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“My Life as a Molecular Evolutionist” by Masatoshi NEI (2020)

SAITOU Naruya

Population Genetics Laboratory, National Institute of Genetics (Main appointment)
School of Medicine, University of the Ryukyus
Department of Biological Sciences, Graduate School of Science, University of Tokyo
Department of Genetics, School of Life Science, Graduate University for Advanced Studies
1111 Yata, Mishima, 411-8540, Japan Email: saitounr@nig.ac.jp

Dr. Masatoshi NEI (1931-), published one book in December 2020 titled “My Life as a Molecular Evolutionist” from Temple University. He is now 90 years old, and this book covers his life as scientist for more than 70 years. Although this book has ISBN number (978-1-03-437134-2), it was not listed in Amazon.com. However, anonymous brief introduction of this book appeared recently in *Molecular Biology and Evolution* (<https://doi.org/10.1093/molbev/msab058>) in April 2021. You can buy this book through <https://press.arctangent.com/mnmemoir/>. When I sent greeting email to Dr. NEI on this year’s January 2nd, his birthday, he mentioned publication of this book in reply email. I thus contacted Dr. Sudhir Kumar and bought one copy, and read it.

NEI (2020) consists of nine chapters as follows:

- Chapter 1: Introduction
- Chapter 2: My Childhood
- Chapter 3: University Education
- Chapter 4: Studies in the USA
- Chapter 5: National Institute of Radiological Sciences, Japan
- Chapter 6: Brown University
- Chapter 7: University of Texas Health Science Center at Houston
- Chapter 8: Pennsylvania State University

Chapter 9: Temple University

Eplilogue and Acknowlegements; Table 1 – Collaborators; References; Index

Book cover is designed by Keitaro NEI, Dr. NEI's son. Table 1 lists 23 graduate students, 38 postdoctoral fellows, and 48 visiting scholars and collaborators of Dr. NEI. There are many photos in this book, and Dr. NEI appears in ~30 photos. You can find his photo when he was 3-4 years old at page 15. His wife, Nobuko also appears in 9 photos. You can also find Dr. KIMURA Motoo (p. 48), Dr. KOJIMA Ken-ichi (p. 44), Drs. Frank STEWART and Bruce R. LEVIN (p. 58), Dr. Jack SCHULL (p. 68), Drs. GOJOBORI Takashi and TAJIMA Fumio (p. 72), Drs. Simon EASTEAL and TAKAHATA Naoyuki (p. 128), Drs. Andrew CLARKI, Helen Piontkivska, TAKEZAKI Naoko, and NIIMURA Yoshihito (p. 156). I am honored to appear in page 109 with Dr. Paul Fuest, probably taken at Dr. GOJOBORI Takashi's house in Mishima.

I would like to summarize “Chronological Timeline” of Chapter 1 as follows with some additional information. Dr. Masatoshi NEI was born on January 2nd, 1931 in Naka, Miyazaki Prefecture, Japan. He went to Naka elementary school during April 1937 and March 1943, and another two years at Higher Education Part in this elementary school. He went to Miyazaki Agricultural Middle School during April 1945 and March 1948. He went to Ohyodo High School (later Miyazaki Nishi High School) in Miyazaki city during April 1948 and March 1949. He went to Faculty of Agriculture, The University of Miyazaki during April 1949 and March 1953, and received Bachelor of Science degree. Amazingly, he published single-author paper when he was still undergraduate student (NEI 1953). He went to Faculty of Agriculture, Kyoto University as master course student (during April 1953 and March 1955) and as doctoral course student (during April 1955 and March 1959). He received Master of Agricultural Science and Doctor of Agricultural Science (equivalent to Ph.D. in USA system) from Kyoto University in March 1955 and in March 1959, respectively. His academic supervisor was Professor SHAKUDO Katsumi, and I found four papers probably based on his doctoral thesis (NEI and SHAKUDO 1956, 1957, 1958a, 1958b). He also published one single-authored paper (NEI 1956). He was Assistant Professor at Faculty of Agriculture, Kyoto University for three years, during April 1958 and March 1961. He was Head of Department of Population Genetics, National Institute of Radiological Sciences, Chiba, Japan for eight years, during April 1961 and March 1969.

He was Associate Professor, later Full Professor at Department of Population Biology, Brown University, Providence, Rhode Island, USA, for slightly more than three years, during April 1969 and June 1972. He was Full Professor at Center for Demographic and Population Genetics (CDPG), Graduate School of Biomedical Sciences (GSBS), University of Texas Health Science Center at Houston, Texas, USA for 18 years during July 1972 and June 1990. He was Director at the Institute of Molecular Evolutionary Genetics and Full Professor at Department of Biology, Pennsylvania State University, University Park, Pennsylvania, USA for 25 years during July 1990 and June 2015. He is Adjunct Professor at Institute for Genomics and Evolutionary Medicine, Temple University, Philadelphia from July 2015.

Dr. NEI has his own website at Google Scholar: <https://scholar.google.co.jp/citations?user=VxOmZDgAAAAJ&hl=ja&oi=ao>. I am happy that our paper on Neighbor-Joining method (SAITOU and NEI, 1987) has highest citation (62,260 as of May 11, 2021), followed by MEGA5 of TAMURA

et al. (2011) (43,093 citations), MEGA6 of TAMURA et al. (2013) (37,709 citations) and MEGA4 of TAMURA et al. (2007) (33,680 citations). Fifth highest citation was “*Molecular Evolutionary Genetics*” (NEI 1987). Sixth and seventh highest citations (15,738 and 14,247, respectively) are again MEGA2 (KUMAR et al. 2001) and MEGA3 (KUMAR et al. 2004). Eighth to eleventh highest citations was first-authored by Dr. NEI (NEI 1978, NEI and LI 1979, NEI 1987, and NEI 1973), and they all exceeded 10,000. The last paper exceeding 10,000 citations as of May 11, 2021 is TAMURA and NEI (1993). Therefore, there are 12 publications by Dr. NEI which exceeded 10,000 citations. It is already amazing, but there are 16 more publications that exceeded 1,000 citations. There are over 110 publications by Dr. NEI whose citations are more than 100. However, we have to be careful on Google Scholar, for I could not find NEI (1972), celebrated paper on Nei’s genetic distance in Google Scholar.

In any case, Dr. NEI is very productive and world-renowned scientist. Following is list of honors Dr. NEI received so far, based on “Chronological Timeline” of Chapter 1.

1977: Japan Society of Human Genetics Award

1989: Honorary member, Genetics Society of Japan

1990: Fellow, American Academy of Arts and Science

1993: Fellow, American Association For the Advancement of Science

1994: President, Society for Molecular Biology and Evolution

1996: Honorary member, Japan Society of Human Genetics

1997: Member, National Academy of Sciences, USA

1999: President, American Genetic Association

2000: Honorary member, Japan Society for Histocompatibility and Immunogenetics

2000: Establishment of Masatoshi Nei Annual Lecture for the Society for Molecular Biology and Evolution

2001: Honorary member, Japan Society of Animal Genetics and Breeding

2002: International Prize for Biology, Japan Society for Promotion of Science

2002: Honorary Doctorate, University of Miyazaki

2003: Barbara Bowman Award, Texas Genetics Society

2006: Thomas Hunt Morgan Medal, Genetics Society of America

2013: Kyoto Prize in Basic Sciences, Inamori Foundation

2017: John Scott Award, the Board of Directors of City Trusts of the City of Philadelphia

I would like to add that in Miyazaki University which he attended for four years, during April 1949 and March 1953, opened exhibition corner of Dr. NEI at University Library first floor in July 2020 (see <https://www.miyazaki-u.ac.jp/newsrelease/topics-info/post-529.html>).

References

- KUMAR Sudhir et al. (2001) MEGA2: molecular evolutionary genetics analysis software. *Bioinformatics*, vol. 17, pp. 1244-1245.
- KUMAR Sudhir et al. (2004) MEGA3: integrated software for molecular evolutionary genetics analysis and sequence alignment. *Briefings in Bioinformatics*, vol. 5, pp. 150-163.
- NEI Masatoshi (1953) Mathematical studies on the breeding behavior of partially allogamous plants. *Japanese Journal of Breeding*, vol. 3, pp. 1-5.
- NEI Masatoshi (1956) The test of significance for heritability estimates. *Japanese Journal of Breeding*, vol. 5, pp. 213-219.
- NEI Masatoshi (1972) Genetic distance between populations. *American Naturalist*, vol. 106, pp. 283-292.
- NEI Masatoshi (1973) Analysis of gene diversity in subdivided populations. *Proceedings of the National Academy of Sciences, USA*, vol. 70, pp. 3321-3323.
- NEI Masatoshi (1978) Estimation of average heterozygosity and genetic distance from a small number of individuals. *Genetics*, vol. 89, pp. 583-590.
- NEI Masatoshi (1987) *Molecular Evolutionary Genetics*. Columbia University Press, New York.
- NEI Masatoshi (1987) Chapter 9 “Genetic distance between populations”. Pp. 208-253, *Molecular Evolutionary Genetics*. Columbia University Press, New York.
- NEI Masatoshi (2020) *My Life as a Molecular Evolutionist*. Institute for Genomics and Evolutionary Medicine, Temple University, Philadelphia.
- NEI Masatoshi and SHAKUDO Katsumi (1956) Genetic analysis of covariation in quantitative characters. I. The components of covariance and the test of change in correlation. *The Japanese Journal of Genetics*, vol. 31, pp. 201-206.
- NEI Masatoshi and SHAKUDO Katsumi (1957) Genetic parameters and environments II. Heritability and genetic correlation in F₂ of some agronomic characters in rice plant. *The Japanese Journal of Genetics*, vol. 32, pp. 235-241.
- NEI Masatoshi and SHAKUDO Katsumi (1958a) The estimation of outcrossing in natural populations. *The Japanese Journal of Genetics*, vol. 33, pp. 46-51.
- NEI Masatoshi and SHAKUDO Katsumi (1958b) The genetic variance and heritability in partially allogamous plant populations. *Japanese Journal of Breeding*, vol. 7, pp. 221-227.
- SAITOU Naruya and Masatoshi NEI (1987) The neighbor-joining method: a new method for reconstructing phylogenetic trees. *Molecular Biology and Evolution*, vol. 4, pp. 406-425.
- TAMURA Koichiro and Masatoshi NEI (1993) Estimation of the number of nucleotide substitutions in the control region of mitochondrial DNA in humans and chimpanzees. *Molecular Biology and Evolution*, vol. 10, pp. 512-526.
- TAMURA Koichiro et al. (2007) MEGA4: molecular evolutionary genetics analysis (MEGA) software version 4.0. *Molecular Biology and Evolution*, vol. 24, pp. 1596-1599.
- TAMURA Koichiro et al. (2011) MEGA5: molecular evolutionary genetics analysis using maximum likelihood, evolutionary distance, and maximum parsimony methods. *Molecular Biology and Evolution*, vol. 28, pp. 2731-2739.
- TAMURA Koichiro et al. (2013) MEGA6: molecular evolutionary genetics analysis version 6.0. *Molecular Biology and Evolution*, vol. 30, pp. 2725-2729.

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