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RINA KAMENETSKY, PHD

The Department of Ornamental Horticulture,
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The Volcani Center
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Professor of Horticulture and Plant Physiology
Hebrew University of Jerusalem



Fields of Scientific Interest:

- The mechanisms of internal and environmental regulation of flowering and dormancy in geophytes and herbaceous perennial plants
- Introduction of new ornamental plants and production technologies
- Fertility restoration in garlic
- Herbaceous Peony for cut flower product
- Herbaceous Perennials for gardening and pot production

Personal

1957 Born in Almaty, Kazakhstan, USSR
1964-1974 High-school education in Almaty, Kazakhstan, USSR
1990 Immigration to Israel
Marital status: Married

University Education and Additional Training

1974 - 1977 B.Sc. at Kazakh State University, Faculty of Biology, Department of Plant Physiology and Biochemistry
1977 - 1979 M.Sc. with Distinction at Kazakh State University at Almaty, Kazakhstan
1979 - 1984 Ph.D. at Main Botanical Garden of Kazakh National Academy of Sciences at Almaty, Kazakhstan, USSR
2003 - 2004 Sabbatical leave at the Department of Plant Agriculture, University of Guelph, Ontario, Canada

Positions Held and Academic Status

2006- to date **Adjunct Professor**, The Hebrew University of Jerusalem
2006- to date **Part-time Professor**, the Henan University of Science and Technology, R.P.China

2004- 2007	Chair , Department of Ornamental Horticulture, ARO, Israel
1994 - to date	Senior Scientist at the ARO, The Volcani Center, Department of Ornamental Horticulture, Israel
1991 - 1994	Senior Scientist at the Unit of Ecophysiology and Introduction of Desert Plants, Jacob Blaustein Institute for Desert Research, Ben-Gurion University of the Negev, Israel
1985 - 1990	Senior Scientist at the Laboratory of Plant Ecology, Institute of Botany, Almaty, Kazakhstan
1987 - 1989	Scientific Secretary , Institute of Botany, Almaty, Kazakhstan
1982 - 1985	Curator , Laboratory of Medicinal and Edible Plants, Main Botanical Garden, Almaty, Kazakhstan

Teaching Experience

2001- to date	Teaching course on "Biology and Production of Geophytes" number 71458, Faculty of Agricultural, Food, and Environmental Quality Sciences, The Hebrew University of Jerusalem
1999- to date	Qualified supervisor of Master and PhD theses; Reviewer of PhD Theses at the Hebrew University of Jerusalem.
2004- to date	Qualified supervisor of PhD theses at University of Tel-Aviv

Foreign scholars

1997	L. Nikitina , the Institute of Botany, Uzbek Academy of Science, Tashkent, Uzbekistan. Six-month scholarship supported by the Ministry of Foreign Affairs of Israel (MASHAV).
2001	Dr. H. Shomuradov , the Institute of Botany, Uzbek Academy of Science, Tashkent, Uzbekistan. Eight-month scholarship in the framework of the CDR-CAR (USA) project "Collection and conservation of <i>Allium</i> species from Uzbekistan and neighboring areas and their evaluation for ornamental, edible and medicinal traits."
2005	A. Georg , Peony Association, Osorno, Chile. Two-month scholarship by Foundation of Agricultural Innovations (FIA), Chile.
2005-2006	Dr. Zhao Huien , Beijing Forest University. Six-month scholarship supported by the Ministry of Foreign Affairs of Israel (MASHAV).
2008	Dr. Deepu Mathew , KVK, Kerala University, Tavanur, 679 573, India. Eight-month scholarship supported by the Ministry of Foreign Affairs of Israel (MASHAV)

Membership in Scientific and Agricultural Committees

2000 -	Israel's representative on the International Species Survival Commission, Bulb Specialist Group
2003 -	Israel's representative on the European Cooperative Programme for Crop Genetic Resources Networks (ECP/GR)
2004	Member, Scientific Committee of the 3 rd International Symposium on Plant Dormancy, Wageningen, The Netherlands
2007	Member, Scientific Committee of the International Conference on Quality Management of Ornamentals (QMSCO 2007), Bangkok, Thailand

- 2008 Member, Scientific Committee of the Xth International Symposium on Flower Bulbs and Perennials.
- 2007- Member, Science Advisory Committee, Vineland Research and Innovation Centre, Canada
- 2007- Member, International Advisory Committee, 28th International Horticultural Congress

Editorial Responsibilities

- 2000- Reviewer of manuscripts for *Journal of the American Society for Horticultural Science*, *HortScience*, *Israel Journal of Plant Science*, *Scientia Horticulturae*, *Postharvest Biology and Technology*, *Plant Cell Reports*, *New Phytologist*, *Annals of Botany*, *Canadian Journal of Plant Science*, *Journal of Experimental Botany*, *Euphytica*
- 2005- *Annals of Botany* - Member of the International Editorial Board
- 2006 - *Horticultural Reviews* - Member of the Editorial Advisory Board

LIST OF PUBLICATIONS (last 10 years)

1. Articles in reviewed journals

- 24c Krontal Y., **Kamenetsky R.** and H. Rabinowitch (1998)
Lateral development and florogenesis of a tropical shallot - a comparison with bulb onion. *International Journ. of Plant Sciences*, 159(1): 57-64
- 25a **Kamenetsky, R.** and E. Rabinowitch (1999)
Flowering response of *Eremurus* to post-harvest temperatures. *Scientia Horticulturae*. 79: 75-86
- 26b Zemah, H, Bendel, P., Rabinowitch, H. and **R. Kamenetsky** (1999)
Visualization of morphological structure and water status during storage of *Allium aflatunense* bulbs by NMR imaging. *Plant Science*, 147: 65-73
- 27b Krontal, Y., **Kamenetsky, R.** and H. Rabinowitch, H (2000)
Flowering physiology and some vegetative traits of short-day shallot – a comparison with bulb onion. *Journal of Hort.Sci.*, 75(1):35-41
- 28a **Kamenetsky, R.** and Y. Gutterman (2000)
Germination strategies of some *Allium* species of the genus *Melanocrommyum* from the arid zone of Central Asia *Journal of Arid Environments*, 45 (1): 61-72.
- 29b Van der Toorn, A, Zemah, H., Van As, H., Bendel P. and **Kamenetsky R.** (2000)
Developmental changes and water status in Tulip bulbs during storage period: visualization by NMR imaging. *Journal of Experimental Botany*, Vol. 51, 348: 1277-1287
- 30b **R. Kamenetsky** and H. D. Rabinowitch (2001)
Floral development in bolting garlic. *Sexual Plant Reproduction*, 4: 235-241.
- 31b Zemah, H., Rabinowitch, H. D. and **Kamenetsky, R.** (2001)
Florogenesis and flowering physiology of ornamental geophyte *Allium aflatunense*. *The Journal of Horticultural Science and Biotechnology*, 76 (4): 507-513.
- 32b Barzilay, A, Zemah, H, Ran, I. and **Kamenetsky, R.** (2002)
Annual life cycle and floral development of *Paeonia* ‘Sarah Bernhardt’ in Israel. *HortScience*, 37(2):300-303
- 33c Bendel, P. Zemah, H, **Kamenetsky, R.**, Vergeldt, F. and van As, H. (2001)

- Magnetization transfer and double-quantum filtered imaging as probes for motional restricted water in tulip bulbs. *Magnetic Resonance Imaging*, 19: 857-865
- 34b **Kamenetsky, R.**, Barzilay A, Erez, A. and Halevy A.H (2003)
Temperature requirements for floral development of herbaceous peony cv. ‘Sarah Bernhardt’ *Scientia Horticulturae*, 97: 309-320
- 35b **Kamenetsky, R.**, Zemah, H., Ranwala, A.P., Vergeldt. F., N. K. Ranwala, Miller, W.B. Van As, H. and Bendel, B. (2003)
Water status and carbohydrate pools in tulip bulbs during dormancy release. *New Phytologist*, 158: 109-118
- 36c **Kamenetsky, R.**, London Shafir, I., Khassanov, F., Kik, C., van Heusden, A.W., Vrieling-van Ginkel, M., Burger- Meijer, K., Auger, J., Arnault, I. and Rabinowitch, H.D (2005) Diversity in fertility potential and organo-sulphur compounds among garlics from Central Asia. *Biodiversity and Conservation*. 14:281-295
- 37b **Kamenetsky, R.** London Shafir, I., Zemah, H., Barzilay, A. and. Rabinowitch H. D. (2004) Environmental Control of Garlic Growth and Florogenesis. *Journal of the American Society for Horticultural Science*, 129: 144-151
- 38b **Kamenetsky, R.**, Peterson, R. L., Melville, L. H., Machado, C. F, and Bewley J. D. (2005) Seasonal adaptations of the tuberous roots of *Ranunculus asiaticus* to desiccation and resurrection by changes in cell structure and protein content. *New Phytologist*, 166:193-204
- 39b. **Kamenetsky, R.** and Rabinowitch, H.D. (2006) The Genus *Allium*: A Developmental and Horticultural Analysis. *Horticultural Reviews*, Vol. 32, pp. 329-378
- 40a **Kamenetsky, R.** (2007) Garlic: Botany and Horticulture. *Horticultural Reviews*, Vol 33, 123-172
- 41c Zaffryar, S. Zimerman, B., Abu-Abied, M., Belausov, E., Lurya, G., Vainstein, A., **Kamenetsky R.** and Sadot E. (2007) Developmental specific association of amyloplasts with microtubules in scale cells of *Narcissus tazetta*. *Protoplasma*, 230, pp 153–163
- 42b. **Kamenetsky, R.**, Gilad, Z., Hovav, E., Sandler-Ziv, D. and Rabinowitch, H.D. (2007) Life cycle and florogenesis of the Israeli native geophyte *Allium aschersonianum*. *Israel Journal of Plant Science*, 54, pp.249-255
- 43b** Rotem, N., Shemesh, E., Peretz, Y., Akad, F., Edelbaum, O., Rabinowitch, H.D., Sela, I. and R. Kamenetsky (2007). Reproductive development and phenotypic differences in garlic are associated with expression and splicing of LEAFY homologue gaLFY. *Journal of Experimental Botany*, Vol.58, No.5, pp. 1133 –1141
- 44b **Kamenetsky, R.**, Khassanov, F, Rabinowitch ,H.D., Auger J., and Kik C. (2007) Garlic Biodiversity and Genetic Resources *Medicinal and Aromatic Plant Science and Biotechnology*, Global Science Books , p. 1-5
- 45b Shemesh E., Scholten O., Rabinowitch H.D. and **R. Kamenetsky** (2008) Unlocking variability: inherent variation and developmental traits of garlic plants originated from sexual reproduction *Planta*, 227, pp. 1013-1024
- 46b Noy-Porat T., Flaishman M. A, Eshel A., Sandler-Ziv D. and **R. Kamenetsky** (2008) Florogenesis of the Mediterranean geophyte *Narcissus tazetta* and temperature requirements for flower initiation and differentiation *Scientia Horticulturae*, in press

2. Books, book chapters and invited reviews (last 10 years)

- 10a **Kamenetsky, R.**, Zemah, H., van der Toorn, A., Van As, H and P. Bendel (2000)
Morphological structure and water status in bulbs during their transition from dormancy to active growth: visualization of by NMR imaging.
Dormancy in Plants (J.D. Viemont and J. Crabbe, eds). CAB International, p.121-138
- 11b Baitulin, I.O., Agafonova, G., Rabinowitch, H.D. and **Kamenetsky, R.** (2000). Creation of germplasm bank of Central Asia *Allium* L. species, their biology and economic traits. In: *State and perspectives of scientific collaboration Kazakhstan-Israel* (Granovsky, E.I. and Fain, E.E., eds.). Almaty, Kazakhstan, pp.87-94 (in Russian)
- 12b **Kamenetsky, R.** and Fritsch, R. (2002)
Ornamental *Alliums* In: *Allium Crop Science: Recent Advances* (H. D. Rabinowitch and L. Currah, eds.) Wallington, UK, CAB International, pp 459-492
- 13b **Kamenetsky, R.** and Rabinowitch, H. (2002)
Florogenesis. In: *Allium Crop Science: Recent Advances* (H. D. Rabinowitch and L. Currah, eds.) Wallington, UK, CAB International, pp 31-58
- 14b Rabinowitch, H. and **Kamenetsky, R.** (2002)
Shallots (*A.cepa* Aggregatum group). In: *Allium Crop Science: Recent Advances* (H. D. Rabinowitch and L. Currah, eds.) Wallington, UK, CAB International, pp 409-430
- 15b **Kamenetsky, R.** and Rabinowitch, H.D. (2005).
Allium genetic resources activity in Israel. In: Report of a vegetables network (Thomas, G., Astley, D., Boukema, I., Daunay, M.C., Del Greco, A., Diez, M.J., van Dooijeweert, W., Keller, J., Kotlinska, T., Lebeda, A., Lipman, E., Maggioni, L., Rosa, E., Compilers). International Plant Genetic Resources Institute, Rome, Italy, pp. 29-33.
<http://www.ecpgr.cgiar.org/Networks/Vegetables/vegetables.htm>
- 16b. Flaishman, M. and **Kamenetsky, R.** (2006)
Florogenesis in Flower Bulbs: Classical and Molecular Approaches
In: Floriculture, Ornamental and Plant Biotechnology, Volume I, Global Science Books, Japan, pp 33-43
- 17c Zheng, S-J., **Kamenetsky, R.**, Féréol, L., Barandiaran, X., Rabinowitch, H. D, Chovelon, V. and Kik C. (2007)
Garlic Breeding System Innovations. *Medicinal and Aromatic Plant Science and Biotechnolog*, Global Science Books, p. 6-15

3. Gene Database Entries

- 1c Rotem, N., Shemesh, E., Akad, F., Edelbaum, O., **Kamenetsky, R.**, Rabinowitch, H. and Sela, I. (2004) *Allium sativum* LEAFY mRNA, spliced 1
<http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=45479234>
- 2c Rotem, N., Shemesh, E., Akad, F., Edelbaum, O., **Kamenetsky, R.**, Rabinowitch, H. and Sela, I. (2004) FRIGIDA (*Allium sativum*)
<http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=protein&val=45594382>
- 3c Rotem, N., Shemesh, E., Akad, F., Edelbaum, O., **Kamenetsky, R.**, Rabinowitch, H. and Sela, I. (2004) Vernalization 2 protein homolog *Allium sativum*
<http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=48476630>
- 4c Rotem, N., Shemesh, E., Akad, F., Edelbaum, O., **Kamenetsky, R.**, Rabinowitch, H. and Sela, I. (2004) *Allium sativum* LEAFY homolog DNA
<http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=48476628>

- 5c Noy-Porat, T., Eshel, A., **Kamenetsky, R.** and Flaishman, M.(2006) Narcissus tazetta floral meristem identity protein (NLF) mRNA, Accession DQ979379 <http://www.ncbi.nlm.nih.gov/entrez/viewer.fcgi?db=nucleotide&val=115493056>

4. Articles in non-reviewed journals (last 10 years)

- 7a **Kamenetsky, R.** and A. Ion (1996)Vegetative propagation of the species of genus *Allium*. *Bulletin of Israel Flower Growers Association*, October, 2:70-71 (in Hebrew)
- 8a **Kamenetsky, R.** (1997) Somatic evolution in the genus *Allium*: ecological and geographical aspects *Acta Hort*, 430: 803-808
- 9b Rabinowitch, E., G. Luria and **R. Kamenetsky** (1998)*Nectaroscordum siculim*: influence of storage temperatures and growing conditions on flowering and propagation. *Bulletin of Israel Flower Growers Association*, January, 5:46-48 (in Hebrew)
- 10b Zemah, H., Ran, Y. and **R. Kamenetsky** (1998). Floral development of *Peony* during summer. *Bulletin of Israel Flower Growers Association*, March, 7: 64-66 (in Hebrew)
- 11a **Kamenetsky, R.**, Barzilay, A. and Z. Bin Nun (2000) Effect of low temperatures on development of Peony. *Cultivation of Herbaceous Peony*. Israel, Northern R&D, pp 4-8 (in Hebrew)
- 12a **Kamenetsky, R.** (2001) Development of *Allium aschersonianum* from natural flora as new ornamental crop *Agro-Mashov*, March, p.64
- 14a Barzilay, A., Baizerman, M. and **Kamenetsky, R.** (2004) Development of *Amarine* as new ornamental crop in Israel. Propagation systems. *Bulletin of the Plant Production and Marketing Board, Flower Division*, March-April 33: 48-50 (in Hebrew)
- 15a **Kamenetsky, R.** (2004) True seeds in garlic. The Garlic Newsletter, Canada, 2004, Volume 2, No 3, pp. 4-5
- 16a **Kamenetsky, R.** (2004).Eyeing native plants as new ornamental crops. *Greenhouse Canada*, April, p. 24-25
- 17a Barzilay, A., Baizerman, M. Forer, Y., and **Kamenetsky, R.** (2005) Introduction of *Endymion hispanica* as new ornamental crop in Israel. *Bulletin of the Plant Production and Marketing Board, Flower Division*, September, 64-65 (in Hebrew)
- 18a **Kamenetsky, R.** and Barzilay, A. (2005) Cut flowers of peony from Israel for early spring production. *Israel's Agriculture, New Directions, Innovative Technologies, Leading Companies Profiles*, pp.10-11
- 19b Barzilay, A., Halevy, A., Forer, Y, Baizerman, M. and **Kamenetsky, R.** (2006) Effect of summer temperatures on flowering of Peony "Sarah Bernhardt" *Bulletin of the Plant Production and Marketing Board, Flower Division*, June-July, 60-63 (in Hebrew)
- 20c Zaffryar S, Abu-Abied M, Cohen A, Sandler-Ziv D, Lurya G, Rozenberg I, Philosoph-Hadas S, **Kamenetsky R.**, and Sadot E (2006) A close look into scale cells of *Narcissus tazetta* during its life cycle in order to determine the stage of dormancy entry. "Olam Poreach" October (in Hebrew)
- 21a Zemah, H. and **Kamenetsky, R.** (2007) Flower development in *Ornithogalum dubium* and environmental effect of its flowering "Olam Poreach" February-March, p. 58-61 (in Hebrew)

- 22a **Kamenetsky, R.** (2007) Herbaceous perennials from Israel: a new concept for traditional crops *Agriculture 2007, The International Catalogue for Advanced Agricultural Technology*, pp.10-12
- 23a **Kamenetsky, R.** (2007) Herbaceous perennials from Israel. *Agriculture 2007*, pp.10-12 (In Russian)
- 24b **Kamenetsky, R.**, Barzilay, A. and Halevy A.H. (2007) Israel inspired to export the "queen of the garden". *International Floriculture*, July-August, p. 26-27
- 25b Cohen, M. and **Kamenetsky, R.** (2007) Development of Peony as commercial crop in Israel. *Haklai Israel*, 33, p. 18-22
- 25c Zaffryar S, Abu-Abied M, Belousov, E., Lurya G, Sandler-Ziv, D., Cohen, A. **Kamenetsky R.** and Sadot E (2008) Dormancy and meristem in *Narcissus Ziva*. *Olam Perach*" April-May, p. 54-58 (in Hebrew)

5. Articles of symposia proceedings (last 10 years)

- 5b **Kamenetsky, R.**, Zemah, H., van der Toorn, A., Van As, H and P. Bendel (2000) Morphological structure and water status in bulbs during their transition from dormancy to active growth: visualization of by NMR imaging. *Second Symposium on Plant Dormancy*, Angers, France, p.121-138
- 6a **Kamenetsky, R.** (2000) Florogenesis of ornamental *Allium* species as an ecological and physiological phenomenon *VIII International Symposium on Flower Bulbs*, Cape Town, South Africa, *Acta Hort.* (ISHS) 570:129-134
- 7b Gilad, Z, Hovav, E., Sandler-Ziv, D. and **Kamenetsky, R.** (2001) Development of *Allium aschersonianum*, an Israeli native species, as a new ornamental crop. *Proceedings of the Twentieth International Eucarpia Symposium "Strategies for new Ornamentals"*, Belgium, Melle, *Acta Hort.*, 552, p. 171-177
- 8b **Kamenetsky, R.**, London Shafir, I., Baizerman, M., Khassanov, F., Kik, C. and H.D. Rabinowitch (2003) Garlic (*Allium sativum* L.) and its wild relatives from Central Asia: evaluation for fertility potential. *Proceedings of the XXVIth International Horticultural Congress, Acta Hort.* in (ISHS) 637:83-91 http://www.actahort.org/books/637/637_9.htm
- 9d Blom, T. J., Kerec, D. and **R. Kamenetsky** (2005) Interrupted cooling as an alternative to case-cooled or controlled temperature forcing of Easter lilies. *Proceedings of the IXth International Symposium on Flower Bulbs, Japan, 2004. Acta Hort*, 685-691
- 10a **Kamenetsky, R.** (2005) Production of flower bulbs in regions with warm climates. *Proceedings of the IXth International Symposium on Flower Bulbs, Japan, 2004. Acta Hort*, pp.59-66
- 11b Halevy, A.H., A. Barzilay and **R. Kamenetsky** (2005) Flowering Advancement in Herbaceous Peony. *Proceedings of the IXth International Symposium on Flower Bulbs, Japan, 2004. Acta Hort*, 279-286.
- 12b **Kamenetsky, R.**, Okubo, H., Imanishi, H. and Miller, W. (2005) IXth International Symposium on Flower Bulbs: Concluding Remarks *Proceedings of the IXth International Symposium on Flower Bulbs, Japan, 2004. Acta Hort*, 775-776.
- 13b **Kamenetsky, R.**, Barzilay, A. and Cohen, M. (2007). Herbaceous peony for cut flower production: flowering physiology and cultivation techniques *Acta Hort.* 755:121-126