



# ACS

Chemistry for Life®

## OCACS Elements

The Orange County Local Section wants to hear from you. If you would like more information about our section or how you or your company can contribute to our Section's efforts, please visit our website or contact us at [OCACSChair@gmail.com](mailto:OCACSChair@gmail.com).

Visit our Website



### OCACS Executive Committee Update

The OCACS Executive Committee is meeting on Thursday, March 15 in Irvine. If you would like to attend, please E-mail Dr. Sandra Thompson ASAP at [OCACSChair@gmail.com](mailto:OCACSChair@gmail.com).

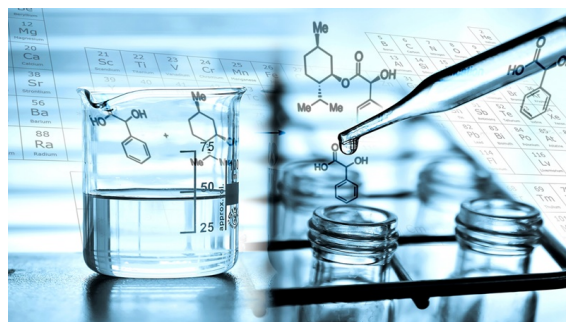
We will be reviewing March and April's activities, discussing upcoming events being planned by the Education Committee, and continuing to work on 2018 initiatives.

One event we are currently planning for this summer is a Science Book Club. Keep an eye out for the date and location, but we will be reading and discussing "The Disappearing Spoon" by Sam Kean.

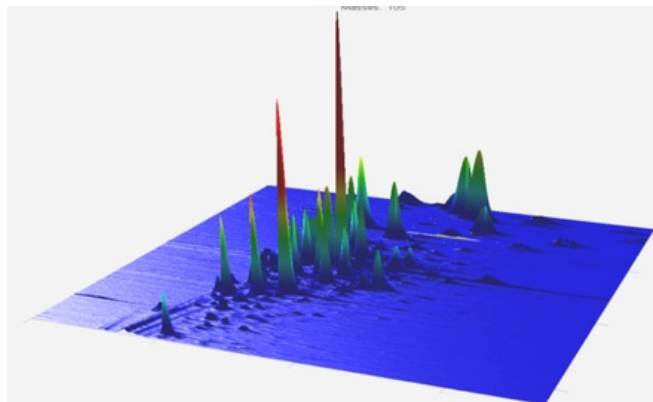
We are also working on a set of questions for our 2018 California candidates that specifically target their views and votes on scientific issues. Our goal is to get all of the candidates on our California and Orange County ballot on the record, so that we can release a non-partisan science "checklist" to our section members in early October. We need people who want to do online research, candidate outreach, and data consolidation and analysis. The expected time commitment per person is 1-3 hours/month, depending on how active you want to be. The larger the committee, the more candidates we can get

on the record. If you want to join the team this year to work on this important survey/project, contact Dr. Sandra Thompson at OCACSCChair@gmail.com.

The content deadline for the April Newsletter is Friday, March 30.



Dr. Claude R. Mallet will be our March Dinner Meeting speaker on March 15. His talk entitled "Integrated Workflows with Multidimensional Chromatography" will be given after dinner, which starts at 6:00 PM. If you want to attend the presentation only and not have dinner, you can join us for free. Please RSVP however, so that we can ensure we have adequate seating.



Chromatography is the first-choice separation technique for a wide selection of applications, across many fields, ranging from simple to highly complex extracts. The main rationale for its use is the resolution power, or peak capacity, and ultimately the separation recording of an extract into its distinct components. Thus, increasing the performance of chromatography is inevitably linked to improvements in peak capacity. With this goal in mind, innovative researchers lead the introduction of sub 2  $\mu$ m particles (UPLC), core-shell particles, and monolithic stationary phases, and produced attainable performance of peak capacity up to a thousand for 1D LC separation. However, from Giddings work, the actual peak capacity of any given single dimensional separation is still far below the theoretical calculation.

With new technologies, newer solutions emerge for the most difficult of applications. The concept of hyphenated systems or multi-dimension chromatography was designed, at first, for solving complex analyses. The peak capacity, or chromatographic separation power, can be increased by combining several separation dimensions (in most cases, two) each using optimized conditions for maximum resolution. The main challenge is the transfer of closely resolved analytes from the primary resolving dimension (PRD) to the secondary resolving dimension (SRD). Nowadays, multi-dimensional-chromatography is gaining acceptance for both targeted and untargeted analysis of complex mixtures. However, at its beginnings, the technique was perceived as highly complex in terms of the necessary hardware and difficulty to gain in-depth insight for practical usage.

In recent years, advances in software control and have enabled hyphenated instrumentation platforms with enhanced performance and relative ease of use. Additionally, multi-fluidic circuits have been shown to decrease the cost and time of sample preparation, improve chromatographic peak shape, and enhance sensitivity. In this presentation, several forensic and environmental applications will be discussed to fully demonstrate the capabilities of modern 2D LC/MS/MS workflows.

Dr. Mallet is from a small town named "Dieppe" in the province of New-Brunswick Canada. The town was renamed in 1946 to commemorate the Canadian soldiers for their bravery during second World War's operation Jubilee, also known as "the Dieppe Raid of

1942", on Normandy Beaches, France.

In 1997, Dr. Mallet received his Ph.D. in analytical chemistry from the University of Montreal, Montreal, Canada. His thesis was entitled "Time-Coupled-timed-Resolved Chromatography or TCRC". This new hyphenated system was based on an experimental GC/GC/MS/MS orthogonal chromatograph using a mobile heated pulse. In 1997, Dr. Mallet was hired as a senior application chemist in several biotech, contract research organization (CRO's) and life-science firms, before accepting a senior scientist's position at Waters Corporation in 2000. From his doctoral work with Time Decoupled Chromatography concept, the technique was extended to Waters Liquid Chromatography portfolio. Since 2013, Dr. Mallet was tasked by the Separation Technology Division to pursue research interest in automated 2D & 3D LC/MS/MS technologies.

Please contact us as soon as possible to make a reservation to attend this presentation, but no later than noon on Tuesday, March 13, 2018 at [ocacs@sbcglobal.net](mailto:ocacs@sbcglobal.net).

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## Chemists Celebrate Earth Day

To kick off Chemists Celebrate Earth Week (CCEW), our local college students and chemists are doing hands on activities and demonstrations on April 13 and April 20 at Villa Park Elementary School.

Anyone available to assist or for more information, contact Sanda Sun, CCEW Coordinator, [ssun@ivc.edu](mailto:ssun@ivc.edu).



Don't miss our upcoming events and meetings and for more information, please visit our [website](#).

**March 15:** Dinner Meeting

**March 22:** Environmental Committee Meeting

**March 30:** Newsletter Content Deadline

**April 13:** Chemists Celebrate Earth Day Event

**April 20:** Chemists Celebrate Earth Day Event

**April 25:** College Awards Dinner, Concordia University, Irvine

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## Environmental Committee

We are pleased to announce that the speaker of our next meeting (Thursday, March 22, 2018 at 7:30 pm) will be Dr. Megan Plumlee.

The title of Dr. Plumlee's presentation is "Minimizing NDMA Formation during Advanced Treatment for Water Reuse: Research Underway at Orange County Water District". The meeting will be held at Kennedy/Jenks Consultants' Irvine Office (3200 El Camino Real, Suite 200, Irvine, CA 92602, Note: NEW LOCATION!)



To Register or for more information, contact Dr. Ganesh Rajagopalan at [RGanesh@KennedyJenks.com](mailto:RGanesh@KennedyJenks.com) by Tuesday, March 20th, 2018.

If you want information about our Environmental Committee, please contact:

[Dr. Ganesh Rajagopalan](#), Kennedy/Jenks Consultants  
[Dr. Keisuke Ikehata](#), Pacific Advanced Civil Engineering (PACE)

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## Get Involved & Support OCACS

If you want to network with over 1300 chemists in Orange County, host a technical tour, speak at one of our dinner meetings or science cafes, explore leadership opportunities, or advertise with our Section, please visit our [website](#) or E-mail us at [OCACSLocalSection@gmail.com](mailto:OCACSLocalSection@gmail.com) and [OCACSChair@gmail.com](mailto:OCACSChair@gmail.com).

We would love to hear from you!

## OCACS Executive Committee

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