

State of Israel/Ministry of Agriculture  
& Rural Development  
Agricultural Research Organization  
The Volcani Center  
**Office of the Director**  
Associate Director for Academic Affairs  
& International Cooperation

מדינת ישראל/משרד החקלאות  
ופיתוח הכפר  
מינהל המחקר החקלאי  
מרכז וולקני  
לשכת ראש המינהל  
ממונה על ענייני אקדמיה  
וקשרים בינלאומיים

### Program for Postdoctoral Fellowship Awards in Agriculture

<i>Internal Ref #</i> <b>3</b>	Title of Research Project 2: <b>Molecular characterization of sweetpotato storage root formation</b>
Project Leader: <b>Dr. Nurit Firon</b>	Email : <a href="mailto:vcfiron@volcani.agri.gov.il">vcfiron@volcani.agri.gov.il</a> Phone : 972-506220735
Institute: The Volcani Center, Agricultural Research Organization. Department: Institute of Plant Sciences, Dept. of Vegetable Research.	
The research team (other scientists):	
Short Description of Research Project (3-5 lines): We have demonstrated that the initial adventitious roots, initiated as early as 5-7 days after transplanting, possessed the necessary anatomical characteristics for development into storage roots (SRs). Our data also indicate that the first 30-35 days are critical in determining whether adventitious roots become SRs. This depends on the appearance of either meristematic cells in the xylem area (anomalous cambium) that form the starch-accumulating parenchyma cells that promote SR formation and development, or lignin biosynthesis, that causes stele lignification and inhibits SR formation. Using next generation sequencing at the cDNA level, we have obtained an overview of the molecular mechanisms that are involved in the initiation of storage root formation. The objective of the project is to use the developed anatomical and molecular tools for studying the effect of hormone treatments and environmental conditions on the development of adventitious roots into SRs.	
Required Qualifications of Visiting Scientist: <i>Education:</i>  <i>Scientific Experience:</i> <i>Plant molecular biology. Plant physiology.</i>  <i>Abilities and Skills:</i> Fluent English (reading & writing).	

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