

Haruhiko Siomi

PERSONAL DATA

Name: Haruhiko Siomi
Nationality: Japan
Date of Birth: June 11, 1959
Work address: Department of Molecular Biology
Keio University School of Medicine
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EDUCATION

1982 B.A. Agricultural Chemistry
Valedictorian, Gifu University, Gifu, Japan
1984 M.A. Organic Chemistry, Gifu University
1988 Doctor of Medical Science (equivalent to Ph.D.)
Virology, Kyoto University, Japan

AWARDS

2010 Mitsubishi Foundation award for Basic Natural Sciences
2008 The Naito Foundation Award
2008 The Uehara Memorial Foundation Award
2006 Takeda Science Foundation Award
2003 FRAXA Research Foundation Award
2000 Cure Autism Now (CAN) Foundation Pilot Research Award
1999 FRAXA Research Foundation Award
1998 MRDDRC (Mental Retardation and Developmental Disabilities Research Center) Young Investigator Award
1989 TONEN Fundamental Research Prize (nominated by Molecular Biology Society of Japan)
1988-1990 Fellowship of the Japan Society for the Promotion of Science for Japanese Junior Scientists

PROFESSIONAL EXPERIENCE

2008-present: Head and Professor, Department of Molecular Biology, Keio University School of Medicine, Tokyo, Japan
2008-present: Visiting Professor, Institute of Advanced Medical Sciences, Tokushima University

2018-present: Guest Professor, Research Institute for Microbial Diseases, Osaka University

1999-2008: Professor, Institute for Genome Research, University of Tokushima, Tokushima, Japan

1997-1999: Research Assistant Professor, Department of Biochemistry and Biophysics, University of Pennsylvania School of Medicine

1996-1997: Research Associate, University of Pennsylvania School of Medicine

1990-1996: Associate, Howard Hughes Medical Institute, University of Pennsylvania School of Medicine, (adviser: Dr. Gideon Dreyfuss)

1988-1990: JSPS Research Fellow, Institute for Virus Research, Kyoto University, Japan (adviser: Professor Yoshiaki Ito & Dr. Hisatoshi Shida)

PROFESSIONAL MEMBERSHIP

Member	The RNA Society (Organizer of the 2011 annual Meeting at Kyoto; Director, 2017 – 2018; member of the 2021 RNA Society Nominating Committee)
President	The RNA Society of Japan (2010-2014)
Member	The Molecular Biology Society of Japan (Board member 2010-2013, 2015- 2018, 2021-2022)
Member	Japan Society for Cell Biology
Member	Japanese Society of Developmental Biologists (Board member 2010-2013)
Co-Chair	Tokyo RNA Club (2008- present)

UNIVERSITY ACTIVITIES

2008-present	Thesis advisory committee member
2015-present	Committee for The Keio Medical Science Prize, (2020- Chair)
2015-present	Director of RI Technical Training Center the Keio University School of Medicine
2015-present	Director of Genetic Modification Safety Committee the Keio University School of Medicine
2016-2019	Director of Committee on Research Development the Keio University School of Medicine
2019-present	JKiC (JSR-Keio Innovation Center) adviser
2021-	Vice Dean (in charge of research)

TEACHING

2000-present	Introductory Molecular Biology (Lecture course, ~100 students)
2008-present	Molecular Biology (Graduate Program core course, ~80 students)
2019- 2021	Genome Science (Lecture course, ~40 students)
2015-present	Okayama University Dental School Guest Lecture

FUNDING

2019-2024	MEXT Grant-in-Aid for Scientific Research on Innovative Areas “Program for Totipotency”
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- 2017-2022 Japan Agency for Medical Research and Development (AMED), Project for Elucidating and Controlling Mechanisms of Aging and Longevity
- 2013-2018 JSPS Grant-in-Aid for Scientific Research (S) “Molecular pathways leading to epigenome formation in mammalian germ cells (No. 25221003)”
- 2008-2013 JSPS Grant-in-Aid for Scientific Research (S) “Fathoming the evolution of gene regulation through an ‘arms race’ between transposons and Argonautes (No. 20221008)”
- 2004-2008 MEXT Genome Network Project “Characterization of non-coding RNA-mediated regulation of gene expression”
- 2003-2006 JSPS Grant-in-Aid for Scientific Research (A) “Understanding of gene networks that control behaviors through characterizing the hereditary mental retardation gene FMR1”
- 2001-2006 JSPS Grant-in-Aid for Scientific Research on Priority Areas: Spatiotemporal Network of RNA Information Flow, “Understanding of regulatory mechanisms mediated by RNA-binding proteins”

REVIE ACTIVITIES

Journals:

Cell, Nature, Science, Genes & Development, Nature Cell Biology, PLoS Biology, eLife, Molecular Cell, Developmental Cell, Development, PLoS Genetics, Nature Structural & Molecular Biology, Current Biology, Nature Review Molecular Cell Biology, Nature Review Genetics, Nature Biotechnology, Nature Chemical Biology, Nature Communications, Nature Protocols, RNA, PNAS, EMBO J, EMBO Reports, Cell Reports, PLoS Computational Biology, PLoS Neglected Tropical Diseases, Trends in Biochemical Sciences, Trends in Genetics, Trends in Immunology, Nucleic Acids Research, Genome Research, Molecular and Cellular Biology, Genetics, Journal of Biological Chemistry, Mobile DNA, Cancer Research, Molecular Biology of the Cell, Biochemical Society Transactions, Genome Biology, Human Molecular Genetics, Developmental Biology, Journal of Theoretical Biology, etc.

Grants:

The Austrian Genome Research Programme GEN-AU, The Japan Society for the Promotion of Science (Japan), MEXT, NIH (USA), Wellcome Trust, The Fund for Scientific Research – Flanders (Belgium)(FWO), Austrian Science Fund (The START Programme), National Science Foundation (USA), Academic Summit Program/National Science Council (Republic of China), The Division for Chemical Sciences (CW) of the Netherlands Organisation for Scientific Research (NWO), Association for International Cancer Research (AICR), University of Antwerp (Belgium), Swiss National Science Foundation, Netherlands Organisation for Scientific Research, Earth and Life Sciences (NWO), The French National Research Agency (ANR), European Commission (erc)/European Research Council, Executive Agency (ERCEA), NWO (Chemical Sciences), HFSP Career Development Award program, The 2019 Research Grant awards from the HFSP, ERC Advanced Grant, National Science Centre (Narodowe

Centrum Nauki-NCN), Poland, The John Templeton Foundation, The Deutsche Forschungsgemeinschaft (German Research Foundation, DFG), Life Sciences 1: Molecular and Organismic Biology

EXTERNAL SERVICE

- Committee of Fellowship of the Japan Society for the Promotion of Science for Japanese (JSPS) Junior Scientists, 2003-2005
- Adviser of JST PRESTO on 'RNA and its biofunctions,' 2006-2012
- Committee of Japan Science and Technology Agency (JST) biology division, 2008-2012
- Advisory committee of JBiC on 'Functional RNA' project, 2009-2010
- Advisory Board of National Institute for Basic Biology, 2009-2013
- Advisor of MEXT Grant-in-Aid for Scientific Research on Innovative Areas ('RNA program'), 2008-2012
- Advisor of MEXT Grant-in-Aid for Scientific Research on Innovative Areas ('Genome adaptation'), 2010-2014
- Advisor of MEXT Grant-in-Aid for Scientific Research on Innovative Areas ('Transcription cycle'), 2012-2016
- Member of the 2014 Japan Prize Selection Committee for the Life Science field, 2013-2014
- Scientific advisory committee for Ministry of Education, Culture, Sports, Science and Technology-Japan, 2012-2016
- Advisor of MEXT Grant-in-Aid for Scientific Research on Innovative Areas ('Chromosome orchestration system'), 2012-2016
- Program Officer of the Research Center for Science Systems, JSPS, 2016~2020
- Riken Associate Chief Scientist Research Review committee, chair, 2016
- Member of the Director-general selection committee for National Institute for Basic Biology, NINS, 2016-2017
- Director of JST CREST/PRESTO on 'Large-scale genome synthesis and cell programming', 2018-2025

EDITORIAL BOARDS

- RNA Biology*, Editorial Board, 2019~ present
- RNA*, Editorial Board, 2018~ present
- Molecular Genetics and Genomics*, Editorial Board, 2014~ present
- Mobile DNA*, Editorial Board, 2014~ present
- EMBO reports*, Advisory Editorial Board, 2012~2017
- Development, Growth & Differentiation*, Guest Editor for a special issue of 'RNA and Development', 2011
- Nucleic Acids Research*, Editorial Board, 2010~ present
- Genes to Cells*, Associated Editor, 2009~ present

Ad hoc EXTERNAL REVIEWER

- IBM Thomas J Watson Research Center, NY (evaluation of a Manager at Computational Biology Center), 2010
- IMBA, Vienna (evaluation of PIs for renewal), 2010
- Thomas Jefferson University, Philadelphia (evaluation of PI for appointment to Professor), 2011
- Kazusa DNA Research Institute (evaluation of three IPs for renewal), 2012~2014

- Osaka University (evaluation of PI for Life Science Young Independent Researcher Support Program), 2013
- Sloan-Kettering Institute, New York (evaluation of PI for promotion to Member), 2013
- Tokyo Medical and Dental University (evaluation of Associate Professor), 2013
- Institute for Virus Research, Kyoto University (evaluation of Professor), 2013
- City University of Hong Kong (evaluation of Assistant Professor for substantiation of tenured appointment & promotion), 2015
- University of Minnesota, Minneapolis, MN (evaluation of Assistant Professor for substantiation of tenured appointment & promotion), 2017
- Riken (evaluation of PIs), 2016, 2017, 2018
- Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences (SIBCB, CAS), Shanghai, (evaluation of PI for promotion to Senior Investigator with tenure), 2017
- Johns Hopkins University School of Medicine, Baltimore (evaluation of PI for promotion to Associate Professor), 2018
- NIH/NIAMS, Bethesda (evaluation of PI for promotion to Senior Investigator), 2018
- Department of Agricultural Biotechnology, Seoul National University, (evaluation of Associate Professor for promotion to Professor), 2018
- The Neurobiology, Biochemistry and Biophysics School, Tel-Aviv University, Israel (evaluation of Associate Professor for promotion to full Professor), 2019
- Division of Biological Sciences, Indian Institute of Science, Bangalore, India (evaluation of Assistant Professor for promotion to tenured Associate Professor), 2019

STUDENTS/POSTDOCTORAL FELLOWS

Thesis mentor to 14 PhD students

Research mentor to 16 post-doctoral fellows.

BIBLIOGRAPHY

PUBLICATIONS

(PubMed: <https://pubmed.ncbi.nlm.nih.gov/?term=Siomi+H&sort=date>)

Selected:

Matsunami, N., **Siomi, H.**, Hatanaka, M., Yaoita, Y. and Honjo, T. 1986. Preferential transcription of HTLV-I LTR in cell-free extracts of human T cells producing HTLV-I viral proteins. *Nucleic Acids Res.* **14**: 4779-4786.

Siomi, H., Shida, H., Nam, S-H., Nosaka, T., Maki, M. and Hatanaka, M. 1988. Sequence requirements for nucleolar localization of human T cell leukemia virus type I pX protein, which regulates viral RNA processing. *Cell* **55**: 197-209.

Siomi, H., Matunis, M. J., Micheal, W. M. and Dreyfuss, G. 1993. The pre-mRNA binding K protein contains an evolutionarily conserved motif. *Nucleic Acids Res.* **21**: 1193-1198.

Siomi, H., Siomi, M. C., Nussbaum, R. L. and Dreyfuss, G. 1993. The protein product of the fragile X gene, FMR1, has characteristics of an RNA-binding protein. *Cell* **74**: 291-298.

Siomi, H., Choi, M., Siomi, M. C. Nussbaum, R. L. and Dreyfuss, G. 1994. Essential role for KH domains in RNA binding: impaired RNA binding by a mutation in the KH domain of FMR-1 that causes fragile X syndrome. *Cell* **76**: 33-39.

Siomi, H. and Dreyfuss, G. 1995. A nuclear localization domain in the hnRNP A1 protein. *J. Cell Biol.* **129**: 551-560.

Siomi, M. C., **Siomi, H.**, Sauer, W. H., Srinivasan, S., Nussbaum, R. L. and Dreyfuss, G. 1995. FXR1, an autosomal homologue of the fragile X mental retardation gene. *EMBO J.* **14**: 2401-2408.

Tabara, H., Yigit, E., **Siomi, H.** and Mello, CC. 2002. The double-stranded RNA binding protein RDE-4 interacts in vivo with RDE-1, DCR-1 and a conserved DExH-box helicase to direct RNA interference in *C. elegans*. *Cell* **109**:861-871.

Inoue, SB., Shimoda, M., Nishinokubi, I., Siomi, MC., Okamura, M., Nakamura, A., Kobayashi, S., Ishida, N. and **Siomi, H.** 2002. A role for the Drosophila fragile X related gene in the circadian output. *Current Biology* **12**: 1331-1335.

Ishizuka, A., Siomi, MC. and **Siomi, H.** 2002. A Drosophila fragile X protein interacts with components of RNAi and ribosomal proteins. *Genes & Development* **16**: 2497-2508.

Okamura, K., Ishizuka, A., **Siomi, H.**, and Siomi, MC. 2004. Distinct roles for Argonaute proteins in small RNA-directed RNA cleavage pathways. *Genes & Development* **18**: 1655-1666.

Saito, K., Ishizuka, A., **Siomi, H.**, and Siomi, MC. 2005. Processing of pre-microRNAs by the Dicer-1-Loquacious complex in *Drosophila* cells. *PLoS Biology* **3**(7): e235.

Miyoshi, K., Tsukumo, H., Nagami, T., **Siomi, H.**, and Siomi, MC. 2005. Slicer function of Drosophila Argonautes and its involvement in RISC formation. *Genes & Development* **19**: 2837-2848.

Saito, K., Nishida, KM., Mori, T., Kawamura, Y., Miyoshi, K., Nagami, T., **Siomi, H.**, and Siomi, MC. 2006. Specific association of Piwi with rasiRNAs derived from retrotransposon and heterochromatic regions in the Drosophila genome. *Genes & Development* **20**: 2214-2222.

Gunawardane, LS., Saito, K., Nishida, KM., Miyoshi, K., Kawamura, Y., Nagami, T., **Siomi, H.**, and Siomi, MC. 2007. A Slicer-mediated mechanism for rasiRNA 5'end formation in *Drosophila*. *Science* **315**: 1587-1590.

Saito, K., Sakaguchi, Y., Suzuki, T., Suzuki, T., **Siomi, H.**, and Siomi, MC. 2007. Pimet, the *Drosophila* homolog of HEN1, mediates 2'-O-methylation of Piwi-interacting RNAs at their 3' ends. *Genes & Development* **21**: 1603-1608.

Azuma-Mukai, A., Oguri, H., Kin, T., Qian, ZR., Asai, K., **Siomi, H.**, and Siomi, MC. 2008. Characterization of endogenous human Argonautes and their miRNA partners in RNA silencing. *Proc. Natl. Acad. Sci. USA*. **105**:7964-7969.

Kawamura, Y., Saito, K., Kin, T., Ono, Y., Asai, K., Sunohara, T., Okada, NT., Siomi MC. and **Siomi, H.** 2008. *Drosophila* endogenous small RNAs bind to Argonaute2 in somatic cells. *Nature* **453**: 793-797.

Saito, K., Inagaki, S., Mituyama, T., Kawamura, Y., Ono, Y., Sakota, E., Kotani, H., Asai, K., **Siomi H.** and Siomi, MC. 2009. A regulatory circuit for *piwi* by *traffic jam*, a large Maf, in *Drosophila* gonadal somas. **Nature** **461**: 1296-1299.

Nishida, KM., Okada, TN., Kawamura, T., Mituyama, T., Kawamura, Y., Inagaki, S., Huang, H., Chen, D., Kodama, T., **Siomi, H.**, and Siomi, MC. 2009. Functional involvement of Tudor and dPRMT5 in the piRNA processing pathway in *Drosophila* germlines. **EMBO J.** **28**: 3820-3831.

Miyoshi, T., Takeuchi, A., **Siomi, H.** and Siomi, M.C. 2010. A direct role of Hsp90 in pre-RISC formation in *Drosophila*. **Nature Structural and Molecular Biology** **17**: 1024-1026.

Nagao, A., Mituyama, T., Huang, H., Chen, D., Siomi, MC., **Siomi, H.** 2010. Biogenesis pathways of piRNAs loaded onto AGO3 in the *Drosophila*. **RNA** **16**: 2503-2515.

Saito, K., Ishizu, H., Komai, M., Kotani, H., Kawamura, Y., Nishida, KM., **Siomi, H.**, and Siomi, MC. 2010. Roles for the Yb body components Armitage and Yb in primary piRNA biogenesis in *Drosophila*. **Genes & Development** **24**: 2493-2498.

Cernilogar, F.M., Onorati, M.C., Kothe, G.O., Burroughs, A.M., Parsi, K.M., Breiling, A., lo Sardo, F., Saxena, A., Miyoshi, K., **Siomi, H.**, Siomi, M.C., Carninci, P., Gilmour, D.S., Corona, D.F.V., and Orlando, V. 2011. Chromatin-associated RNAi components contribute to transcriptional regulation in *Drosophila*. **Nature** **480**: 391-395.

Sato, K., Nishida, K.M., Shibuya, A., Siomi, M.C., and **Siomi, H.** 2011. Maelstrom coordinates microtubule organization during *Drosophila* oogenesis through interaction with components of the MTOC. **Genes & Development** **25**: 2361-2373.

Nishimasu, H., Ishizu, H., Saito, K., Fukuhara, S., Kamatani, MK., Matsumoto, N., Nishizawa, T., Bonnefond, L., Nakanaga, K., Aoki, J., Ishitani, R., **Siomi, H.**, Siomi, MC., and Nureki, O. 2012. Structure and function of Zucchini endoribonuclease in piRNA biogenesis. **Nature** **491**: 284-287.

Nishida, KM., Miyoshi, K., Ogino, A., Miyoshi, T., **Siomi, H.** and Siomi, MC. 2013. Roles of R2D2, a cytoplasmic D2 body component, in the endogenous siRNA pathway in *Drosophila*. **Molecular Cell** **49**: 680-691.

Ohtani, H., Iwasaki, YW., Shibuya, A., **Siomi, H.**, Siomi, MC., and Saito, K. 2013. DmGTSF1 is necessary for Piwi-piRISC-mediated transcriptional transposon silencing in the *Drosophila* ovary. **Genes & Development** **27**: 1693-1705.

Hirano, T., Iwasaki, YW., Lin, ZYC., Imamura, M., Seki, NM., Sasaki, E., Saito, K., Okano, H., Siomi, MC., and **Siomi, H.** 2014. Small RNA profiling and characterization of piRNA clusters in the adult testes of the common marmoset, a model primate. **RNA** **20**: 1223-1237.

Sato, K., Iwasaki, YW., Shibuya, A., Carninci, C., Tsuchizawa, Y., Ishizu, H., Siomi, MC., and **Siomi, H.** 2015. Krimper enforces an antisense bias on piRNA pools by binding AGO3 in the *Drosophila* germline. **Molecular Cell** **59**: 553-563.

Ishizu, H., Iwasaki, Y.W., Hirakata, S., Ozaki, H., Iwasaki, W., **Siomi, H.**, and Siomi, M.C. 2015. Somatic primary piRNA biogenesis driven by cis-acting RNA elements and trans-acting Yb. **Cell Reports** **12**: 426-440.

- Shibata, N., Kashima, M., Ishiko, T., Nishimura, O., Rouhana, L., Misaki, K., Yonemura, S., Saito, K., **Siomi, H.**, Siomi, MC., and Agata, K. 2016. Inheritance of a nuclear PIWI from pluripotent stem cells by somatic descendants ensures differentiation by silencing transposons in planarian. **Dev Cell** **37**: 226-237.
- Iwasaki, YW., Murano, K., Ishizu, H., Shibuya, A., Iyoda, Y., Siomi, MC., **Siomi, H.**, and Saito, K. 2016. Piwi modulates chromatin accessibility by regulating multiple factors including histone H1 to repress transposons. **Mol Cell** **63**: 408-419.
- Sumiyoshi, T., Sato, K., Yamamoto, H., Iwasaki, YW., **Siomi, H.**, and Siomi, MC. 2016. Loss of l(3)mbt leads to acquisition of the ping-pong cycle in *Drosophila* ovarian somatic cells. **Genes & Development** **30**: 1617-1622.
- Matsumoto, N., Nishimasu, H., Sakakibara, K., Nishida, KM., Hirano, T., Ishitani, R., **Siomi, H.**, Siomi, MC., and Nureki, O. 2016. Crystal structure of silkworm PIWI-clade Argonaute Siwi bound to piRNA. **Cell** **167**: 484-497.
- Nishida, KM., Sakakibara, K., Iwasaki, YW., Yamada, H., Murakami, R., Murota, Y., Kawamura, T., Kodama, T., **Siomi, H.**, and Siomi, MC. 2018. Hierarchical roles of mitochondrial PAPI and Zucchini in Bombyx germline piRNA biogenesis. **Nature** **555**: 260-264.
- Murano, K., Iwasaki, Y.W., Ishizu, H., Mashiko, A., Shibuya, A., Kondo, S., Adachi, S., Suzuki, S., Saito, K., Natsume, T., Siomi, M.C., and **Siomi, H.** 2019. Nuclear RNA export factor variant initiates Piwi–piRNA-guided co-transcriptional silencing. **EMBO J.** **38**: e102870.
- Yamanaka, S., Nishihara, H., Toh, H., Nagai, LAE., Hashimoto, K., Park, S-J., Shibuya, A., Suzuki, AM., Tanaka, Y., Nakai, K., Carninci, P., Sasaki, H., and **Siomi, H.** 2019. Broad heterochromatic domains open in gonocyte development prior to *de novo* DNA methylation. **Developmental Cell** **51**: 21-34.
- Onishi, R., Sato, K., Murano, K., **Siomi, H.**, and Siomi, MC. 2020. Piwi suppresses transcription of Brahma-dependent transposons via Maelstrom in ovarian somatic cells. **Science Advances** **6**: eaaz7420
- Ishino, K., Hasuwa, H., Yoshimura, J., Iwasaki, Y.W., Nishihara, H., Seki, N. M., Hirano, T., Tsuchiya, M., Ishizaki, H., Masuda, H., Kuramoto, T., Saito, K., Sakakibara, Y., Toyoda, A., Itoh, T., Siomi, M.C., Morishita, S., **Siomi, H.** 2021. Hamster PIWI proteins bind to piRNAs with stage-specific size variations during oocyte maturation. **Nucleic Acids Research.** **49**: 2700-2720.
- Iwasaki, YW., Sriswasdi, S., Kinugasa, Y., Adachi, J., Horikoshi, Y., Shibuya, A., Iwasaki, W., Tashiro, S., Tomonaga, T., and **Siomi, H.** 2021. Piwi-piRNA complexes induce spatial changes in nuclear architecture to induce stepwise heterochromatin formation. **EMBO J** **40**: e108345.
- Hasuwa, H., Iwasaki, Y.W., Kin, A.Y.W., Ishino, K., Masuda, Sasaki, H., **Siomi.** 2021. Production of functional oocytes requires maternally expressed *PIWI* genes and piRNAs in golden hamsters. **Nature Cell Biology** **23**: 1002-1012.

REVIEWS, NEWS & VIEWS, and BOOK CHAPTERS

Selected:

- Siomi, H.** and Dreyfuss, G. 1997. RNA-binding proteins as regulators of gene expression. *Curr. Opin. Genet. Dev.* **7**:345-353.
- Siomi, H.**, Ishizuka, A and Siomi, MC. 2004. RNA Interference: A New Mechanism by Which FMRP Acts in the Normal Brain? - What can *Drosophila* teach us? – *MRDDR review*, **10**: 68-74.
- Siomi, H.** and Siomi, MC. 2007. Expanding RNA physiology: microRNAs in a unicellular organism. *Genes & Development* **21**: 1153-1156.
- Siomi, H.**, and Siomi, MC. 2009. On the road to reading the RNA interference code. *Nature* **457**: 396-404.
- Siomi, H.**, and Siomi, MC. 2009. RISC hitchhikes onto endosome trafficking. *Nature Cell Biology* **11**: 1049-1051.
- Siomi, M.C., Mannen, T., and **Siomi, H.** 2010. How does the royal family of Tudor rule the Piwi-interacting RNA pathway? *Genes & Development* **24**: 636-646.
- Siomi, H.**, and Siomi, MC. 2010. Posttranscriptional regulation of miRNA biogenesis in animals. *Molecular Cell* **38**: 323-332.
- Miyoshi, K., Miyoshi, T., and **Siomi, H.** 2010. Many ways to generate microRNA-like small RNAs: noncanonical pathways for microRNA production. *Molecular Genetics and Genomics* **284**: 95-103.
- Siomi, H.**, and Siomi, MC. 2011. Preview: Stress signaling etches heritable marks on chromatin. *Cell* **145**: 1005-1007.
- Ishizu, H., **Siomi, H.**, and Siomi, MC. 2012. Biology of PIWI-interacting RNAs: new insights into biogenesis and function inside and outside of germlines. *Genes & Development* **26**: 2361-2373.
- Siomi, H.** 2014. It's time to exploit your favorite quirky organism with new technologies. *EMBO Rep* **15**: 620-621.
- Yamanaka, S., Siomi, MC. and **Siomi, H.** 2014. piRNA clusters and open chromatin structure. *Mobile DNA* **5**:22 .
- Iwasaki, YW and **Siomi, H.** 2014. miRNA regulatory ecosystem in early embryogenesis. *Molecular Cell* **56**: 615-616.
- Iwasaki, YW, Siomi, MC and **Siomi, H.** 2015. PIWI-interacting RNA: Its Biogenesis and Functions. *Annu Rev Biochem.* **84**:405-433.
- Hirano, T., and **Siomi, H.** 2015. Small RNA-directed chromatin modification: Transgenic systems producing artificial piRNAs in germ cells. *Curr Biol.* **25**: R280-R283.
- Siomi, H.**, and Siomi, MC. 2015. Phased piRNAs tackle transposons. *Science* **348**: 756-757.
- Yamanaka, S., and **Siomi, H.** 2015. Misprocessed tRNA response targets piRNA clusters. *EMBO J.* **34**: 2988-2989.
- Hasuwa, H., and **Siomi, H.** 2017. Mobile elements control stem cell potency. *Science* **355**: 581-582.
- Murano, K., Gu, Y., and **Siomi, H.** 2021. The emergence of SARS-CoV-2 variants threatens to decrease the efficacy of neutralizing antibodies and vaccines. *Biochemical Society Transactions* in press.

DEPARTMENT SEMINARS and SYMPOSIUM TALKS

Selected:

Columbia University College of Physicians & Surgeons, Department of Genetics and Development, New York, NY, March 1996.

New York University Medical Center, Department of Biochemistry, New York, NY, December 1996.

University of Pennsylvania, Department of Biochemistry and Biophysics, Philadelphia, PA, February 1997.

University of British Columbia, Centre for Molecular Medicine and Therapeutics, Vancouver, Canada, September 1997

Speaker as a member of the faculty at the Sixth International Fragile X Conference, Asheville, North Carolina, July 1998

University of Connecticut Health Center, Farmington, Connecticut, November 1998

University of Tokyo, Department of Chemistry and Biotechnology, Graduate School of Engineering, Tokyo, Japan, December 1998

Tokyo Medical and Dental University Human Gene Sciences Center, Tokyo, Japan, December 1998

Kanazawa University Cancer Research Institute, Kanazawa, Japan, December 1998

RIKEN Brain Science Institute, Wako, Saitama, Japan, February 1999

Max-Planck Institute for Biochemistry, Munich, Germany, July 1999

Ringberg Meeting on RNA-Metabolism and Neurological Diseases, Ringberg Castle, Bavaria, Germany, May 2000

Understanding The Neural Basis of Fragile X Meeting, Banbury Center, Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, March 2001

10th International Workshop on Fragile X and X-linked mental retardation, Villa Tuscolana, Frascati, Italy, September 2001

Speaker at the 8th International Fragile X Conference, Chicago, July 2002.

Speaker at the 9th International Fragile X Conference, Washington DC, June 2004.

The Eighth US-Japan Cellular and Gene Therapy Conference on RNA Therapy, Natcher Conference Center, NIH, Bethesda, Maryland, February 2005.

CDB Symposium 2006 –Logic of Development: New Strategies and Concepts, Kobe, Japan, April 2006.

CAS International Symposium on Model Organisms and Diseases, Beijing, October 2006

Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China, January 2008

The 65th KSBMB annual meeting, KSMBMB-KSBMB joint symposium on RNA Biology, Seoul, Korea, May 2008

RiboClub 2008 Opening Session Program, ‘Tiny RNAs-big players in the RNA world’, Sherbrooke, Quebec, Canada, September 2008

Institute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan, October 2008

20th FAOBMB Taipei Conference ‘Frontier in Life Sciences’, Symposium “RNA biology and Gene regulation” (moderator: Woan-Yuh Tarn & Haruhiko Siomi), Yang-Ming University, Taiwan, October 2008

National Institute of Biological Sciences, Beijing, China, December 2008

The 4th International Workshop on Cell Regulations in Division and Arrest, OIST, Okinawa, Japan, December 2009

Genetics Seminar Program, Yale University School of Medicine, New Haven, January 12, 2010

Plenary Lecture, RNA Symposium 2010 (the 3rd RNA molecular Biology meeting of Taiwan), National Cheng Kung University, Tainan, Taiwan

February 8-9, 2010

“Bingzhi Forum” speaker at Institute of Zoology, Chinese Academy of Sciences, Beijing, China, June 15, 2010

International symposium on Control of Gene Expression and Cancer, dedicated to the 20th anniversary of the Institute of Gene Biology, Russian Academy of Sciences, Moscow, Russia, June 21-25, 2010

International Centre for genetic engineering and biotechnology (ICGEB)-European Science Foundation (ESF) Workshop on RNA processing in biology and medicine, Beijing, China, October 20-22, 2010

The New York Academy of Sciences, “Piwi-interacting RNAs (piRNAs), the guardians of the germ-line stem cell genome –Biogenesis and Function-, New York, November 3, 2010

Memorial Sloan-Kettering Cancer Institute, New York, November 4, 2010

CGC/CBG meeting Epigenetics and non-coding RNAs, Koninklijk Instituut voor de Tropen, Amsterdam, November 10, 11, 2011

The 3rd Shanghai International Conference of Epigenetics in Development and Diseases/The 7th Annual Conference of Asian Epigenome Alliance/Genome Medicine Workshop on Epigenetic (-moic)s in Diseases, Shanghai, China, April 19-22, 2012

63rd Fujihara Seminar, “A new horizon of retroposon research”, Kyoto, July 31 – August 3, 2012

Radiation Effects research Foundation, International Workshop: RERF Radiation Research in the Post-genome Era, Hiroshima, March 7-8, 2013

HMG2013 & 21st ICG Singapore: Noncoding RNAs & miRNAs, Singapore April 13, 2013

Institute of Molecular Genetics, Moscow, Russia, September 2, 2013

Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China, September 10, 2013

Keystone Symposia “RNA Silencing”, Seattle, USA, January 31 – February 5, 2014

Opening lecture, Current Methods in RNP Analysis (Graduate research course), University of Regensburg, Germany, July 21-25, 2014

The Russia-Japan joint meeting on small RNAs and germline development, Saint Petersburg University, Saint Petersburg, Russia, August 5, 2014

Symposium on RNA Biology, ComBio2014, Canberra, Australia, October 2, 2014

Institute of Biochemistry and Cell Biology, Shanghai Institutes of Biological Sciences, Chinese Academy of Sciences, Shanghai, China, November 10, 2014

RNA Biology, CSH-Asia conference, Suzhou, China, November 11, 2014

Keynote lecture, The World of Regulatory RNAs, Tel Aviv University, Tel Aviv, Israel, May 7, 2015

College of Agriculture and Life Sciences, Seoul National University, Seoul, Korea, June 24, 2015

The keynote lecture, The 4th annual meeting of the RNA Society of Taiwan, National Cheng Kung University, Tainan, Taiwan, September 26-27, 2016

The keynote lecture, Mini-Symposium on ncRNA, Academia Sinica, Taipei, Taiwan, September 29, 2016

NUS-KEIO joint scientific symposium “Frontiers of translational medicine – From cradle to aging”, National University of Singapore, Singapore, January 10-11, 2017

Institute of Zoology, CAS, Beijing, China, February 2, 2017
Japan-Russia Symposium on piRNA Silencing, Institute of Molecular Genetics, RAS, Moscow, Russia, March 13-14, 2017
TEMASEK lifesciences laboratory, Singapore, December 13, 2017
Cancer Science Institute of Singapore, National University of Singapore, Singapore, December 14, 2017
Japanese-Russian symposium on piRNA silencing and heterochromatin, Institute of Molecular Genetics, Moscow, March 13-14, 2018
Rockefeller University, New York, May 22, 2018
Cincinnati Children's Hospital Medical Center, May 24, 2018
piRNAs and PIWI proteins, EMBO Workshop, Montpellier, France, September 12 – 15, 2018
Cell Biology, Developmental Biology, and Systems Biology Course Meeting, Kyoto University School of Medicine, September 21, 2018
Japanese-Russian Symposium on piRNA Silencing, Institute of molecular genetics, RAS, October 29-30, 2018
2018 IBS Conference on RNA Biology Seoul National University, Seoul, Korea, November 5-7, 2018
40th Annual Lorne Genome Conference, Lorne, Australia, February 17-19, 2019
Institute of Biochemistry and Cell Biology, Shanghai Institutes of Biological Sciences, Chinese Academy of Sciences, Shanghai, China, May 16, 2019
School of Life Science and Technology, ShanghaiTech University, Shanghai, China, May 17, 2019
NIG Meeting on chromosome, chromatin and nuclear dynamics, National Institute of Genetics, Mishima, June 5-6, 2019
Institute of Molecular Embryology and Genetics, Kumamoto University, Kumamoto, December 18, 2019
Cold Spring Harbor Laboratory meeting on Regulatory & Non-coding RNAs, Cold Spring Harbor, NY, May 12 – 15, 2020 (the virtual Zoom meeting due to the SARS-Cov-2 pandemic).
The BBSRC-JST UK-Japan Virtual Workshop in Synthetic Biology, October 23, 2020 (Speaker, moderator and session chair: the virtual Zoom meeting due to the SARS-Cov-2 pandemic).

LECTURES for HIGH SCHOOL, UNDERGRADUATE, or GRADUATE STUDENTS

Hokkaido University, 2000
Kumamoto University, 2002
University of Tokyo, 2003
Nagoya University, 2004
Tokyo Medical and Dental University, 2007
Kyoto University, 2008
University of Tokyo, 2009
Tokyo Institute of Technology, 2009
Nagoya University, 2010
Hokkaido University, 2010
Toyama University, 2010
Special lecture for selected high school students @ Keio, 2010
Toyama University, 2012

Meiwa High School SSH program, 2012

Toyama University, 2014

Kurashiki Amagi High School SSH program, 2019