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Research Interest	RNA-mediated gene regulation
Position	Professor , Seoul National University Director , Center for RNA Research, Institute for Basic Science
Education	Ph. D., Biochemistry , 1994-1998 Oxford University, <i>Oxford, UK</i> M. S., Microbiology , 1992-1994 Seoul National University, <i>Seoul, Korea</i> B. A., Microbiology , 1988-1992 Seoul National University, <i>Seoul, Korea</i>
Professional Experience	SNU Distinguished Professor , 2017-present Seoul National University Professor , <i>School of Biological Sciences</i> , 2013-present Seoul National University Director , <i>Center for RNA Research</i> , 2012-present Institute for Basic Science SNU Distinguished Fellow , 2010-2016 Seoul National University Associate Professor , <i>School of Biological Sciences</i> , 2008-2013 Seoul National University Assistant Professor , <i>School of Biological Sciences</i> , 2004-2008 Seoul National University Research Associate Professor , <i>Advanced Training Program for Biological Sciences</i> , 2001-2004 Seoul National University Postdoc Fellow , <i>Howard Hughes Medical Institute</i> , 1999-2001 University of Pennsylvania
Professional Services	Scientific Organiser , 2022 EMBO Workshop The Epitranscriptome, Virtual Scientific Organiser , 2021 EMBO EMBL Symposium The Non-Coding Genome Organizer , 2021 IBS-SNU Mini-Symposia on RNA Biology & Therapeutics Organizer , 2021 The 26th Annual Meeting of the RNA Society

Organizer, 2021
International Conference of The Korean Society for Molecular and Cellular Biology

Organizer, 2020
CSHA COVID19/SARSCoV2 Rapid Research Reports, Virtual

Scientific Organiser, 2019
EMBL Symposia EMBO | EMBL Symposium The Non-Coding Genome

Organizer, 2019
Keystone Symposia

Board of Reviewing Editors, 2015-
Science

Editorial Board, 2014-
Molecular Cell

Co-Organizer, 2014
Keystone Symposia

Council Member, 2013-2014
Presidential Advisory Council on Science and Technology

Meetings Committee, 2013-2014
The RNA Society

Editorial Board, 2012-
Genes & Development

Director, 2011-2012
The RNA Society

Co-Organizer, 2011
Keystone Symposia

Co-Organizer, 2011
Cold Spring Harbor Asia - ISSCR

Editorial Board, 2011-
EMBO Journal

Editorial Board, 2010-
Cell

Co-Organizer, 2009
The RNA Society

Council Member, 2006-2008
Presidential Advisory Council on Science and Technology

Membership

Foreign Member (ForMemRS), 2021-
The Royal Society, UK

Foreign Associate, 2014-
National Academy of Sciences (NAS), USA

Member, 2014-
The Korean Academy of Science Technology

Foreign Associate, 2013-
European Molecular Biology Organization (EMBO)

Awards

- Lina 50+ Award Grand Prize** (LINA Foundation), 2021
- Asan Awards in Medicine** (ASAN Foundation), 2019
- Chen Award** (Human Genome Organisation), 2017
- S-Oil Leading Scientist** (S-Oil Science Prodigy and Culture Foundation), 2013
- The Korea S&T Award** (The Korean Federation of Science and Technology Societies), 2013
- Gwanak Grand Prize Honor Sector** (Seoul National University), 2013
- National Honor Scientist** (Ministry of Education, Science and Technology), 2010
- Amore Pacific the Grand Prize** (Amore pacific, KOFWST), 2010
- Ho-Am Prize in medicine** (Ho-Am Foundation), 2009
- L'Oreal-UNESCO Women in Science Award** (L'Oreal and UNESCO), 2008
- Woman Scientist of the Year** (Ministry of Science and Technology), 2007
- Young Scientist Award** (Ministry of Science and Technology), 2007
- Thomson Scientific Citation Award** (Thomson Corporation), 2007

Publications

1. J. J. Seo¹, S.-J. Jung¹, J. Yang, D.-E. Choi, V. N. Kim* (2023) "Functional viromic screens uncover regulatory RNA elements" **Cell**, 186(15):3291-3306.
2. S. Son¹, B. Kim¹, J. Yang, V. N. Kim* (2023) "Role of the proline-rich disordered domain of DROSHA in intronic microRNA processing" **Genes & Development**, 37(9-10):383-397.
3. J. Park¹, M. Kim¹, H. Yi¹, K. Baeg¹, Y. Choi, Y. Lee, J. Lim, V. N. Kim* (2023) "Short poly(A) tails are protected from deadenylation by the LARP1-PABP complex" **Nature Structural & Molecular Biology**, 30(3):330-338.
4. Y. Lee¹, H. Kim¹, V. N. Kim* (2023) "Sequence determinant of small RNA production by DICER" **Nature**, 615(7951):323-330.
5. Y. Lee¹, H. Lee¹, H. Kim¹, V. N. Kim*, S. H. Roh* (2023) "Structure of the human DICER-pre-miRNA complex in a dicing state" **Nature**, 615(7951):331-338.
6. K. Kim*, V. N. Kim* (2022) "High-throughput in vitro processing of human primary microRNA by the recombinant Microprocessor" **STAR Protocols**, 3(1):101042.
7. J. W. Bae, S. Kim, V. N. Kim*, J.-S. Kim* (2021) "Photoactivatable ribonucleosides mark base-specific RNA-binding sites" **Nature Communications**, 12:6026.
8. S. Kim¹, S. Kim¹, H. R. Chang¹, D. Kim¹, J. Park, N. Son, J. Park, M. Yoon, G. Chae, Y. -K. Kim, V. N. Kim, Y. K. Kim, J. -W. Nam, C. Shin*, D. Baek* (2021) "The regulatory impact of RNA-binding proteins on microRNA targeting" **Nature Communications**, 12:5057.
9. K. Kim¹, S. Baek¹, Y. Lee, C. Bastiaanssen, J. Kim, H. Kim, V. N. Kim (2021) "A quantitative map of human primary microRNA processing sites" **Molecular Cell**, 81(16):3422-3439.e11.
10. Y. Hong, H. Jeong, K. Park, S. Lee, J. Y. Shim, H. Kim, Y. Song, S. Park, H. Y. Park, V. N. Kim, K. Ahn (2021) "STING facilitates nuclear import of herpesvirus genome during

infection" *Proceedings of the National Academy of Sciences of the U. S. A.*, 118(33):e2108631118.

11. S. Lee¹, Y. Lee¹, Y. Choi, A. Son, Y. Park, K.-M. Lee, J. Kim, J.-S. Kim, V. N. Kim (2021) "The SARS-CoV-2 RNA interactome" *Molecular Cell*, 81(13):2838-2850.
12. Y. Lee¹, J. Kim¹, M. Kim¹, Y. Kwon, S. Shin, H. Yi, H. Kim, M. Chang, C. Chang, S. Kang, V. N. Kim, J. Kim, J. Kim, S. J. Elledge, C. Kang* (2021) "Coordinate regulation of the senescent state by selective autophagy" *Developmental Cell*, 56(10):1512-1525.
13. H. Kim¹, Y. Lee¹, S. -M. Kim, S. Jang, H. Choi, J. -W. Lee, T. -D. Kim, V. N. Kim* (2021) "RNA demethylation by FTO stabilizes the FOXJ1 mRNA for proper motile ciliogenesis" *Developmental Cell*, 56(8):1118-1130.
14. Y. Na¹, H. Kim, Y. Choi, S. Shin, J. H. Jung, S. C. Kwon, V. N. Kim*, J. S. Kim* (2021) "FAX-RIC enables robust profiling of dynamic RNP complex formation in multicellular organisms in vivo" *Nucleic Acids Research*, 49(5):e28.
15. C. Kim¹, S. Sung¹, J. -S. Kim¹, H. Lee, Y. Jung, S. Shin, E. Kim, J. J. Seo, J. Kim, D. Kim Hiroyuki Niida, V. N. Kim, D. Park*, J. Lee* (2021) "Telomeres reforged with non-telomeric sequences in mouse embryonic stem cells" *Nature communications*, 12:1097.
16. S. Hwang¹, H. Jung, S. Mun, S. Lee, K. Park, S. C. Baek, H. Moon, H. Kim, B. Kim, Y. Choi, Y. Go, W. Tang, J. Choi, J. Choi, H. Cha, H. Park, P. Liang, V. N. Kim, K. Han*, K. Ahn* (2021) "L1 retrotransposons exploit RNA m6A modification as an evolutionary driving force" *Nature communications*, 12:880.
17. S. C. Kwon¹, H. Jang¹, S. Shen¹, S. C. Baek, K. Kim, J. Yang, J. Kim, J.-S. Kim, S. Wang, Y. Shi, F. Li*, V. N. Kim* (2020) "ERH facilitates microRNA maturation through the interaction with the N-terminus of DGCR8" *Nucleic Acids Research*, 48(19):11097-11112.
18. R. Shang¹, S. C. Baek¹, K. Kim, B. Kim, V. N. Kim, E. C. Lai (2020) "Genomic Clustering Facilitates Nuclear Processing of Suboptimal Pri-miRNA Loci" *Molecular Cell*, 78(2):303-316.
19. J. W. Bae, S. C. Kwon, Y. Na, V. N. Kim*, and J. S. Kim* (2020) "Chemical RNA digestion enables robust RNA-binding site mapping at single amino acid-resolution" *Nature Structural & Molecular Biology*, 27:678-682.
20. D. Kim¹, J.-Y. Lee, J.-S. Yang, J. W. Kim, V. N. Kim*, H. Chang* (2020) "The architecture of SARS-CoV-2 transcriptome" *Cell*, 181(4):914-921.e10.
21. H. Kim¹, J. Kim¹, S. Yu, Y.-Y. Lee, J. Park, R. J. Choi, S.-J. Yoon, S.-G. Kang, V. N. Kim (2020) "A mechanism for microRNA arm switching regulated by uridylation" *Molecular Cell*, 78(6):1224-1236.e5
22. S. Yu and V. N. Kim (2020) "A tale of noncanonical tails: gene regulation by post-transcriptional RNA tailing" *Nature Reviews Molecular Cell Biology*, 21:542-556.
23. D. Kim¹, Y. Lee¹, S.-J. Jung¹, J. Yeo¹, J. J. Seo, Y.-Y. Lee, J. Lim, H. Chang, J. Song, J. Yang, J. S. Kim, G. Jung, K. Ahn, V. N. Kim (2020) "Viral hijacking of the TENT4-ZCCHC14 complex protects viral RNAs via mixed tailing" *Nature Structural & Molecular Biology*, 27:581-588.
24. J. Won, S. Lee, M. Park, T. Y. Kim, M. G. Park, B. Y. Choi, D. Kim, H. Chang, V. N. Kim, C. Justin Lee (2020) "Development of a Laboratory-safe and Low-cost Detection Protocol for SARS-CoV-2 of the Coronavirus Disease 2019 (COVID-19)" *Exp Neurobiol.*, 29(2):107-119.
25. J. Min, T. S. Han, Y. Sohn, T. Shimizu, B. Choi, S. W. Bae, K. Hur, S. H. Kong, Y. S. Suh, H. J. Lee, J. S. Kim, J. K. Min, W. H. Kim, V. N. Kim, E. Choi, J. R. Goldenring, H.

- K. Yang (2020) "microRNA-30a arbitrates intestinal-type early gastric carcinogenesis by directly targeting ITGA2." **Gastric Cancer.**, 23:600-613.
26. S. Shin, J. H. Hong, Y. Na, M. Lee, W. J. Qian, V. N. Kim, J. S. Kim (2020) "Development of Multiplexed Immuno-N-Terminomics to Reveal the Landscape of Proteolytic Processing in Early Embryogenesis of *Drosophila melanogaster*" **Anal. Chem.**, 92(7):4926-4934.
 27. Y. Choi¹, K. Jeong¹, S. Shin¹, J. W. Lee¹, Y. Lee, S. Kim, S. A. Kim, J. Jung, K. P. Kim, V. N. Kim^{*}, J. S. Kim^{*}; (2020) "MS1-level proteome quantification platform allowing maximally increased multiplexity for SILAC and in vitro chemical labeling" **Anal. Chem.**, 92(7):4980-4989.
 28. S. Shin¹, Y. Jung¹, H. Uhm, M. Song, S. Son, J. Goo, C. Jeong, J.-J. Song, V. N. Kim, S. Hohng (2020) "Quantification of purified endogenous miRNAs with high sensitivity and specificity" **Nature communications**, 11(6033).
 29. J. K. Kim, J. Cho, S. H. Kim, H.C Kang, D.S Kim, V. N. Kim, J.H Lee (2019) "Brain somatic mutations in MTOR reveal translational dysregulations underlying intractable focal epilepsy" **J Clin Invest.**, 129(10):4207-4223.
 30. D. Kang¹, J. Shin¹, Y. Cho, H. S. Kim, Y. R. Gu, H. Kim, K. T. You, M. J. Chang, C. B. Chang, S. B. Kang, J. S. Kim, V. N. Kim, J. H. Kim (2019) "Stress-activated miR-204 governs senescent phenotypes of chondrocytes to promote osteoarthritis development" **Science Translational Medicine**, 11(486): eaar6659.
 31. J. Jung, K. Jeong, Y. Choi, S. A. Kim, H. Kim, J. W. Lee, V. N. Kim, K. P. Kim, J. S. Kim (2019) "Deuterium-Free, Three-Plexed Peptide Diethylation for Highly Accurate Quantitative Proteomics" **J Proteome Res.**, 18(3):1078-1087.
 32. H. Kim¹, J. Kim¹, K. Kim, H. Chang, K. You, V. N. Kim (2019) "Bias-minimized quantification of microRNA reveals widespread alternative processing and 3' end modification" **Nucleic Acids Research**, 47(5): 2630-2640.
 33. S. C. Kwon, S. C. Baek, Y. G. Choi, J. Yang, Y. Lee, J.-S. Woo^{*}, V. N. Kim^{*} (2019) "Molecular basis for the single-nucleotide precision of primary microRNA processing" **Molecular Cell**, 73(3):505-518.
 34. J. Yeo, V. N. Kim (2018) "U-tail as a guardian against invading RNAs" **Nature structural & molecular biology**, 25, 903-905.
 35. Y. Kim¹, J. Park¹, S. Kim¹, M. Kim, M. G. Kang, C. Kwak, M. Kang, B. Kim, H. W. Rhee, V. N. Kim (2018) "PKR senses nuclear and mitochondrial signals by interacting with endogenous double-stranded RNAs" **Molecular Cell**, 71(6):1051-1063.e6.
 36. J. Lim¹, D. Kim¹, Y. Lee¹, M. Ha, M. Lee, J. Yeo, H. Chang, J. Song, K. Ahn, V. N. Kim (2018) "Mixed tailing by TENT4A and TENT4B shields mRNA from rapid deadenylation" **Science**, eaam5794.
 37. H. Yi¹, J. Park¹, M. Ha, J. Lim, H. Chang, V. N. Kim (2018) "PABP Cooperates with the CCR4-NOT Complex to Promote mRNA Deadenylation and Block Precocious Decay" **Molecular Cell**, 70(6):1081-1088.e5..
 38. B. Kim, V. N. Kim (2018) "fCLIP-seq for transcriptomic footprinting of dsRNA-binding proteins: Lessons from DROSHA" **Methods**, S1046-2023(18)30064-1.
 39. T. A. Nguyen¹, J. Park¹, T. L. Dang, Y. G. Choi, V. N. Kim (2018) "Microprocessor depends on hemin to recognize the apical loop of primary microRNA" **Nucleic Acids Res.**, 46(11):5726-5736.
 40. A. Son¹, J.-E. Park¹, V. N. Kim (2018) "PARN and TOE1 Constitute a 3' End Maturation Module for Nuclear Non-coding RNAs" **Cell Reports**, 23(3):888-898.

41. H. Chang¹, J. Yeo¹, J.-g. Kim, H. Kim, J. Lim, M. Lee, H. H. Kim, J. Ohk, H.-Y. Jeon, H. Lee, H. Jung, K.-W. Kim, V. N. Kim (2018) "Terminal Uridylyltransferases Execute Programmed Clearance of Maternal Transcriptome in Vertebrate Embryos" **Molecular Cell**, 70(1):72-82.e7.
42. V. N. Kim (2018) "RNA-targeting CRISPR comes of age" **Nature Biotechnology**, 36:44–45.
43. B. Kim¹, K. Jeong¹, V. N. Kim (2017) "Genome-wide Mapping of DROSHA Cleavage Sites on Primary MicroRNAs and Noncanonical Substrates" **Molecular Cell**, 66(2):258-269.
44. J. Choi, Y.-K. Kim, K. Park, J. Nah, S. S. Yoon, D. W. Kim, V. N. Kim, R. H. Seong (2016) "MicroRNA-139-5p regulates proliferation of hematopoietic progenitors and is repressed during BCR-ABL-mediated leukemogenesis" **Blood**, 128(17):2117-2129.
45. J. Lim¹, M. Lee¹, A. Son, H. Chang, V. N. Kim (2016) "mTAIL-seq reveals dynamic poly(A) tail regulation in oocyte-to-embryo development" **Genes & Development**, 30:1671-1682.
46. B. Choi¹, J. Yu¹, T.-S. Han, Y.-K. Kim, K. Hur, B.-C. Kang, W. H. Kim, D.-Y. Kim, H.-J. Lee, V. N. Kim, H.-K. Yang (2016) "Gastric Carcinogenesis in the miR-222/221 Transgenic Mouse Model" **Cancer Research and Treatment**, 49(1):150-160.
47. J.-E. Park¹, H. Yi¹, Y. Kim¹, H. Chang, V. N. Kim (2016) "Regulation of Poly(A) Tail and Translation during the Somatic Cell Cycle" **Molecular Cell**, 62(3):462-471.
48. Y.-K. Kim^{*}, B. Kim, V. N. Kim^{*} (2016) "Re-evaluation of the roles of DROSHA, Exportin 5, and DICER in microRNA biogenesis" **Proceedings of the National Academy of Sciences of the U. S. A.**, 113(13):E1881-E1889.
49. S. C. Kwon¹, T. A. Nguyen¹, Y.-G. Choi¹, M. H. Jo, S. Hohng, V. N. Kim^{*}, J.-S. Woo^{*} (2016) "Structure of Human DROSHA" **Cell**, 164(1-2):81-90.
50. K. T. You, J. Park, and V. N. Kim (2015) "Role of the small subunit processome in the maintenance of pluripotent stem cells" **Genes & Development**, 29:2004-2009.
51. J. Cho¹, N.-K. Yu¹, J.-H. Choi, S.-E. Sim, S. J. Kang, C. Kwak, S.-W. Lee, J. Kim, D. I. Choi, V. N. Kim^{*}, B.-K. Kaang^{*} (2015) "Multiple repressive mechanisms in the hippocampus during memory formation" **Science**, 350(6256):82–87.
52. M. Kampmann, M. A. Horlbeck, Y. Chena, J. C. Tsai, M. C. Bassik, L. A. Gilbert, J. E. Villalta, S. C. Kwon, H. Chang, V. N. Kim, J. S. Weissman (2015) "Next-generation libraries for robust RNA interference-based genome-wide screens" **Proceedings of the National Academy of Sciences of the U. S. A.**, 112(26):E3384-E3391.
53. S. Kim¹, D. Seo¹, D. Kim, Y. Hong, H. Chang, D. Baek, V. N. Kim, S. Lee, K. Ahn (2015) "Temporal Landscape of MicroRNA-Mediated Host-Virus Crosstalk during Productive Human Cytomegalovirus Infection" **Cell Host & Microbe**, 17(6):838-851.
54. T. A. Nguyen, M. H. Jo, Y.-G. Choi, J. Park, S. C. Kwon, S. Hohng, V. N. Kim^{*}, J.-S. Woo^{*} (2015) "Functional Anatomy of the Human Microprocessor" **Cell**, 161(6):1374-1387.
55. B. Kim¹, M. Ha¹, L. Loeffl¹, H. Chang, D. K. Simanshu, S. Li, M. Fareh, D. J. Patel, C. Joo^{*}, V. N. Kim^{*} (2015) "TUT7 controls the fate of precursor microRNAs by using three different uridylation mechanisms" **EMBO Journal**, 35(2):115-236. Suppl.
56. K. Boo¹, J. Bhin¹, Y. Jeon, J. Kim, H. J. Shin, J. E. Park, K. Kim, C. R. Kim, H. Jang, I. H. Kim, V. N. Kim, D. Hwang, H. Lee, S. H. Baek (2015) "Pontin functions as an essential coactivator for Oct4-dependent lincRNA expression in mouse embryonic stem cells" **Nature Communications**, 6:6810.

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63. M. Ha and V. N. Kim (2014) "Regulation of microRNA biogenesis" *Nature Reviews Molecular Cell Biology*, 15, 509–524.
64. Y. Kim, J. H. Lee, J.-E. Park, J. Cho, H. Yi and V. N. Kim (2014) "PKR is activated by cellular dsRNAs during mitosis and acts as a mitotic regulator" *Genes & Development*, 28: 1310-1322.
65. H. Chang¹, J. Lim¹, M. Ha, and V. N. Kim (2014) "TAIL-seq: Genome-wide Determination of Poly(A) Tail Length and 3' End Modifications" *Molecular Cell*, 53(6):1044-1052.
66. J.-S. Woo, and V. N. Kim (2014) "MeCP2 Caught Moonlighting as a Suppressor of MicroRNA Processing" *Developmental Cell*, 28(5):477-478.
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