



THE ICPEACKER

Newsletter of the XXIX International Conference on Photonic, Electronic and Atomic Collisions. July 22-28, 2015 – Toledo, Spain



AN ENERGETIC KICK OFF

The scientific program of ICPEAC has started in earnest yesterday morning with an exciting lecture about the latest developments of 4D Electron Microscopy, by Nobel Prize Laureate Ahmed Zewail, the father of femtochemistry.



N°2 - Thursday, July 23rd



LASER MON AMOUR

Do not miss the public lecture *50 Years of Laser Revolution in Physics*, on the occasion of the international year of light, by Nobel Prize Laureate Serge Haroche, this evening at 19:00, in the Auditorium.



POST DOCTORAL MARKET II

Looking for a postdoctoral position

Kind – date PhD	List of PACS: expertise & interests
Th. – 03.02.11	31.15.xx 33.20.xx 33.60.+q 34.xx 87.10.Tf 82.60.-s
Th. – 23.07.12	34.80.Bm, 34.80.Dp, 34.80.Gs
Th. – 30.04.13	32.80.Fb, 32.80.Qk, 02.60.-x, 31.50-x, 31.15.E-
Th. – 05.02.14	33.20, 36.40, 31.50, 31.15
Th. – 20.12.15	34.10.+x, 34.50.-s, 32.80.-t, 12.20.-m
Th. – 28.02.16	31.xx, 34.xx, 36.xx, 68.43.x, 68.49.x
Exp. – 30.06.10	32.xx, 87.14-g, 95.30.Dr
Exp. – 30.03.14	30.xx, 31.xx, 32.xx, 33.xx
Exp. – 09.04.14	33.xx, 36.xx, 82.xx, 87.xx
Exp. – 21.01.15	32.xx, 37.10.Ty, 95.30.Ky
Exp. – 26.03.15	32.xx, 33.xx, 34.xx, 82.xx
Exp. – 29.04.15	06.20.Jr, 32.30.Jc, 37.10.Ty, 37.10.Rs
Exp. – 25.11.15	32.30.Rj, 34.80.Lx, 31.30.jc, 92.30.Ky, 52.20.Hv
Exp. – 31.01.16	32.30.Rj, 29.30.Kv, 29.40.Gx, 95.55.Ka
Exp. – 15.04.16	34.80.Ht, 34.80.Lx, 34.50.Gb, 33.80.Eh, 33.80.Be
Exp. – 01.12.16	33.80.Eh, 32.80.Aa, 33.15.Ta
E/T – 21.12.13	36.40.-c, 52.50.Jm, 32.80.-t
E/T – 28.06.16	32.80.Zb, 34.50, 34.80, 37.10, 36.40, 95.30, 33.20

[Talk /] Posters	Name, Institute
FR91	Morini F, U. of Hasselt, Belgium
TU77	Joshi F M, G H Patel College of Engineering and Technology, India
WE171	Nikodem A, U. of Liège, Belgium
WE172	Sun S, U. of Liège, Belgium
FR117, MO166, TU7	Bondarev A, St. Petersburg State U., Russia
MO SR / TH166,179,181	Muzas A S, U. Autónoma de Madrid, Spain
FR162	Mäckel V, RIKEN, Japan
TH50	Moreno Betancourt A, Federal U. of Río de Janeiro, Brazil
WE136,	Castrovilli M C, CNR-IFN, Italy
TH98, MO6	Steinbrügge R, MPI für Kernphysik, Heidelberg, Germany
TH14, FR3,57	Reduzzi M, CNR-IFN, Milan, Italy
TH126, FR170, TU17	Windberger A, MPI for Nuclear Physics, Heidelberg, Germany
TH97,98	Shah C, U. Heidelberg, Germany
WE76, FR115,116	Blumenhagen K-H, Helmholtz-Institute Jena, Germany
WE91,93,94, FR94	Gope K, Tata Inst. Of Fund. Reas., India
MO64, TU96, TU106	Ranković M, U. Belgrade, Serbia
FR57	Iablonskyi D, Tohoku University, Sendai, Japan
TU44	Madugula M R, Indian Inst. of Technology, India

(Note: unfortunately, yesterday list of applicants was incomplete. In particular, the posters by Astrid Nikodem A and Shoutian Sun, entitled

WE171: Photoinduced ultrafast electron dynamics in Polyatomic molecules: A time-dependent computational study,
WE172: Ultrafast dynamics in the bifunctional PENNA neutral and cation molecule induced by ultrashort photoexcitation, were only exhibited on Wednesday. If you are interested in their profiles, please contact these candidates directly.)

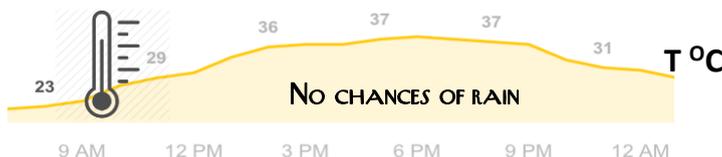
Offering postdoctoral positions

Kind – Nm – earliest / latest start	List of PACS describing the position
Exp. – 12 – 02.01.16 / 01.06.16	34 87.14-g 82.30.Fi
Exp. – 24 – 01.09.15 / 01.11.15	34.50.Fa 34.70.+e 29.20.-c 29.20.db 29.25.Ni 29.27.-a
Exp. – 12 – 01.09.15 / 31.10.15	32.80.Rm 33.15 33.20.Ni 33.80.-b 33.60.q

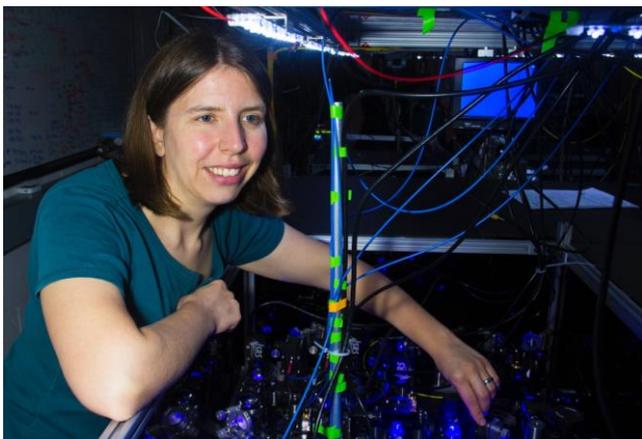
[Talk /] Posters	Name, Institute
WE134,136,149, TH148, MO74,182,183, TU115,132,148	Domaracka A, CIMAP, France
TH169,176,187, FR156, TU117	Lamour E, Pierre et Marie Curie U., France
PR FR / TH46,73, MO77	Bozek J D, Synchrotron SOLEIL, France



ICPEAC GENERAL COMMITTEE MEETING TODAY, AT 12:30 SALA EL GRECO C (TBC).



IT HAPPENED TOMORROW: THE 2015 IUPAP PRIZE AN INTERVIEW WITH GRETCHEN KATHLEEN CAMPBELL



Dr. Gretchen K. Campbell in her laboratory at the Joint Quantum Institute, in Gaithersburg, MD, US.

Dr. Gretchen Kathleen Campbell is the recipient of the 2015 edition of the Young Scientist Prize granted by the Commission for Atomic, Molecular and Optical Physics of the International Union of Pure and Applied Physics. Dr. Campbell received her Ph.D. in Physics in 2007 from the Massachusetts Institute of Technology, with a thesis entitled *⁸⁷Rubidium Bose-Einstein Condensates in Optical Lattices* and she is now a fellow of the Joint Quantum Institute, in Gaithersburg, MD, US, where she leads the Laser Cooling and Trapping group.

Dr. Campbell will address the participant of ICPEAC 2015 on Friday. In the past days, we have been able to reach her and she has agreed to give us an interview about her past experience and current activities, which we hope it may be of inspiration to the attendants to the conference (see back for the full text of the interview).

Dr. Campbell, congratulations for your latest achievement and thank you for your time!

Tell us about what inspired your interest in science and what drives you the most about your research now.

Growing up I always enjoyed science, but I was initially more interested in biology and veterinary medicine. When I started taking more advanced biology classes I found I didn't enjoy them nearly as much as I enjoyed my physics and math classes. My first year of college I had a great experience in my intro physics classes. I enjoyed how physics challenged me, and I also discovered how much I enjoyed working in the lab. By the end of my first semester I was hooked, and decided I wanted to pursue physics degree. I still love being an experimentalist, and problem solving in the lab, whether it's figuring out why a piece of equipment doesn't work, or trying to come up with new techniques to get the data you want.

What brought you to the Joint Quantum Institute?

While I was an undergraduate I spent two years as a summer student working in the Laser Cooling group at NIST, before the JQI was created. My great experience as a student working within the group was a large part of my decision to attend graduate school. I spent my post-doc at JILA, a joint institute between NIST and the University of Colorado, and saw first hand the advantages that come with such an institute. When I started looking for a permanent position, I was delighted to have the opportunity be able to return to the laser cooling group and join the JQI. I enjoy the collaborative environment of the JQI, and it was a great place to start my research group.

What have been the biggest challenges you had to overcome in building your own research group?

The JQI is very supportive of young scientists, which has helped me tremendously as I build my group. I would say the biggest challenge is trying to design and construct an ultracold atom experiment in a relatively short period of time. As ultracold atom experiments become increasingly complex, the experimental apparatus is also becoming more challenging and time consuming to build. Having an experiment that can take multiple years to build before you can start taking data can be daunting when you're just starting out your career. I was lucky that I inherited an older apparatus at NIST so I was able to immediately start doing research, while also building up a new experiment from scratch.

In 2012 you have been awarded the

Presidential Early Career Award for Scientists and Engineer, the highest honour bestowed by the United States Government on science and engineering professionals in the early stages of their independent research careers. Do you think that government has an essential role in supporting research in general and your field in particular?

I was very honored to receive the PECASE award. The role of the government in supporting research is essential. As a NIST employee, I have been lucky to work in an environment that is very supportive of my research.

Your research has the potential to spur transformative technological innovations. Have you any relation with industry and, if so, how has it played out so far?

So far our research in atom circuits has been of a more fundamental nature. We are still learning how to characterize our circuits and discovering what capabilities the systems may have. In the future, as the technology matures I hope that it will indeed have technological applications, but we're not yet to that stage.

Beyond leading an active research group, you are also in charge of teaching activities. Teaching can be very formative and have a positive influence on one's research. At the same time, it is a very time-consuming activity. At the current stage of your career, which of these two aspects do you regard as being predominant?

I'm very lucky that since I'm a NIST employee I don't carry a standard teaching load (although teaching is strongly encouraged). This flexibility allowed me to spend my first few years focusing on building my lab before I started to teach. I think teaching is very important and I've enjoyed the classes I've taught. Now that my labs are established I feel I'm more able to commit the time needed to prepare and teach classes.

How do you find the right balance between collaboration and competition within your group and with the other groups in your field? One of the things I love about ultracold atoms is how friendly a field it is. I've usually found that even our "competitors" are happy to share tips and techniques with us, as we are with them. This is something I hope will continue in the field, and something I try to encourage within my group.

Research can easily become a 24/7 job. How do you manage to balance your professional and personal life?

This is a question I'm just learning how to answer. I have a 3-month-old daughter,

and just this week returned to working full time after maternity leave. My husband is also a physicist, so before we had our daughter, we were both very understanding of each other's work schedules, but now that we're parents it will definitely be a challenge as we find a new balance.

As a woman in physical sciences you are part of a thriving but much under-represented group. Did you have to face challenges during your career connected to your gender? Do you think young girls in America are encouraged to study maths and science?

As an undergraduate I attended Wellesley College, an all women's college so I started my career as a physicist surrounded by other female physicists. I think this was an ideal experience, not only did it allow me to build confidence in my abilities, but I was also introduced to Wellesley alums who had very successful careers in Physics. Since Wellesley, I've had a few issues, but I've always had supportive advisors and colleagues and the issues have always been quickly rectified. I do feel that young girls need more encouragement to study math and science, and I think the problem occurs at a very young age in the US. While encouragement at the college level is great, it is often too late; I think much more work needs to be done to change the culture at the elementary and middle school level.

What advice would you give to young aspiring scientists?

I think it's important to not only find a field of research that you love, but also an environment you enjoy working in. I realized early on in my career that I enjoy experiments that are very hands on, and that I also enjoyed working as part of a group. Ultracold AMO experiments were a perfect fit. The research was exciting, I enjoyed the complexity of the experiments, and because of this complexity there were typically multiple people working on a given experimental apparatus.



Dr. Gretchen K. Campbell with her group "Laser Cooling and Trapping" at the Joint Quantum Institute, in Gaithersburg, MD, US.