

The Friends of the Caltech Y

*present*

Professor Harry Gray

with Jillian Dempsey & Carolyn Valdez



POWERING  
THE PLANET  
WITH SOLAR  
FUEL

Efficiently converting sunlight into fuel is Harry Gray's dream. Plants have mastered this technique, albeit inefficiently. Humans, on the other hand, want to figure out how to mimic this process in a cost effective manner. The process of artificial photosynthesis uses man-made materials rather than natural plants to create a natural energy conversion, similar to photosynthesis. Solar panels, for example, convert sunlight to electricity but there is no way to efficiently store the electricity when the sun goes down. What if we could efficiently convert sunlight into fuel, store it, and use it, regardless of the time of day. Harry Gray and his team of energetic students are on the forefront of that very idea.

Just as plants use sunlight to make their own fuel, Harry Gray says his solar cells could one day create enough fuel from the sun to provide the energy humanity needs. In place

of a leaf, Gray's team is building tiny solar devices to capture sunlight. These solar-driven molecular machines could be used on a global scale to store solar energy in chemical bonds by splitting water into its elemental components, hydrogen and oxygen. Hydrogen is a clean fuel that could be used directly or combined with carbon dioxide to produce methanol, a liquid fuel. Gray's team is working on rugged light absorbers and catalysts made from Earth abundant materials that have the potential to split water as efficiently as natural photosynthesis.

If they accomplish their task, on a scalable level, Harry Gray's team might very well change the way we power our planet. Join us for an informative and insightful evening on March 4<sup>th</sup> with Harry Gray.

Harry B. Gray is the Arnold O. Beckman Professor of Chemistry and Founding Director of the Beckman Institute at Caltech.

You are cordially invited to the Caltech Y  
Friends Dinner on March 4<sup>th</sup>, 2010

special guest

**Professor Harry Gray**

with Jillian Dempsey & Carolyn Valdez

\$60 per person

Please RSVP by February 25<sup>th</sup>

No Host Bar 6:00 pm

Dinner 7:00 pm

Speaker 8:00 pm

The Athenaeum  
551 South Hill Avenue  
Pasadena, Ca.

For information regarding this event,  
call the Caltech Y at (626) 395-6163.  
RSVP online at [www.caltechy.org](http://www.caltechy.org) or use included card.

*Menu for March 4<sup>th</sup> Friends Dinner*

Roasted Corn Chowder with  
smoked chicken and jalapeño butter

Braised Beef Short Rib Bourguignonne

with mushrooms, pearl onions,  
baby carrots, linguini & haricots verts

Assorted sliced Gourmet Breads and Butter

Trio of Sorbet in a Cookie Tuille  
with fresh berries

Wine: Chardonnay & Cabernet Sauvignon

Coffee and Tea

Space is limited. Sign up now  
on-line at [www.caltechy.org](http://www.caltechy.org)

or send RSVP to:

Caltech Y

MC 5-62

Pasadena, Ca. 91125



# Caltech Y Friends Dinner - March 4<sup>th</sup>, 2010 with Prof. Harry Gray

Full Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Email \_\_\_\_\_

Joining me are the following guests and/or new potential Friends: \_\_\_\_\_  
\_\_\_\_\_

Number of total attendees \_\_\_\_\_ @ \$60 per adult..... \$ \_\_\_\_\_

If possible, I would like to sit with the following Friends of the Y: \_\_\_\_\_  
\_\_\_\_\_

Yes, I will sponsor the dinner for # \_\_\_\_\_ Caltech student(s) @ \$ 55.. \$ \_\_\_\_\_

Send check or include credit card info for **Total**..... \$ \_\_\_\_\_

Indicate number of Vegetarians in your party # \_\_\_\_\_

Please charge to my credit card # \_\_\_\_\_  
expiration date. \_\_\_\_\_ / \_\_\_\_\_

Return by February 25 to:  
Caltech Y MC 5-62, Pasadena, Ca 91125