

8TH EUROPEAN COMBUSTION MEETING 2017

APRIL 18 - 21, 2017
DUBROVNIK, CROATIA



Report on 8th European Combustion Meeting 2017



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Student Representative: Chih-Ting Chen, MS Student (second year) of DAA, NCKU

Period of Meeting: April 18-21, 2017

Attendee	Chih-Ting Chen (陳峙廷)
Institute	DAA, NCKU
Conference	8th European Combustion Meeting 2017
Period	April 18-21, 2017
City of Meeting	Dubrovnik, Croatia
Title of Presentation	Characteristics of a Microwave Enhanced Flame Plasma



Fig. 1 Flag of Croatia



Fig. 2 Location of Croatia

As a country in east Europe, Croatia first became a member of European Union in 2013, though the currency used in the country is still kuna in 2017.



Vacation before the meeting:

There are 9 civil airports located in different cities in Croatia. Nevertheless, there are not any airlines provides direct flight from Taiwan to Croatia. Therefore, I have no choice but to land on other countries around Croatia, before the meeting. Since I needed to enter other country beforehand, I planned a vacation with a friend of mine from Germany to travel along one week before the meeting started. I got on the plane taking off on 9th April from Taipei, and my friend travelled by train from Essen to Rome termini station, which was the location of our meeting point.



Fig. 3 The Altare della Patria, Rome

We start our trip from Rome, and then the next day evening we took the train heading to Ancona, which is a city at the east coast of Italy. The next day after we arrived Ancona, we planned to have some sun bath at the beach, but we wandered in the mountain for some time before we found the beach.

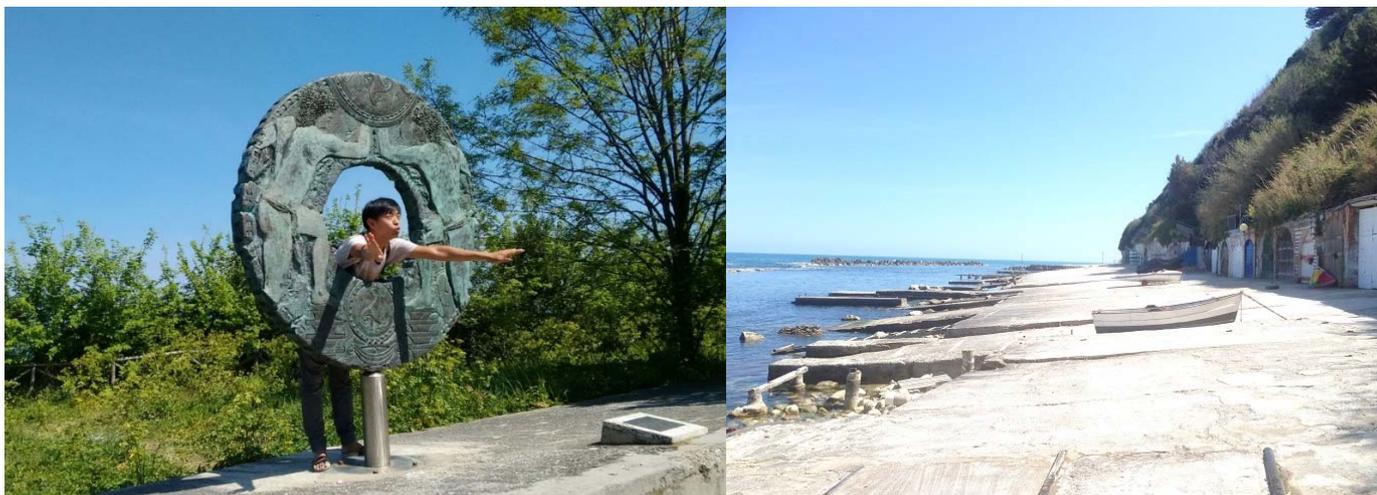


Fig. 4 The day we went to swim at the beach in Ancona

We took the overnight ferry from Ancona to Split, Croatia. The ferry started in the evening, and the view from the deck was fabulous.



Fig. 5 The ferry brought us from Ancona to Split.



Fig. 6 Sunset viewed from the deck of the ferry

There wasn't much to see in the city centre of Split, but much to experience in the mountain and by the sea. We then decided to rent a scooter riding along the coast the whole day.

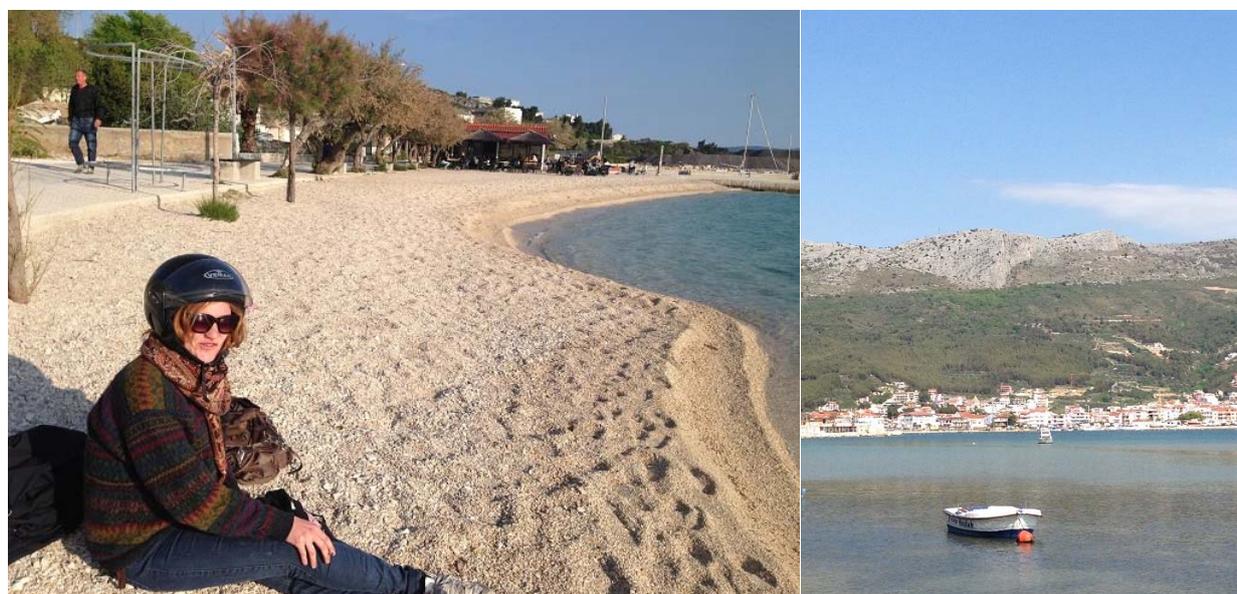


Fig. 7 Renting a scooter was the best decision we've ever made

After visiting Split, we went to Mostar, Bosnia, and stay there for one night.



Fig. 8 Mostar and the new friends from Hungary.

Finally, we went to Dubrovnik, where the conference was taking place.

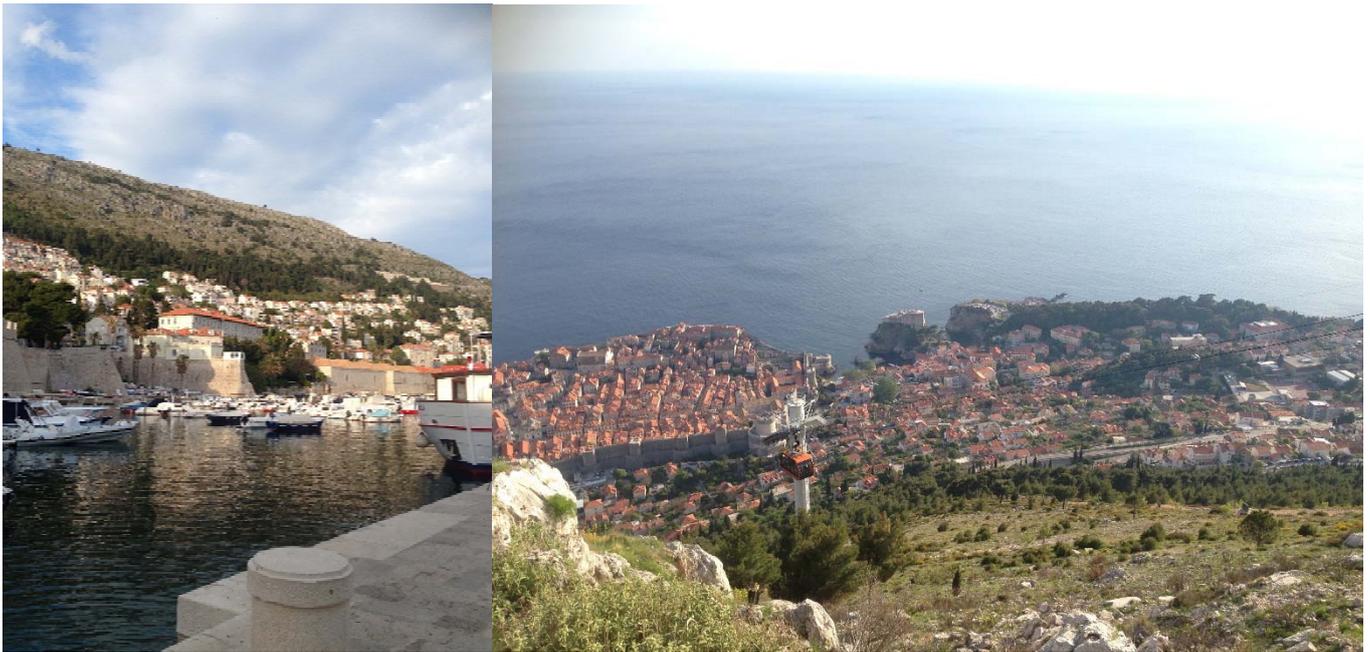


Fig. 9 City of Dubrovnik viewed from the corner of the port and from the top of the mountain.

During the conference:

The first day: welcome reception

The conference lasted for 3 and a half days if the welcome reception was accounted for, and it was held in Hotel Valamar Lacroma in Dubrovnik, Croatia. On 18. April in the late afternoon, I registered myself, waiting at the hall of the hotel for the welcome reception. Sitting at the couch of a bar within the hotel, I saw people, most of them are young researchers coming from around the world, started to greet with each other and try to introduce themselves to all the people in the room as best as they could, even though the reception hadn't been opened yet. I remembered this kind of occasion that I ever saw when I first attended the international combustion and flame symposium in Seoul last year, it also reminded me the way people talked to strangers at a crowded bar in Aachen. However, I've never learned how to approach strangers on the occasion of this kind. While I was still observing people talking around me and studying the way they talk, I found some familiar faces at the corner, who was a friend I met in a conference held in KAUST a month ago. Then we greeted each other and he revealed that there were more other people from KAUST coming to the conference. Since then I gained some more confidence because I knew I've known some of the people in this room. When the welcome reception started, I walked into the crowd, people already stood in circles, holding a glass at hand, and talking about their own labs and their researches. Soon I learned that everyone were opened to let me join their

conversations even when we were in quite different field of studies. And the fact was, only few of the people in the room shared one similar subject. The welcome reception served us wines, beers, juice, and some snacks. And those people I met at the first day made me felt more involved in the following days during the conference.



Fig. 10 Dining and touring in old town with friends met in the conference.

The second, the third, and the fourth day: planetary talks and poster sessions

If I should be honest, the talks were the worst part of the conference. Since the topic wasn't general enough, and the difficulties in understanding those scientific terms in such specific field. But I really enjoyed most of the sessions of the poster, since the classification was not so clear in my field of study, so that I could usually found some posters of interest.

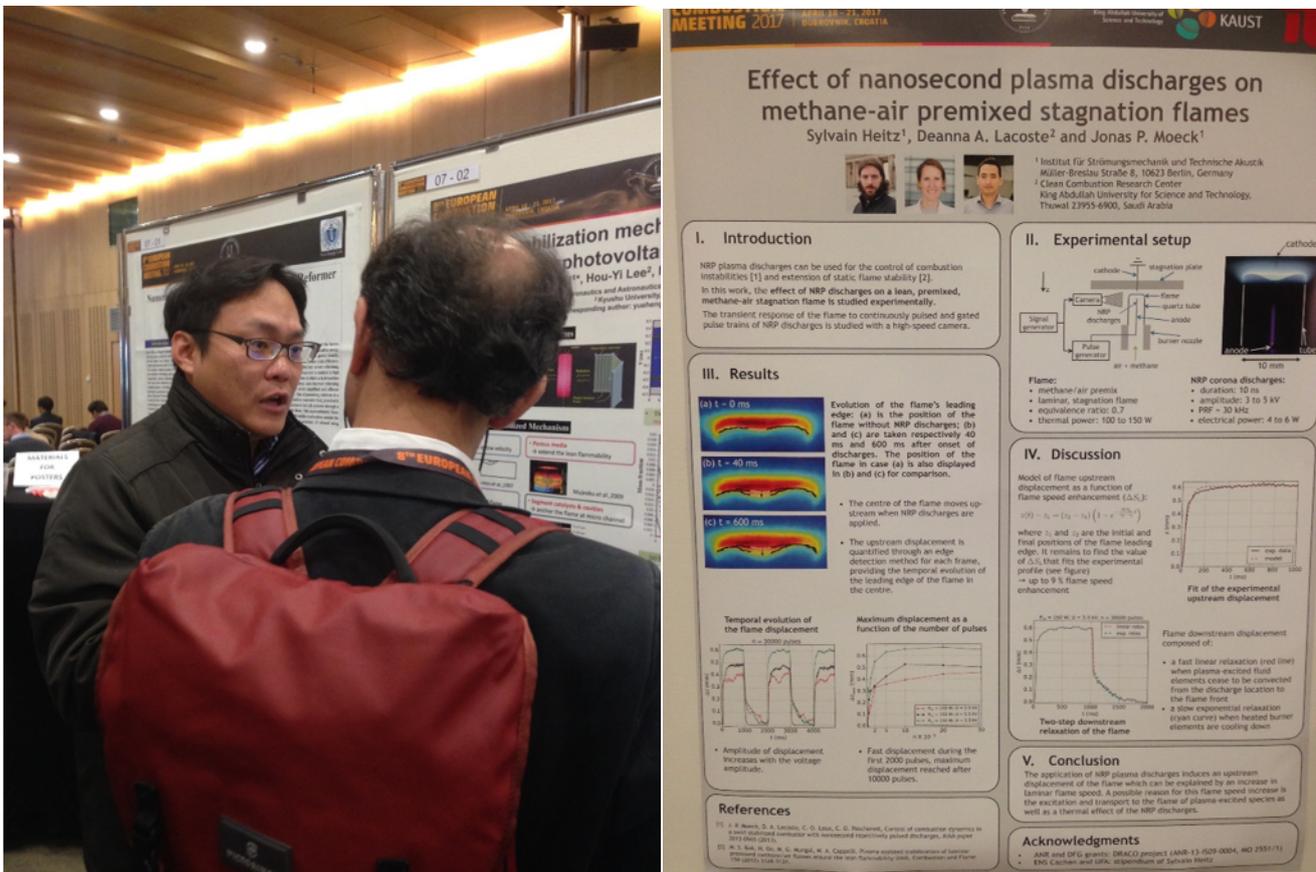


Fig. 11 Left: Prof. Li discussing with other professor during the poster session. Right: a very interesting poster found in the poster session.

For the first time I felt my research was so interesting to other people, even when they are from other field of study. In the poster session of my presentation, I couldn't even go away for a break or look around other posters in the same session, since there were people one after another visiting my poster, asked me some questions, trying to understand what is the influence of plasma on flame? Is a flame really a plasma? During other sessions, those posters involving experiments drew much more attention of mine than those doing numerical simulations. If I need to pick up the most interesting poster I've found in the conference, it should be the one that apply a corona discharge in the upstream of the counter flame front. The flame was found to be drawn toward the direction where the discharge occurred,

but the interesting fact was that the direction of the flame was drawn to be dominated by the corona discharge plasma, rather than the location of the cathode. In contrast to the previous studies and to my own experiment, the flame tend to be pulled toward the cathode since the ionic wind effects are working on positive ions in the flame. As how the presenter explained, the discharge would happen at the electrode located in the upstream, no matter it was cathode or anode, however, he was struggling in giving me a better explanation of why the discharge could only be found in the upstream in his experiment. In my experiment, the microwave induced corona discharge could occur either upstream or downstream, it depends on the position of the electrode.



Fig. 12 Rock beach in Dubrovnik