

# MODELE CURRICULUM VITAE

## Etat civil

- **Nom LEVY Prénom AVRAHAM**
- Né en 1958

## Situation à l'Académie :

- **Elu correspondant en 20..\*** et membre en 20..\*
- **Section** (numéro de la section ??) Science de la Vie
- Groupe de travail \* ( ??)
- Fonction exercée\* ( ??)

## Rubriques à renseigner :

**Titre\* ou Situation actuels\* Professeur, et Doyen a l'institut Weizmann**

### **Coordonnées :**

- **Professionnelles** : Department of Plant and Environmental Sciences, Weizmann Institute of Science, Rehovot, 76100 Israel
- **Adresse principale** : Carmel St. No. 27, apt13, Rehovot, 76305 Israel
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- **Adresse e.mel personnelle**
- **Adresse e.mel professionnelle** [avi.levy@weizmann.ac.il](mailto:avi.levy@weizmann.ac.il)

**Formations** : PhD, Weizmann Institute 1987; Postdoc, Stanford University 1987-1991 ; Postdoc INRA 1991.

**Carrière (principaux postes occupés)** : Chercheur a l' institut Weizmann 1992-present, Chef du department de Plant Sciences ; Doyen de la faculte de Biochimie ; President de la societe Israelienne de genetique.

**Domaines d'expertise (6 au maximum)** : Plant Genetics and genomics, DNA recombination, DNA repair, Polyploidy, Genome editing, Biodiversity

**Mots clés** : Plant Genetics and genomics, DNA recombination, DNA repair, Polyploidy, Genome editing, Biodiversity

Distinctions et prix éventuels : Hazera Prize, Landau Prize in Plant Sciences,

Fonctions actuelles ou récentes : Chercheur

Activités académiques ou professionnelles : Leading a research laboratory on the evolution of the plant genome ; Scientific Advisory board of plant Biotech companies (Evogene, Protalix)

Publications, Rapports ou Articles (10 maximum)

**Shaked, H., Kashkush, K., Ozkan, H., Feldman, M. and Levy, A.A.** (2001) Sequence elimination and cytosine methylation are rapid and reproducible responses of the genome to wide hybridization and allopolyploidy in wheat. **Plant Cell** 13, 1749-1759.

**Kashkush, K., Feldman, M. and Levy, A.A.** (2003) Transcriptional activation of retrotransposons alters the expression of adjacent genes in wheat. **Nature Genet.** 33, 102-106.

**Emmanuel E., Yehuda, E., Melamed-Bessudo, C., Avivi-Ragolski, N. and Levy, A.A.** (2006) The role of AtMSH2 in homologous recombination in *Arabidopsis thaliana* **EMBO report** 7:100-105.

**Tirosh, I., Reikhav, S., Levy\*, A.A. and Barkai\*, N.** (2009) Gene expression divergence between related yeast species and its rewiring in their hybrid, **Science**, 324, 659-662 \*(both corresponding authors)

**Kenan-Eichler, M., Leshkowitz, D., Tal, L., Noor, E., Melamed-Bessudo, C., Feldman, M. and Levy, A.A.** (2011) Wheat Hybridization and Polyploidization Results in Deregulation of small RNAs. **Genetics.** 188: 263–272.

**Samach, A., Melamed-Bessudo, C., Avivi-Ragolski, N., Pietrokovski, S., and Levy, A.A.** (2011). Identification of Plant RAD52 Homologs and Characterization of the *Arabidopsis thaliana* RAD52-Like Genes. **Plant Cell** 23, 4266-4279.

**Melamed-Bessudo, C., and Levy, A.A. (2012).** Deficiency in DNA methylation increases meiotic crossover rates in euchromatic but not in heterochromatic regions in *Arabidopsis*. **Proc Natl Acad Sci U S A** 109, E981-988.

**S. Shilo, Melamed-Bessudo C, Dorone Y, Barkai N and Levy AA (2015)**

DNA crossover motifs associated with epigenetic modifications delineate open chromatin regions in *Arabidopsis*, **Plant Cell** 2015;27;2427-2436

**Filler Hayut S, Melamed Bessudo C, Levy AA (2017)** Targeted recombination between homologous chromosomes for precise breeding in tomato. **Nature communications** 8:15605.

doi:10.1038/ncomms15605

**Dahan-Meir T, Filler-Hayut S, Melamed-Bessudo C, Bocobza S, Czosnek H, Aharoni A, Levy AA (2018)** Efficient in planta gene targeting in tomato using geminiviral replicons and the CRISPR/Cas9 system. **Plant J.** doi:10.1111/tpj.13932

Activités éditoriales : Editorial board of The Plant Cell

Short Bio (anglais)

Prof. Avraham Levy was born in Paris, immigrating to Israel as a young man. He earned his BSc and MSc in agriculture and plant breeding at the Hebrew University of Jerusalem, and his PhD in plant genetics from the Weizmann Institute. He conducted postdoctoral research at Stanford University and at INRA Versailles, after which he joined the Weizmann Institute. He was Head of the Department of Plant Sciences and currently serves as Dean of the Faculty of Biochemistry.

Prof. Levy probes the evolutionary processes that have generated hundreds of thousands of plant species. His research asks: What are the genetic and epigenetic mechanisms responsible for biodiversity in the plant kingdom? This includes mechanistic studies on hybridization, genome doubling, DNA recombination, DNA repair and genome stability as well as population genetics analyses of wheat evolution in the wild habitat. A better understanding of these mechanisms might be used to improve food production, to assess evolution under climate change and for advanced genetic manipulation techniques, such as genome editing, to engineer plants in a precise manner.

Prof. Levy coordinates a group of Israeli scientists working on precise genome editing in plants, and serves on the scientific board of Israeli Agro-biotech companies. He was awarded the Landau Prize of Mifal Hapais for Plant Sciences and was the recipient of an ERC grant for targeted engineering of plant genomes. He previously served as President of the Genetic Society of Israel.