

CURRICULUM VITAE of**John Louis Rinn Jr., PhD**

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**EDUCATION AND TRAINING:**

Bachelor of Science in Chemistry, University of Minnesota, Duluth, MN, 1999
 Honors: Cum Laude

Master of Philosophy in Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, 2001
 Advisor: Dr. Michael Snyder

Doctor of Philosophy in Molecular Biophysics and Biochemistry, Yale University, New Haven, CT, 2004
 Advisor: Dr. Michael Snyder

Post-doctoral Associate, Stanford University, Palo Alto, CA, 2004-2007
 Advisor: Dr. Howard Chang

ACADEMIC APPOINTMENTS:

Assistant Professor, Pathology, Harvard Medical School, Boston, MA, 2008 – 2017

Associate Member, Broad Institute, Cambridge, MA, 2008-2011

Principal Investigator, Harvard Stem Cell Initiative, Boston, MA, 2009-2017

Senior Associate Member, Broad Institute, Cambridge, MA, 2011-2017

Alvin And Esta Starr Professor, Stem Cell and Regenerative Biology, Harvard University, 2015-2017

Visiting Professor, Stem Cell and Regenerative Biology, Harvard University, 2017-2019

Leslie Orgel Professor of RNA Science, University of Colorado Boulder, 2017-present

Marvin H. Caruthers Endowed Chair for Early-Career Faculty, 2017-present

PROFESSIONAL AFFILIATIONS:

Scientific Advisory Board, Sigma Aldrich, 2009-2011

Scientific Advisory Board, SUNY Albany RNA Institute, 2011-2019

Scientific Advisory Board, RNA Central, 2012-2017

Scientific Advisory Board, RaNA, 2012-2017

Scientific Advisory Board, GENCODE, 2013-2021

Scientific Advisory Board, Haya Therapeutics, 2021-present

Scientific Advisory Board, Moonwalk Therapeutics, 2023-present

HONORS AND RECOGNITIONS:

1999

Casmir Illunda Award for Best Senior Thesis

2002

AAAS Biovision Fellowship

2003	McDougal Fellowship
2004	Yale University School of Arts and Sciences Commencement Marshall
2005-2007	Damon Runyon Cancer Foundation Fellowship
2008-2011	Smith Family Foundation Fellowship
2009-2012	Damon Runyon-Rachleff Innovation
2009-2012	Searle Scholar Fellowship
2009	Popular Science Magazine “Brilliant Ten”
2009-2014	NIH Innovator Award
2010	Merkin Next Generation Fellow
2012	PopTech Science Fellow
2014	National Academy of Science Sackler Colloquium Speaker
2014	National Academy of Science Distinctive Voices Speaker
2014	Thompson Reuters Most Influential Scientist
2016-2022	HHMI Faculty Scholars
2020	Web of Science Top 1% Most Influential Scientists
2023	Best Geneticists in the world (Rank 643) Research.com

PATENTS:

- 1) Segal, E, Kertesz, M, Chang, HY, **Rinn, J**, Adler, A, Wan, Y. (Withdrawn) *Methods of predicting pairability and secondary structures of RNA molecules* (World Patent WO 2010/109463 A2). World Intellectual Property Organization.
- 2) Ting, A, Kaewsapsak, P, Shechner, DM, **Rinn, J.L.** (2017) *Methods for isolating endogenous nucleic acids from subcellular compartments without fractionation* (U.S. Patent No. US 2017/0227531 A1). U.S. Patent and Trademark Office.
- 3) **Rinn, J.L.**, Schechner, DM. (2021) *Methods of making and using guide RNA for use with Cas9 systems* (U.S. Patent No. US 10,920,221 B2). U.S. Patent and Trademark Office.
- 4) Friendewey, D, Gong, G, Lai KV, **Rinn, J.L.**, Valenzuela DM. (2018) *LincRNA-deficient non-human animals* (AU 2017200283 B2). Australian Patent Office.
- 5) Dumbovic, G, **Rinn, J.**, Caruthers, M, Jastrzebska, K, Langner, HK. (Pending) *Method for retaining splicing RNAs in the nucleus based on chemically modified antisense oligonucleotides* (World Patent WO 2021/155120 A1). World Intellectual Property Organization.

PUBLICATIONS:

Includes peer-reviewed primary research articles, reviews, and book chapters

h-index: 100, i-index: 161

1. Martone, R., Euskirchen, G., Bertone, P., Hartman, S., Royce, T. E., Luscombe, N. M., **Rinn, J.L.**, Nelson, F. K., Miller, P., Gerstein, M., Weissman, S., and Snyder, M. (2003) Distribution of NF-κB-binding sites across human chromosome 22. *Proc National Acad Sci.* **100**, 12247–12252
2. **Rinn, J.L.**, Euskirchen, G., Bertone, P., Martone, R., Luscombe, N. M., Hartman, S., Harrison, P. M., Nelson, F. K., Miller, P., Gerstein, M., Weissman, S., and Snyder, M. (2003) The transcriptional activity of human Chromosome 22. *Gene Dev.* **17**, 529–540
3. Euskirchen, G., Royce, T. E., Bertone, P., Martone, R., **Rinn, J.L.**, Nelson, F. K., Sayward, F., Luscombe, N. M., Miller, P., Gerstein, M., Weissman, S., and Snyder, M. (2004) CREB Binds to Multiple Loci on Human Chromosome 22. *Mol Cell Biol.* **24**, 3804–3814
4. Bertone, P., Stolc, V., Royce, T. E., Rozowsky, J. S., Urban, A. E., Zhu, X., **Rinn, J.L.**, Tongprasit, W., Samanta, M., Weissman, S., Gerstein, M., and Snyder, M. (2004) Global Identification of Human Transcribed Sequences with Genome Tiling Arrays. *Science.* **306**, 2242–2246

5. **Rinn, J.L.**, Rozowsky, J. S., Laurenzi, I. J., Petersen, P. H., Zou, K., Zhong, W., Gerstein, M., and Snyder, M. (2004) Major Molecular Differences between Mammalian Sexes Are Involved in Drug Metabolism and Renal Function. *Dev Cell*. **6**, 791–800
6. O'Geen, H., Squazzo, S. L., Iyengar, S., Blahnik, K., **Rinn, J.L.**, Chang, H. Y., Green, R., and Farnham, P. (2005) Genome-Wide Analysis of KAP1 Binding Suggests Autoregulation of KRAB-ZNFs. *Plos Genet.* **preprint**, e89
7. **Rinn, J.L.**, and Snyder, M. (2005) Sexual dimorphism in mammalian gene expression. *Trends Genet.* **21**, 298–305
8. **Rinn, J.L.**, Bondre, C., Gladstone, H. B., Brown, P. O., and Chang, H. Y. (2006) Anatomic Demarcation by Positional Variation in Fibroblast Gene Expression Programs. *Plos Genet.* **2**, e119
9. Lan, F., Bayliss, P. E., **Rinn, J.L.**, Whetstine, J. R., Wang, J. K., Chen, S., Iwase, S., Alpatov, R., Issaeva, I., Canaani, E., Roberts, T. M., Chang, H. Y., and Shi, Y. (2007) A histone H3 lysine 27 demethylase regulates animal posterior development. *Nature*. **449**, 689–694
10. **Rinn, J.L.**, Kertesz, M., Wang, J. K., Squazzo, S. L., Xu, X., Brugmann, S. A., Goodnough, L. H., Helms, J. A., Farnham, P. J., Segal, E., and Chang, H. Y. (2007) Functional Demarcation of Active and Silent Chromatin Domains in Human HOX Loci by Noncoding RNAs. *Cell*. **129**, 1311–1323
11. O'Geen, H., Squazzo, S. L., Iyengar, S., Blahnik, K., **Rinn, J.L.**, Chang, H. Y., Green, R., and Farnham, P. J. (2007) Genome-Wide Analysis of KAP1 Binding Suggests Autoregulation of KRAB-ZNFs. *Plos Genet.* **3**, e89
12. Khavari, T. A., and **Rinn, J.L.** (2007) Ras/Erk MAPK Signaling in Epidermal Homeostasis and Neoplasia. *Cell Cycle*. **6**, 2928–2931
13. **Rinn, J.L.**, Wang, J. K., Allen, N., Brugmann, S. A., Mikels, A. J., Liu, H., Ridky, T. W., Stadler, H. S., Nusse, R., Helms, J. A., and Chang, H. Y. (2008) A dermal HOX transcriptional program regulates site-specific epidermal fate. *Gene Dev.* **22**, 303–307
14. **Rinn, J.L.**, Wang, J. K., Liu, H., Montgomery, K., Rijn, M. van de, and Chang, H. Y. (2008) A Systems Biology Approach to Anatomic Diversity of Skin. *J Invest Dermatol.* **128**, 776–782
15. Su, M. A., Giang, K., Žumer, K., Jiang, H., Oven, I., **Rinn, J.L.**, DeVoss, J. J., Johannes, K. P. A., Lu, W., Gardner, J., Chang, A., Bubulya, P., Chang, H. Y., Peterlin, B. M., and Anderson, M. S. (2008) Mechanisms of an autoimmunity syndrome in mice caused by a dominant mutation in Aire. *J Clin Invest.* **118**, 1712–1726
16. Guttman, M., Amit, I., Garber, M., French, C., Lin, M. F., Feldser, D., Huarte, M., Zuk, O., Carey, B. W., Cassady, J. P., Cabili, M. N., Jaenisch, R., Mikkelsen, T. S., Jacks, T., Hacohen, N., Bernstein, B. E., Kellis, M., Regev, A., **Rinn, J.L.**, and Lander, E. S. (2009) Chromatin signature reveals over a thousand highly conserved large non-coding RNAs in mammals. *Nature*. **458**, 223–227
17. Somervaille, T. C. P., Matheny, C. J., Spencer, G. J., Iwasaki, M., **Rinn, J.L.**, Witten, D. M., Chang, H. Y., Shurtleff, S. A., Downing, J. R., and Cleary, M. L. (2009) Hierarchical Maintenance of MLL Myeloid Leukemia Stem Cells Employs a Transcriptional Program Shared with Embryonic Rather Than Adult Stem Cells. *Cell Stem Cell*. **4**, 129–140
18. Mace, K. A., Restivo, T. E., **Rinn, J.L.**, Paquet, A. C., Chang, H. Y., Young, D. M., and Boudreau, N. J. (2009) HOXA3 Modulates Injury-Induced Mobilization and Recruitment of Bone Marrow-Derived Cells. *Stem Cells*. **27**, 1654–1665

19. Khalil, A. M., Guttman, M., Huarte, M., Garber, M., Raj, A., Morales, D. R., Thomas, K., Presser, A., Bernstein, B. E., Oudenaarden, A. van, Regev, A., Lander, E. S., and **Rinn, J.L.** (2009) Many human large intergenic noncoding RNAs associate with chromatin-modifying complexes and affect gene expression. *P Natl Acad Sci Usa*. **106**, 11667–72
20. Amit, I., Garber, M., Chevrier, N., Leite, A. P., Donner, Y., Eisenhaure, T., Guttman, M., Grenier, J. K., Li, W., Zuk, O., Schubert, L. A., Birditt, B., Shay, T., Goren, A., Zhang, X., Smith, Z., Deering, R., McDonald, R. C., Cabili, M., Bernstein, B. E., **Rinn, J.L.**, Meissner, A., Root, D. E., Hacohen, N., and Regev, A. (2009) Unbiased Reconstruction of a Mammalian Transcriptional Network Mediating Pathogen Responses. *Science*. **326**, 257–263
21. Huarte, M., Guttman, M., Feldser, D., Garber, M., Koziol, M. J., Kenzelmann-Broz, D., Khalil, A. M., Zuk, O., Amit, I., Rabani, M., Attardi, L. D., Regev, A., Lander, E. S., Jacks, T., and **Rinn, J.L.** (2010) A Large Intergenic Noncoding RNA Induced by p53 Mediates Global Gene Repression in the p53 Response. *Cell*. **142**, 409–419
22. Guttman, M., Garber, M., Levin, J. Z., Donaghey, J., Robinson, J., Adiconis, X., Fan, L., Koziol, M. J., Gnirke, A., Nusbaum, C., **Rinn, J.L.**, Lander, E. S., and Regev, A. (2010) Ab initio reconstruction of cell type-specific transcriptomes in mouse reveals the conserved multi-exonic structure of lincRNAs. *Nat Biotechnol*. **28**, 503–510
23. Khavari, D. A., Sen, G. L., and **Rinn, J.L.** (2010) DNA methylation and epigenetic control of cellular differentiation. *Cell Cycle Georget Tex*. **9**, 3880–3
24. Kertesz, M., Wan, Y., Mazor, E., **Rinn, J.L.**, Nutter, R. C., Chang, H. Y., and Segal, E. (2010) Genome-wide measurement of RNA secondary structure in yeast. *Nature*. **467**, 103–107
25. Loewer, S., Cabili, M. N., Guttman, M., Loh, Y.-H., Thomas, K., Park, I. H., Garber, M., Curran, M., Onder, T., Agarwal, S., Manos, P. D., Datta, S., Lander, E. S., Schlaeger, T. M., Daley, G. Q., and **Rinn, J.L.** (2010) Large intergenic non-coding RNA-RoR modulates reprogramming of human induced pluripotent stem cells. *Nat Genet*. **42**, 1113–1117
26. Huarte, M., and **Rinn, J.L.** (2010) Large non-coding RNAs: missing links in cancer? *Hum Mol Genet*. **19**, R152-61
27. Zhu, H., Shah, S., Shyh-Chang, N., Shinoda, G., Einhorn, W. S., Viswanathan, S. R., Takeuchi, A., Grasmann, C., **Rinn, J.L.**, Lopez, M. F., Hirschhorn, J. N., Palmert, M. R., and Daley, G. Q. (2010) Lin28a transgenic mice manifest size and puberty phenotypes identified in human genetic association studies. *Nat Genet*. **42**, 626–630
28. Gupta, R. A., Shah, N., Wang, K. C., Kim, J., Horlings, H. M., Wong, D. J., Tsai, M.-C., Hung, T., Argani, P., **Rinn, J.L.**, Wang, Y., Brzoska, P., Kong, B., Li, R., West, R. B., Vijver, M. J. van de, Sukumar, S., and Chang, H. Y. (2010) Long non-coding RNA HOTAIR reprograms chromatin state to promote cancer metastasis. *Nature*. **464**, 1071–1076
29. Slack, F. J., Khalil, A. M., Huarte, M., and **Rinn, J.L.** (2010) Micrnas in Development and Cancer. *Mol Medicine Medicinal Chem*. 10.1142/9781848163676_0002
30. Koziol, M. J., and **Rinn, J.L.** (2010) RNA traffic control of chromatin complexes. *Curr Opin Genet Dev*. **20**, 142–8
31. Kellis, M., and **Rinn, J.L.** (2010) Sequences to systems. *Genome Biol*. **11**, 303
32. Broadbent, K. M., Park, D., Wolf, A. R., Tyne, D. V., Sims, J. S., Ribacke, U., Volkman, S., Duraisingh, M., Wirth, D., Sabeti, P. C., and **Rinn, J.L.** (2011) A global transcriptional analysis of Plasmodium falciparum malaria reveals a novel family of telomere-associated lncRNAs. *Genome Biol*. **12**, R56

33. Adams, D. J., Berger, B., Harismendy, O., Huttenhower, C., Liu, X. S., Myers, C. L., Oshlack, A., **Rinn, J.L.**, and Walhout, A. J. M. (2011) Genomics in 2011: challenges and opportunities. *Genome Biol.* **12**, 137–137
34. Roberts, A., Trapnell, C., Donaghey, J., **Rinn, J.L.**, and Pachter, L. (2011) Improving RNA-Seq expression estimates by correcting for fragment bias. *Genome Biol.* **12**, R22
35. Cabili, M. N., Trapnell, C., Goff, L., Koziol, M., Tazon-Vega, B., Regev, A., and **Rinn, J.L.** (2011) Integrative annotation of human large intergenic noncoding RNAs reveals global properties and specific subclasses. *Gene Dev.* **25**, 1915–1927
36. Guttman, M., Donaghey, J., Carey, B. W., Garber, M., Grenier, J. K., Munson, G., Young, G., Lucas, A. B., Ach, R., Bruhn, L., Yang, X., Amit, I., Meissner, A., Regev, A., **Rinn, J.L.**, Root, D. E., and Lander, E. S. (2011) lincRNAs act in the circuitry controlling pluripotency and differentiation. *Nature.* **477**, 295–300
37. Pauli, A., **Rinn, J.L.**, and Schier, A. F. (2011) Non-coding RNAs as regulators of embryogenesis. *Nat Rev Genetics.* **12**, 136–49
38. Khalil, A. M., and **Rinn, J.L.** (2011) RNA–protein interactions in human health and disease. *Semin Cell Dev Biol.* **22**, 359–365
39. Clark, M. B., Amaral, P. P., Schlesinger, F. J., Dinger, M. E., Taft, R. J., **Rinn, J.L.**, Ponting, C. P., Stadler, P. F., Morris, K. V., Morillon, A., Rozowsky, J. S., Gerstein, M. B., Wahlestedt, C., Hayashizaki, Y., Carninci, P., Gingeras, T. R., and Mattick, J. S. (2011) The Reality of Pervasive Transcription. *Plos Biol.* **9**, e1000625
40. **Rinn, J.L.**, and Huarte, M. (2011) To repress or not to repress: This is the guardian’s question. *Trends Cell Biol.* **21**, 344–353
41. Hacisuleyman, E., Cabili, M. N., and **Rinn, J.L.** (2012) A Keystone for ncRNA. *Genome Biol.* **13**, 315
42. Cabili, M., Lander, E., Sabeti, P., Regev, A., **Rinn, J.L.**, Trapnell, C., Goff, L., Broadbent, K., and Guttman, M. (2012) Abstract IA4: Linking RNA to human health and disease. *Cancer Res.* **72**, IA4–IA4
43. Washietl, S., Will, S., Hendrix, D. A., Goff, L. A., **Rinn, J.L.**, Berger, B., and Kellis, M. (2012) Computational analysis of noncoding RNAs. *Wiley Interdiscip Rev Rna.* **3**, 759–778
44. Kretz, M., Siprashvili, Z., Chu, C., Webster, D. E., Zehnder, A., Qu, K., Lee, C. S., Flockhart, R. J., Groff, A. F., Chow, J., Johnston, D., Kim, G. E., Spitale, R. C., Flynn, R. A., Zheng, G. X. Y., Aiyer, S., Raj, A., **Rinn, J.L.**, Chang, H. Y., and Khavari, P. A. (2012) Control of somatic tissue differentiation by the long non-coding RNA TINCR. *Nature.* **493**, 231–5
45. Trapnell, C., Roberts, A., Goff, L., Pertea, G., Kim, D., Kelley, D. R., Pimentel, H., Salzberg, S. L., **Rinn, J.L.**, and Pachter, L. (2012) Differential gene and transcript expression analysis of RNA-seq experiments with TopHat and Cufflinks. *Nat Protoc.* **7**, 562–578
46. **Rinn, J.L.**, and Chang, H. Y. (2012) Genome Regulation by Long Noncoding RNAs. *Biochemistry-us.* **81**, 145–166
47. Siprashvili, Z., Webster, D. E., Kretz, M., Johnston, D., **Rinn, J.L.**, Chang, H. Y., and Khavari, P. A. (2012) Identification of proteins binding coding and non-coding human RNAs using protein microarrays. *Bmc Genomics.* **13**, 633
48. Guttman, M., and **Rinn, J.L.** (2012) Modular regulatory principles of large non-coding RNAs. *Nature.* **482**, 339–346

49. Slavoff, S. A., Mitchell, A. J., Schwaid, A. G., Cabili, M. N., Ma, J., Levin, J. Z., Karger, A. D., Budnik, B. A., **Rinn, J.L.**, and Saghatelian, A. (2012) Peptidomic discovery of short open reading frame–encoded peptides in human cells. *Nat Chem Biol.* **9**, 59–64
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51. Kretz, M., Webster, D. E., Flockhart, R. J., Lee, C. S., Zehnder, A., Lopez-Pajares, V., Qu, K., Zheng, G. X. Y., Chow, J., Kim, G. E., **Rinn, J.L.**, Chang, H. Y., Siprashvili, Z., and Khavari, P. A. (2012) Suppression of progenitor differentiation requires the long noncoding RNA ANCR. *Gene Dev.* **26**, 338–343
52. Pauli, A., Valen, E., Lin, M. F., Garber, M., Vastenhouw, N. L., Levin, J. Z., Fan, L., Sandelin, A., **Rinn, J.L.**, Regev, A., and Schier, A. F. (2012) Systematic identification of long noncoding RNAs expressed during zebrafish embryogenesis. *Genome Res.* **22**, 577–591
53. Mercer, T. R., Gerhardt, D. J., Dinger, M. E., Crawford, J., Trapnell, C., Jeddelloh, J. A., Mattick, J. S., and **Rinn, J.L.** (2012) Targeted RNA sequencing reveals the deep complexity of the human transcriptome. *Nat Biotechnol.* **30**, 99–104
54. Trapnell, C., Hendrickson, D. G., Sauvageau, M., Goff, L., **Rinn, J.L.**, and Pachter, L. (2013) Differential analysis of gene regulation at transcript resolution with RNA-seq. *Nat Biotechnol.* **31**, 46–53
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58. Sauvageau, M., Goff, L. A., Lodato, S., Bonev, B., Groff, A. F., Gerhardinger, C., Sanchez-Gomez, D. B., Hacisuleyman, E., Li, E., Spence, M., Liapis, S. C., Mallard, W., Morse, M., Swerdel, M. R., D'Ecclessis, M. F., Moore, J. C., Lai, V., Gong, G., Yancopoulos, G. D., Frendewey, D., Kellis, M., Hart, R. P., Valenzuela, D. M., Arlotta, P., and **Rinn, J.L.** (2013) Multiple knockout mouse models reveal lincRNAs are required for life and brain development. *Elife.* **2**, e01749
59. Marín-Béjar, O., Marchese, F. P., Athie, A., Sánchez, Y., González, J., Segura, V., Huang, L., Moreno, I., Navarro, A., Monzó, M., García-Foncillas, J., **Rinn, J.L.**, Guo, S., and Huarte, M. (2013) Pint lincRNA connects the p53 pathway with epigenetic silencing by the Polycomb repressive complex 2. *Genome Biol.* **14**, R104–R104
60. Goff, L. A., and **Rinn, J.L.** (2013) Poly-combing the genome for RNA. *Nat Struct Mol Biol.* **20**, 1344–6
61. Chew, G.-L., Pauli, A., **Rinn, J.L.**, Regev, A., Schier, A. F., and Valen, E. (2013) Ribosome profiling reveals resemblance between long non-coding RNAs and 5' leaders of coding RNAs. *Development.* **140**, 2828–2834

62. Yoon, J.-H., Abdelmohsen, K., Kim, J., Yang, X., Martindale, J. L., Tominaga-Yamanaka, K., White, E. J., Orjalo, A. V., **Rinn, J.L.**, Kreft, S. G., Wilson, G. M., and Gorospe, M. (2013) Scaffold function of long non-coding RNA HOTAIR in protein ubiquitination. *Nat Commun.* **4**, 2939
63. Doolittle, W. F., Fraser, P., Gerstein, M. B., Graveley, B. R., Henikoff, S., Huttenhower, C., Oshlack, A., Ponting, C. P., **Rinn, J.L.**, Schatz, M. C., Ule, J., Weigel, D., and Weinstock, G. M. (2013) Sixty years of genome biology. *Genome Biol.* **14**, 113–113
64. Henao-Mejia, J., Williams, A., Goff, L. A., Staron, M., Licona-Limón, P., Kaech, S. M., Nakayama, M., **Rinn, J.L.**, and Flavell, R. A. (2013) The MicroRNA miR-181 Is a Critical Cellular Metabolic Rheostat Essential for NKT Cell Ontogenesis and Lymphocyte Development and Homeostasis. *Immunity.* **38**, 984–997
65. Younger, S. T., and **Rinn, J.L.** (2014) 'Lnc'-ing enhancers to MYC regulation. *Cell Res.* **24**, 643–644
66. **Rinn, J.L.**, and Ule, J. (2014) 'Oming in on RNA–protein interactions. *Genome Biol.* **15**, 401
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68. Lodato, S., Molyneaux, B. J., Zuccaro, E., Goff, L. A., Chen, H.-H., Yuan, W., Meleski, A., Takahashi, E., Mahony, S., **Rinn, J.L.**, Gifford, D. K., and Arlotta, P. (2014) Gene co-regulation by Fezf2 selects neurotransmitter identity and connectivity of corticospinal neurons. *Nat Neurosci.* **17**, 1046–1054
69. **Rinn, J.L.** (2014) lncRNAs: Linking RNA to Chromatin. *Csh Perspect Biol.* **6**, a018614
70. Silverman, I. M., Li, F., Alexander, A., Goff, L., Trapnell, C., **Rinn, J.L.**, and Gregory, B. D. (2014) RNase-mediated protein footprint sequencing reveals protein-binding sites throughout the human transcriptome. *Genome Biol.* **15**, R3
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Keynote Speaker Lectures:

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| 2015 | Keynote Speaker , Genome Regulation, Cold Spring Harbor Laboratories, USA |
| 2015 | Keynote Speaker , ETH Annual Student Retreat, Switzerland |
| 2020 | Keynote Speaker , IEEE Bioinformatics and Biomedicine Conference, Virtual |
| 2021 | Keynote Speaker , Annual Danish RNA Society meeting, Denmark |
| 2021 | Keynote Speaker , HUB-IBMS-Pathology (HiP) Research Symposium, S. Africa |
| 2023 | Keynote Speaker , Annual Precision Genomics Meeting, Cincinnati Children's Hospital, USA |
| 2023 | Keynote Speaker , MD Anderson Genetics and Epigenetics (G&E) Graduate Program annual retreat, USA |
| 2024 | Keynote Speaker , 20 th Annual Brazil Bioinformatics Conference (X-conference), Brazil |

Invited Speaker Lectures:

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| 2002 | Invited Speaker , Annual Yeast Genetics and Molecular Biology Meeting, University of Wisconsin, USA |
| 2006 | Invited Speaker , Cold Spring Harbor Systems Biology Meeting, Cold Spring Harbor Laboratories, USA |
| 2006 | Invited Speaker , Federation of American Societies for Experimental Biology Transcriptional Regulation Meeting, Vermont Academy, USA |
| 2007 | Invited Speaker , Cold Spring Harbor Systems Biology Workshop, Cold Spring Harbor Laboratories, USA |
| 2007 | Invited Speaker , University of Pennsylvania, USA |
| 2007 | Invited Speaker , Columbia University, USA |
| 2007 | Invited Speaker , University of San Diego, USA |
| 2007 | Invited Speaker , Keystone Meeting on Epigenetics, USA |
| 2007 | Invited Speaker , Weizmann Institute of Genetics, Israel |
| 2008 | Invited Speaker , Cold Spring Harbor Systems Biology Workshop, Cold Spring Harbor Laboratories, USA |
| 2009 | Invited Speaker , Cold Spring Harbor Biology of Genomes, Cold Spring Harbor Laboratories, USA |
| 2009 | Invited Speaker , Society for Investigative Dermatology, Oregon, USA |
| 2009 | Invited Speaker , Abcam Epigenetics Meeting |
| 2010 | Invited Speaker , Stanford University, USA |
| 2010 | Invited Speaker , Yale University, USA |
| 2010 | Invited Speaker , Cold Spring Harbor Systems Biology Meeting, USA |
| 2010 | Invited Speaker , National Institutes of Environmental Health Safety, USA |
| 2010 | Invited Speaker , Mount Desert Biological Laboratories Stem Cell Meeting |
| 2010 | Invited Speaker , Business Innovation Factory |
| 2010 | Invited Speaker , New York University, USA |
| 2010 | Invited Speaker , Abcam: Stochastic Events in Stem Cell Differentiation and Reprogramming |
| 2010 | Invited Speaker , University of Massachusetts Worcester Medical School, USA |
| 2010 | Invited Speaker , New York Academy of Sciences, USA |
| 2010 | Invited Speaker , European Molecular Biology Organization European Molecular Biology Laboratories Symposia on Non-coding RNA, Germany |

2010	Invited Speaker , Lorne Genome Conference, Australia
2010	Invited Speaker , International Society for Computational Biology : Intelligent Systems for Molecular Biology
2010	Invited Speaker , Gurdon Institute, United Kingdom
2011	Invited Speaker , University of Pennsylvania, USA
2011	Invited Speaker , Keystone Conference: MicroRNAs and Non-Coding RNAs and Cancer/MicroRNAs and Human Disease, Canada
2011	Invited Speaker , The American Society for Molecular Biology and Biochemistry, USA
2011	Invited Speaker , Non-coding RNA, Epigenetic Memory and the Environment, England
2011	Invited Speaker , Symposium of RNA biology, Duke University, USA
2011	Invited Speaker , Genome Informatics Meeting, Cold Spring Harbor Laboratories, USA
2011	Invited Speaker , Case Western Reserve University, USA
2011	Invited Speaker , University of Minnesota, USA
2012	Invited Speaker , University of California San Diego, USA
2012	Invited Speaker , AACR Noncoding RNA in cancer meeting
2012	Invited Speaker , Keystone Symposium for Molecular Biology: ncRNA, USA
2012	Invited Speaker , Tulane University, USA
2012	Invited Speaker , National Institutes in Environmental Health Sciences, USA
2012	Invited Speaker , University of Texas Southwestern, USA
2012	Invited Speaker , Fred Hutch Institute, USA
2012	Invited Speaker , The Wistar Institute, USA
2012	Invited Speaker , Memorial Sloan Kettering, USA
2012	Invited Speaker , Rockefeller University, USA
2012	Invited Speaker , University of California, Santa Cruz, USA
2012	Invited Speaker , University of Pennsylvania, USA
2012	Invited Speaker , University of Colorado, Boulder, USA
2012	Invited Speaker , Rutgers University, USA
2013	Invited Speaker , National Institute of Aging, USA
2013	Invited Speaker , Atlas Venture Capital Annual Retreat, USA
2013	Invited Speaker , Banburry Meeting on Enhancers, Cold Spring Harbor Laboratories, USA
2013	Invited Speaker , California Institute of Technology, USA
2014	Invited Speaker , National Academy of Sciences: Sackler Lecture, USA
2014	Invited Speaker , Annual RiboClub Meeting, Canada
2014	Invited Speaker , Cell Metabolism Meeting, USA
2014	Invited Speaker , University of Chicago, USA
2015	Invited Speaker , St. Jude Hospital, USA
2015	Invited Speaker , University of Massachusetts Worcester, USA
2015	Invited Speaker , Allan Foundation
2015	Invited Speaker , UPMC Non-coding Genome, France
2015	Invited Speaker , University of Utah, USA
2015	Invited Speaker , National Cancer Institute, USA
2015	Invited Speaker , Keystone Symposium Long non-coding RNAs: From evolution to function, USA
2015	Invited Speaker , Keystone Symposium: DNA Methylation, USA
2015	Invited Speaker , Merck, USA
2015	Invited Speaker , Carnegie Mellon University, USA
2015	Invited Speaker , Gold Symposium, USA
2015	Invited Speaker , Abcam: RNA Biology
2015	Invited Speaker , National Institute of Environmental Health Sciences, USA
2015	Invited Speaker , Keystone Symposium: RNA and Cancer, USA
2015	Invited Speaker , Gordon Conference: Developmental Biology, USA
2015	Invited Speaker , Gordon Conference: Cell Proliferation, USA
2015	Invited Speaker , ETH Annual Student Retreat, Switzerland
2015	Invited Speaker , Royal Society: Long non-coding RNAs evolution of new epigenetic and post-transcriptional functions, England

2015	Invited Speaker , European Molecular Biology Organization European Molecular Biology Laboratories Symposia on Non-coding RNA, Germany
2015	Invited Speaker , University of Colorado, Boulder, USA
2016	Invited Speaker , Epigenomics 2016, Puerto Rico
2016	Invited Speaker , Keystone Symposium: Non-coding RNA and enhancers, USA
2016	Invited Speaker , Gordon Conference: Post-transcriptional Gene Regulation, USA
2016	Invited Speaker , Friedrich Miescher Institute, Switzerland
2016	Invited Speaker , Non-coding RNA from function to evolution, Switzerland
2016	Invited Speaker , Max Delbruck Center, Germany
2016	Invited Speaker , Keystone Symposium: Non-coding RNAs: From disease to targeted therapeutics, Canada
2017	Invited Speaker , Gordon Conference: From mechanism to biological impacts, USA
2018	Invited Speaker , Keystone Symposium: Cancer Epigenetics: New mechanisms, new therapies, USA
2018	Invited Speaker , Keystone Symposium: Long non-coding RNAs, USA
2018	Invited Speaker , University of Pennsylvania, USA
2018	Invited Speaker , European Molecular Biology Organization RNA: Structure meets function, Sweden
2018	Invited Speaker , ASBMB: Transcription regulation chromatin and RNA Polymerase II, USA
2019	Invited Speaker , University of Colorado Anschutz, USA
2019	Invited Speaker , Keystone Symposium: Long non-coding RNA: From molecular mechanisms to functional genetics, Canada
2019	Invited Speaker , European Molecular Biology Organization Non-coding genome, Germany
2019	Invited Speaker , Purdue University, USA
2019	Invited Speaker , University of Pittsburgh, USA
2020	Invited Speaker , Keystone Symposium: Non-coding RNAs: Mechanism, function, and therapies, Canada
2020	Invited Speaker , Cold Spring Harbor Genome Architecture, Virtual
2020	Invited Speaker , Cold Spring Harbor Non-coding RNAs, Virtual
2020	Invited Speaker , RNA Society Annual Meeting, Virtual
2020	Invited Speaker , IEEE, Japan, Virtual
2021	Invited Speaker , Telluride Conference: Physical genomics and transcriptional engineering, Virtual
2021	Invited Speaker , Cape Town Biennial Research Symposium, South Africa, Virtual
2021	Invited Speaker , AACR Special Conference on Cancer Epigenomics, USA
2022	Invited Speaker , University of California, Los Angeles, USA, Virtual
2023	Invited Speaker , Telluride Conference: Physical genomics and transcriptional engineering, USA
2023	Invited Speaker , EpiCypher 2023: Biological and Clinical Frontiers in Epigenetics, Mexico