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Education

- Ph. D. in Molecular Evolutionary Genomics** **2000 - 2005**
The Pennsylvania State University (Penn State), University Park, PA
Advisor: Dr. Masatoshi Nei
Thesis: Evolution of two gene families controlling the fundamental processes of eukaryotic development: MADS-box gene family and homeobox gene family
- M. S. in Plant Molecular Biology** **1997 - 1999**
Pohang University of Science and Technology (POSTECH), Pohang, Korea
Advisor: Dr. Gynheung An
Thesis: Study on early fruit development in apple and rice
- B. S. in Biology** **1991 - 1997**
Hanyang University, Seoul, Korea
(Army Service: 1993 - 1995)

Research Interests

Molecular evolutionary genomics of developmental gene regulation
Development of experimental and statistical tools for functional and evolutionary genomics

Research Experience

- Postdoctoral Scholar** **2005 - present**
Dr. Eric Davidson's Laboratory, Caltech
- Research Assistant** **2000 - 2005**
Dr. Masatoshi Nei's Laboratory, Penn State
- Research Assistant and Graduate Researcher (Plant Molecular Biology)** **1997 - 2000**
Dr. Gynheung An's Laboratory, POSTECH

Teaching Experience

- Graduate Teaching Assistant** **2003 - 2004**
Biol230W, Molecules and Cells Lab.
Biol220W, Populations and Communities Lab.
Biol110, Basic Concepts and Biodiversity Lab.
Department of Biology, Penn State

Awards and Scholarships

Biology Department Outstanding Teaching Assistant Award	2003
Ambassadorial Scholarship from the Rotary Foundation	2000 - 2003
Travel Grant, Institute of Molecular Evolutionary Genetics, Penn State	2001 - 2004
Braddock Scholarship from the Eberly College of Science, Penn State	2000 - 2001

Talks

A novel experimental method for the multiplex and quantitative measurement of <i>cis</i> -regulatory module activity <i>in vivo</i> . <i>Developmental Biology of the Sea Urchin XIX</i> , Marine Biological Laboratory, Woods Hole, MA.	2009
A novel experimental method for the multiplex and quantitative measurement of <i>cis</i> -regulatory module activity <i>in vivo</i> . <i>Society of Molecular Evolutionary Biology Meeting</i> , Univ. of Iowa, Iowa City, IA.	2009
New experimental approaches for <i>cis</i> -regulatory analysis: ideas and realization. <i>Developmental Biology of the Sea Urchin XVIII</i> , Marine Biological Laboratory, Woods Hole, MA.	2008
<i>Cis</i> -regulatory control of the nodal gene, initiator of the sea urchin oral ectoderm gene network. <i>Experimental Biology 2008</i> , Invited Talk, San Diego, CA.	2008
On the correlation of the two ways of functional differentiation of duplicate genes. <i>The Third Rice Genome Annotation Meeting (RAP3)</i> , Invited Talk, Tsukuba, Japan	2006
The ectoderm GRN: nodal <i>cis</i> -regulatory control. <i>Developmental Biology of the Sea Urchin XVII</i> , Marine Biological Laboratory, Woods Hole, MA.	2006
Evolutionary change of the numbers of homeobox genes in animals. <i>Society of Molecular Evolutionary Biology Meeting</i> , Arizona State Univ. Tempe, AZ.	2006
Birth, death, and differentiation of MADS-box genes in plants. <i>The First Rice Genome Annotation Meeting (RAP1)</i> , Invited Talk, Tsukuba, Japan.	2004
Evolution of homeobox genes controlling the fundamental processes of animal development. <i>Institute of Molecular Evolutionary Genetics Seminar</i> , Penn State.	2004
Evolution of MADS-box gene family in plants: birth-and-death evolution. <i>Institute of Molecular Evolutionary Genetics Seminar</i> , Penn State.	2003
Floral MADS-box gene evolution in plants. <i>Society of Molecular Evolutionary Genetics Meeting</i> , U of Georgia, Georgia.	2001

Professional Services

Reviewer for Developmental Biology, Gene, Genetica, Genome Research, Genomics, Journal of Biology, Molecular Biology and Evolution, Molecular & Cellular Proteomics, Nucleic Acids Research, Plant Systematics and Evolution, Proceedings of the National Academy of Sciences of the USA, Trends in Genetics

Professional Membership

Member of the Society for Molecular Biology and Evolution since 2001

Publications (Click here to view [PubMed listing](#))

Nam, J., Dong, P., Tarpine, R., Istrail, S., Davidson, E.H. (*in press*) Functional *cis*-regulatory genomics for systems biology. *Proc. Natl. Acad. Sci. USA*.

Lee, P.Y., **Nam, J.**, Davidson, E.H. (2007) Exclusive developmental functions of *gatae cis*-regulatory modules in the *Strongylocentrotus purpuratus* embryo. *Dev. Biol.* 307(2):434-445.

Nam, J., Su, Y.H., Lee, P.Y., Robertson, A.J., Coffman, J.A., Davidson, E.H. (2007) Cis-regulatory control of the nodal gene, initiator of the sea urchin oral ectoderm gene network. *Dev. Biol.* 306(2):860-869.

The Rice Annotation Project (2007) Curated Genome Annotation of *Oryza sativa* ssp. *Japonica* and Comparative Genome Analysis with *Arabidopsis thaliana*. *Genome Research.* 17(2):175-183.

Sea Urchin Genome Sequencing Consortium (2006) The genome of the sea urchin *Strongylocentrotus purpuratus*. *Science.* 314(5801):941-952.

Nam*, J., and Nei, M. (2005) Evolutionary change of the numbers of homeobox genes in bilateral animals. *Mol. Biol. Evol.* 22:2386-2394.

Nam*, J., Kaufmann, K., Theissen, G., and Nei, M. (2005) A simple method for predicting the functional differentiation of duplicate genes and its application to MIKC-type MADS-box genes. *Nucleic Acids Res.* 33:e12.

Nam*, J., Kim, J., Lee, S., An, G., Ma, H., and Nei, M. (2004) Type I MADS-box genes have experienced faster birth-and-death evolution than type II MADS-box genes in angiosperms. *Proc. Natl. Acad. Sci. USA.* 101:1910-1915.

Nam, J., dePamphilis, C.W., Ma, H., and Nei, M. (2003) Antiquity and evolution of the MADS-box gene family controlling flower development in plants. *Mol. Biol. Evol.* 20:1435-1447.

Lee, S., Kim, J., Son, J.S., **Nam, J.**, Jeong, D.H., Lee, K., Jang, S., Yoo, J., Lee, J., Lee, D.Y., Kang, H.G., and An, G. (2003) Systematic reverse genetic screening of T-DNA tagged genes in rice for functional genomic analyses: MADS-box genes as a test case. *Plant Cell Physiol.* 44:1403-1411.

An, S., Park, S., Jeong, D.H., Lee, D.Y., Kang, H.G., Yu, J.H., Hur, J., Kim, S.R., Kim, Y.H., Lee, M., Han, S., Kim, S.J., Yang, J., Kim, E., Wi, S.J., Chung, H.S., Hong, J.P., Choe, V., Lee, H.K., Choi, J.-H., **Nam, J.**, Kim, S.R., Park, P.B., Park, K.Y., Kim, W.T., Choe, S., Lee, C.B., and An, G. (2003) Generation and analysis of end sequence database for T-DNA tagging lines in rice. *Plant Physiol.* 133:2040-2047.

Jeon, J.S., Lee, S., Jung, K.H., Jun, S.H., Jeong, D.H., Lee, J., Kim, C., Jang, S., Yang, K., **Nam, J.**, An, K., Han, M.J., Sung, R.J., Choi, H.S., Yu, J.H., Choi, J.H., Cho, S.Y., Cha, S.S., Kim, S.I., An, G. (2000) T-DNA insertional mutagenesis for functional genomics in rice. *Plant J.* 22:561-70.

Jeon, J.S., Jang, S., Lee, S., **Nam, J.**, Kim, C., Lee, S.H., Chung, Y.Y., Kim, S.R., Lee, Y.H., Cho, Y.G., and An, G. (2000) leafy hull sterile1 is a homeotic mutation in a rice MADS box gene affecting rice flower development. *Plant Cell.* 12:871-84.

Sung S.K., Yu, G.H., **Nam, J.**, Jeong, D.H., and An, G. (2000) Developmentally regulated expression of two MADS-box genes, MdMADS3 and MdMADS4, in the morphogenesis of flower buds and fruits in apple. *Planta.* 210:519-28.

Sung S.K., Jeong, D.H., **Nam, J.**, Kim, S.H., Kim, S.R., and An, G. (1998) Expressed sequence tags of fruits, peels, and carpels and analysis of mRNA expression levels of the tagged cDNAs of fruits from the Fuji apple. *Mol. Cells.* 8:565-77.

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References**Dr. Eric H. Davidson (Postdoctoral advisor)**

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Dr. Masatoshi Nei (Ph.D advisor)

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