

# CAM 2010

## International Workshop on Crassulacean Acid Metabolism

Evolution, Metabolic Control, Ecophysiology, Climate Change, Biofuels

### Program

#### Monday, March 22

- 9:00 – 9:05 Welcome Address by *Klaus Winter*  
9:05 – 9:15 Welcome Address by *Ron Herzig, STRI Deputy Director*
- 9:15 - 10:15 **CAM as an ecological adaptation.**  
*Smith JAC*
- 10:15 – 10:45 Coffee Break
- 10:45 – 11:30 **Evolution of crassulacean acid metabolism in tropical orchids: integrating phylogenetic, ecophysiological and molecular genetic approaches.**  
*Silvera K, Whitten M, William NH, Neubig KM, Albion RL, Santiago LS, Winter K, Cushman JC*
- 11:30 – 12:00 **CAM in epiphytes: the role of the regeneration niche.**  
*Zotz G, Wester S, Bader M*
- 12:00 – 13:00 Lunch
- 13:00 – 13:30 **Facultative CAM in young *Opuntia elatior* and in *Calandrinia polyandra*.**  
*Winter K, Holtum JAM, Garcia M*
- 13:30 – 14:00 **Development of CAM and C<sub>4</sub> photosynthetic pathways in cotyledons of *Portulaca grandiflora*.**  
*Denio D, Guralnick LJ*
- 14:00 – 14:30 **Nitric oxide and calcium mediate the hormonal control of crassulacean acid metabolism expression in young pineapple plants.**  
*Freschi L, Rodrigues MA, Domingues DS, Purgatto E, Van Sluys MA, Magalhaes JR, Kaiser WM, Mercier H*
- 14:30 – 15:00 **Implications of leaf anatomy and stomatal function for the evolution of crassulacean acid metabolism in *Clusia*.**  
*Barrera Zambrano VA, Taybi T, Borland AM*
- 15:00 – 15:30 Coffee Break
- 15:30 – 16:10 **Metabolic and molecular basis of drought resistance strategies in *Clusia*.**  
*Shorrocks K, Blaxter M, Borland A*
- 16:10 – 16:40 **Evidence for an unusual metabolism in paleozoic relatives of *Isoetes*.**  
*Green WA*

#### Tuesday, March 23

- 9:00 – 10:00 **Circadian clock transcriptome regulation in C<sub>3</sub> photosynthesis versus crassulacean acid metabolism in the common ice plant.**  
*Cushman IC, Albion RL, Covington M, Schlauch KA*
- 10:00 – 10:20 Coffee Break
- 10:20 – 10:50 **Characterisation of the progression from C<sub>3</sub> to CAM in developing leaves of *Kalanchoe fedtschenkoi*.**  
*Dever LV, Boxall SF, Knerova J, Gregory R, Hall N, Hartwell J*
- 10:50 – 11:20 **Functional genomics of CAM: establishing *Kalanchoe fedtschenkoi* as an amenable molecular-genetic model for the study of CAM.**  
*Boxall SE, Dever LV, Knerova J, Gregory R, Hall N, Hartwell J*
- 11:20 – 12:00 **Molecular dissection of the circadian coordination of CAM in *Kalanchoe fedtschenkoi*.**  
*Dall'omo CE, Meszter RZ, Boxall SF, Dever LV, Knerova J, Gregory R, Hall N, Jones M, Hall A, Borland AM, Hartwell J*

#### Wednesday, March 24

- 9:00 – 10:00 **CAM services: biofuel for humans, houses for ants.**  
*Holtum JAM*
- 10:00 – 10:30 Coffee Break

10:30 – 11:00	<b>Ecophysiology and biofuel potential yield in <i>Agave cocui</i> T. in Venezuela.</b> <u>Diaz M, Lopez V, Gotopo E</u>
11:00 – 11:30	<b>Growth and photosynthesis for CAM succulents from the coastal dune of Yucatán under different light regimes.</b> <u>De la Barrera E, Barceló R, Andrade JL</u>
11:30 – 12:00	<b>Environmental regulation of CAM plants from the Yucatán peninsula.</b> <u>Andrade JL</u>
12:00 – 13:00	Lunch
13:00 – 13:30	<b>Predicting shifts in distribution of sympatric cacti from southeastern California: physiological responses and productivity of crassulacean acid metabolism species to climate change may help explain changes in distribution ranges.</b> <u>Cervera IC, Santiago LS</u>
13:30 – 14:00	<b>Potential changes in the distribution of epiphytic bromeliads along a precipitation gradient in the Yucatán peninsula using climate change scenarios.</b> <u>Reyes-García C, Andrade JL, Espada-Manrique C, Orellana R, Santiago LS, Chilpa-Galván NC, Cach-Pérez M</u>
14:00 – 14:30	<b>Water relations and growth in <i>Zamia furfuraceae</i> Aiton.</b> <u>Yáñez-Espinosa L, Rodríguez Torres P, Velázquez Alvarado P</u>
14:30 – 15:00	<b>CAM photosynthesis under severe light limitation: a matter of plasticity in the shadow.</b> <u>Ceusters J, De Proft MP</u>
15:00 – 15:30	Coffee Break
15:30 – 16:30	<b>Poster Session</b>  <i>De la Barrera E, Gudiño WA, Ávila I, Oyama K:</i> High temperature tolerance and acclimation for the endemic and endangered orchid <i>Laelia speciosa</i> : assessing environmental vulnerability for a non-timber forest resource.  <i>De la Rosa-Manzano, Delgado-Sánchez P, Flores-Rivas J:</i> The effect of spine removal on three cacti species from Chihuahuan desert.  <i>Delgado-Sánchez P, Jiménez-Bremont JF, De la Rosa-Manzano E, Flores-Rivas J:</i> Drought and sunlight in <i>Opuntia streptacantha</i> and <i>Opuntia leucotricha</i> seedlings: ecophysiological, biochemical and molecular responses.  <i>Freschi L, Rodrigues MA, Silva Tiné MA, Mercier H:</i> Diurnal correlation between CAM cycle and nitrate reduction in the atmospheric bromeliad <i>Tillandsia pohliana</i> .  <i>Hernández-González O, Andrade JL, Briones O:</i> Seasonal patterns of chlorophyll fluorescence and CAM in five cactus species: influence of light period and stem orientation.  <i>Mioto PT, Freschi L, Mercier H:</i> Detached leaves of <i>Guzmania monostachia</i> as a model for CAM induction studies.  <i>Reyes-García C, Espadas-Manrique C, Rodríguez-Corona U, Badillo-Corona JA:</i> Correlation between molecular phylogeny and leaf shape in epiphytic bromeliads from contrasting environments in the Yucatan peninsula, Mexico.  <i>Rodríguez-Millán PS, Yáñez-Espinosa L:</i> CAM-cycling in the cycad <i>Dioon edule</i> Lindl. during early stages of growth.  <i>Vogenberg J, Guralnick LJ:</i> Induction of CAM pathway in the Hawaiian endemic species <i>Portulaca molokiniensis</i> .