	MAT/MAE 305: Mathematics in Engineering-I Instructor: Yannis G. Kevrekidis	2014
	Teaching Assistant , IIT Gandhinagar, India	
	CL 207: Chemical Process Calculations Instructor: S.L. Narayanamurthy	2009
	MA 102: Linear Algebra Instructor: Devidas Pai	2009

