Recognition, awareness and empowerment of
Women in Science
This edition of ICFOnians, like all editions of our newsletter, highlights great research produced at ICFO, showcases some of the thought-provoking events that are organized within our community, and focuses on accomplishments, giving names and faces to the people who make it all happen. Nevertheless, readers will notice that something is different in this edition. The following pages have a decidedly feminine focus, reflecting the activities that took place during ICFO’s recent celebration of women in science.

In 2016 the United Nations Member States declared February 11th the International Day of Women and Girls in Science to recognize the critical role that women and girls play in science and technology around the globe. At ICFO we celebrated the first edition of this global day with a commemorative picture of ICFOnianAs (i.e. only women ICFOians). In 2017, we made a video capturing some of the motivation and discussions surrounding the work of the women conducting research at ICFO, as well as the support of other members of the community. This year, instead of a single action in honor of the day, we dedicated an entire month to better recognize and discuss women’s accomplishments as well as the particular challenges they face in scientific careers. (p 7) The healthy showing of support from male colleagues for the entire initiative was heartening, especially considering that unconscious biases and cultural norms that make it more difficult for women, especially considering that unconscious biases and cultural norms that make it more difficult for women to reach positions of leadership not just in science, but in all professional fields, can only be successfully countered by a united front of women AND men.

It is clear that there are no easy answers or solutions. We will need more dialogue, some honest introspection, public engagement, difficult public policy adjustments, hard work and a concerted effort by women AND men who are convinced that more talented people working in science can only be a good thing for society.

In the meantime, this edition is full of examples of great science. Four of the six PhD graduates in this Go & Fly section are women. Prof. Leticia Tarruell gave a “Made at ICFO” Colloquium on her group’s work that was recently published in Science. Perfectly timed for this special edition was the arrival of Women for Africa Foundation grantee Dr. Rose Alani, visiting scientist in the Optoelectronics group led by ICREA Prof. Valerio Pruneri. We follow the visit of seventy girls to ICFO through the Erasmus+ initiative ScienceGirls, and we get a peek into the life of ICFO alumna Dr. Emilie Wentjes, who recently started her own group at Wageningen University. An additional special thanks to our High Profile interviewee, Dr. Aleksandra Boskovic from Corning, Inc, a top leader in research and development and also a role model and mentor for women in science both inside and outside of her organization.

Congratulations to all the women and men at ICFO for making the Women in Science Month initiative a success.

This newsletter is printed on 100% post-consumer waste recycled, chlorine-free, and EU eco-labeled paper.
Welcome to ICFO

Many of us joined ICFO or took a new position at the institute between January and March

Vanessa Sanz
Visiting Scientist

Vincenzo d’Ambrosio
Visiting Scientist

Unai Ortiz
PhD Student

Pilar Pujol
PhD Student

Ravi Das
Postdoctoral Researcher

Luis Guillermo Gerling
Postdoctoral Researcher

Fabian Zwiehoff
Student

Anika Frölian
PhD Student

Mauro Martínez
HRE Support

Montserrat Porta
Postdoctoral Researcher

Nicola Melchioni
Student

Jana Ockova
PhD Student

Nicolas Mateos
PhD Student

Alberto Delgado
Visiting Scientist

Laurent Philippet
Postdoctoral Researcher

Federica Maruccia
Visiting PhD Student

Luc Dümpelmann
Postdoctoral Researcher

Christian Knapp
PhD Student

Hani Awwad
PhD Student

Victor Lopez
Student

Sofía Martínez
PhD Student

Francesco Andreoli
PhD Student

Andrés de los Ríos
PhD Student

Jorge Madrid
Student

Valerio Di Giulio
PhD Student

Chandan Samanta
Research Engineer

Hamidreza Fayaz
PhD Student

Luigi Seveso
Visiting PhD Student

Marta Gimenez-Zapiola
Lawyer

Gonzalo Podgajezy
Student

Michael Evans
Student

Xi Chen
Visiting PhD Student

Constanza Sansierra
PhD Student

Alexander LeBion
Student

Robin Camphausen
PhD Student

Gonçalo Figueira
Visiting Scientist

Matěj Hejda
Student

Manuel Fernández
Student

Boris Karamata
Research Engineer

Pablo Lujan
Postdoctoral Researcher

Migle Stebryte
Student

Giulia de Rosi
PostDoc

Katerina Gratsea
Student

Pablo Fernández
PhD Student

Alastair Cunningham
KTT Project Manager

Rose Alani
Visiting Scientist

Loïc Reymond
Research Engineer

Piotr Wegrzyn
Student

Juan Rafael Alvarez
Student

Daniel Sevilla
Student

Ferran Martin
Postdoctoral Researcher

Anamika Nair Karunakaran
Student
February 26–March 1 the Graphene Pavilion returned to the GSMA Mobile World Congress presenting the next generation of mobile technologies. The exhibition was designed to bring graphene and 2D materials to life, highlighting large-scale production through the Graphene Knowledge Center and allowing visitors to experience cutting-edge new technologies with interactive demonstrations in Sensors and IoT, Wearables and Health, Datacom and Energy. The Pavilion was organised by the Graphene Flagship, curated by ICFO and supported by the European Commission and the GSMA, providing a glimpse into the future of mobile technologies.

This year, the pavilion hosted 25 exhibiting partners from across Europe who presented prototypes and products including cameras that can see the invisible, health monitoring patches, filters that provide safe drinking water, novel batteries, a wide range of flexible electronics, ultrafast data transmission systems, pressure tracking shoes and solar cells with transmission systems, pressure sensitive rubber, ultrafast data processing for retinal prostheses, and much more.

The Graphene Pavilion at MWC 2018

The Polish Academy of Sciences (PAN) is a national research institution founded in Warsaw in 1952 and is the most significant scientific institution in Poland. New members of the Academy are chosen by the General Assembly from among candidate scholars who have made outstanding contributions to their fields and command respect among the scientific community. ICREA Prof. at ICFO Maciej Lewenstein has recently been selected as a foreign member in the area of Mathematics, Physics, Chemistry and Earth Sciences.

The Polish Academy of Sciences

Eight interdisciplinary research projects were awarded Phase 1 funding in the inaugural BIST Ignite Program at the beginning of 2017 to promote the initiation of new collaborations among BIST researchers, facilitate the exchange of knowledge among different scientific fields and explore new approaches to address complex questions. At the end of 2017, a selection panel reviewed results as well as a proposal for further research and awarded Phase 2 funding to three outstanding multidisciplinary projects in this group. ICFO researchers led by Dr. Pablo Loza-Alvarez, in collaboration with researchers from ICN2 led by Prof. Jose Antonio Garrido, will continue to advance in the THEIA project (Towards the implementation of a multi-electrode array for retinal prosthesis).

Ignite Call Awardees

A jury from the Barcelona City Hall has recognized ICGO Prof. Hugues de Riedmatten and the members of his research group with the 2017 City of Barcelona Award in the field of Experimental Science and Technology for their outstanding contributions to the field of quantum information networks and quantum repeaters, in particular for their study of hybrid quantum networks, published recently in Nature. The results of this study open the pathway to safer telecommunications networks, compatible with the current fiber optic infrastructures. The award ceremony took place on February 15th at the Saló de Cent in the Barcelona City Hall.

2017 City of Barcelona Awards

The Outstanding Referees are to be congratulated and thanked for their outstanding service to the physics community.

APS 2018 Outstanding Referees

ICFO Researcher at ICFO Dr. Darrick Chang is among 147 Outstanding Referees for 2018 recognized by the American Physical Society (APS), for having demonstrated exceptional work in the assessment of manuscripts published in the Physical Review journals. The efforts of these individuals not only keep the standards of the journals at a high level, but in many cases also help authors improve the quality and readability of their articles—even those that are not published by APS. The Outstanding Referees are to be congratulated and thanked for their outstanding service to the physics community.

ICFO Alumni Network in SFO

The Alumni Network gathered during the Photonics West conference in San Francisco in a get-together that aimed to strengthen relationships between ICFO Alumni and current ICFOians.

The Alumni Network

The Barcelona Institute of Science and Technology (BIST) opened the Mothers of Science supporting grant on February 11, 2018 – the international day of women and girls in science – in order to address the gap that exists between the number of women in the BIST Community who are research associates or senior post-doctoral researchers and the percentage of women who are group leaders. BIST recognizes the value and excellent research done by these scientists and support them in their career transition. This program is a result of the ideas collected during the BIST Round Table on Empowering Women in Science within the BIST Community, and is also inspired by the CRG Women Scientists Support Grant (WOSS), from which the Mothers of Science grant has grown. BIST Director Gabby Silberman formally announced and opened the first call for this grant at the inauguration of Women in Science Month at ICFO.

BIST ‘Mothers of Science’ grant
Ultra-sensitive Optomechanical Device at Room Temperature

A study published in Nature Communications has developed an optomechanical device with the lowest thermal force noise levels ever. ICFO researchers Alexandros Tav ernarakis, Alexandros Stavrinadis, and Ioannis Tsioutsios led by ICFO Prof. Adrian Bachtold, in collaboration with Prof. Pierre Verlot (LM) report on a novel optomechanical device with the lowest level of thermal noise at room temperature, two orders of magnitude below the current state-of-the-art devices to date.

The achievement was made possible thanks to the use of an optically active nanoparticle, placed at the tip of a single-clamp Carbon Nanotube (CNT) resonator. The absorptive nature of this nanoparticle has allowed the system to control its vibrational states without the use of an optical cavity or optical resonator that helps attenuate or amplify the vibrations. By precisely calibrating the temperature of the system, they were able to achieve, at room temperature, thermal force noise levels only attainable under cryogenic conditions.

Graphene in Petahertz Lightwave Electronics

A study published in Nature Communications reports on the instantaneous response of Dirac carriers in graphene for petahertz electronics. ICFO researchers Matthias Baudisch, Andrea Marini, Joel Cox, Francisco Silva, Stephan Teichmann and Mathieu Massicotte, led by ICREA Professors Jens Biegert, Javier García de Abajo and Frank Koppens, report on the use of graphene as an ideal material for instantaneous response to ultra-fast optical fields, elucidating the role of free carriers that are created through non-linear harmonic generation.

Hat-trick for Quantum Simulation with Mixtures of BECs

Nature Physics highlights three papers on quantum simulation with mixtures of Bose-Einstein condensates by the ICFO Ultracold Quantum Gases group led by Prof. Leticia Tarruell. Mixtures of Bose-Einstein condensates constitute ideal systems for quantum simulation. They give access to fundamental condensed matter phenomena and allow the creation of ultra-dilute quantum liquid droplets and the study of the real-time formation of quasi-particles, to cite just two examples.

All three papers were published during the first trimester of 2018. In a News and Views article, D. S. Petrov reviews the two experimental ICFO papers reporting the observation of quantum liquid droplets, published in January and appearing in March in Science and Physical Review Letters, respectively. In a Research Highlight, the Nature Physics editor Y. Li discusses a theoretical proposal for the creation of magnetic polarons and the interferometric observation of the polaronic cloud that appeared in February as Rapid Communication in Physical Review B. This work was carried out in collaboration with the group of E. Demler at Harvard University.

Scaling Silicon Quantum Photonics Technology

The study published in Science reports on the development of a large-scale integrated silicon-photonics quantum circuit for the precise and general control of multidimensional entanglement. Integrated Quantum Photonics allows the routing and control of single particles of light with intrinsically high stability and precision, however to date it has been limited to small-scale demonstrations in which only a small number of components are integrated on a chip.

An international team of researchers led by scientists from the Univ. of Bristol’s Quantum Engineering Technology Labs, in collaboration with ICFO researchers Alexia Salavrakos and ICREA Prof. Antonio Acín, has demonstrated the first ever large-scale integrated quantum photonic circuit, which can generate, control and analyze high-dimensional entanglement with unprecedented high precision and generality. The quantum chip was realised using a scalable silicon photonics technology, similar to today’s electronic circuits, which would provide a path to manufacture massive components for the realization of an optical quantum computer.

Continuous Monitoring of Ictus and Sleep Apnea

PLOS ONE and OSA’s Biomedical Optics Express publish studies on a non-invasive, bed-side optical device for monitoring blood flow in the brain.

The research group led by ICREA Prof. at ICFO Turgut Durduran has recently published two studies on the use of a non-invasive bed-side optical device that could carry out a continuous monitoring of the blood flow in the brain to prevent cerebrovascular accidents as well as sleeping disorder.

In the first study, published in OSA’s Biomedical Optics Express, ICFO researchers Clara Gregori-Pila, Peyman Zirak, Igor Blanco, and Turgut Durduran, report on the development of their non-invasive optical device that can provide clinicians with real-time feedback and help them determine, on a continuous basis, the effectiveness of treatment given to patient’s suffering an ischemic stroke. The device has been taken into the Stroke Unit at the Hospital de la Santa Creu i Sant Pau in Barcelona, through a collaboration with Dr. Raquel Delgado-Mederos. The study was made possible by support from “La Caixa” Foundation through the initiative LlumMedBcn, the Cellex Foundation and the Spanish Ministry of Health.

In a study published in PLOS ONE, ICFO researchers Clara Gregori-Pila, Gianluca Cotta, Igor Blanco, Peyman Zirak, Martina Giovannella, and Turgut Durduran, report on the development of another non-invasive, portable optical device, capable of continuous bedside monitoring of cerebral blood flow of patients with Obstructive Sleep Apnea (OSA). The study has been achieved through a collaboration with the Department of Respiratory Medicine at the Hospital de la Santa Creu i Sant Pau in Barcelona.
HAPPENINGS

On January 19, ICFO hosted the Corporate Liaison Program (CLP) Day, an event aimed at bringing together professionals from international platforms, multinational corporations, local business representatives and researchers of other institutions to interact and search for common synergies. The theme of each edition of the CLP Day usually varies and highlight topics of interest and relevance to ICFO’s corporate partners and collaborators.

This year the CLP Day focused on Quantum Technologies. During the whole day, the event provided an ideal environment to review the latest advances in photonic technologies while focusing on the generation of joint research projects.

During the morning, the audience, in a fully packed auditorium, received a welcome speech from the director of ICFO, Lluis Torner. Subsequently, Tommaso Calarco from the Quantum Flagship Advisory Committee, gave an overview of the advent of the new Quantum Flagship initiative and what is expected to happen in the near future. Afterwards, John Martinis from Google, Walter Riess from IBM Research, and Colin P. Williams from D-Wave gave talks on quantum computing, optimization problems and applications, communications, among other topics. Finally, a round table discussion panel including Mornitchi Peev from Huawei, Diego R. López from Telefónica, Bettina Heim from OHB, and Carlos Abellan from UPMC, debated the current status of Quantum Communications as well as its future prospects.

BUSINESS NEWS

The European Commission (EC) funds frontier research across Europe with the final aim of ensuring the global competitiveness of the European economy, driving economic growth and the creation of jobs. Not only does this entail financial support for research excellence, it goes a step further, assisting researchers in translating their cutting edge advances into marketable technologies. The EC’s European Research Council launched the Proof of Concept (PoC) funding scheme in 2012 to help ERC grant-holders to bridge the gap between their research and the earliest stage of a marketable innovation. More recently, the Future and Emerging Technologies (FET) actions have expanded to include the FET Innovation Launchpad, which aims to finance activities for further innovation related to FET projects. Both initiatives complement the efforts of ICFO’s Knowledge and Technology Transfer unit (KTT), which proactively searches for ways to translate newly generated knowledge into new technologies. The KTT unit was active in the preparation of three proposals for projects that were approved in the first quarter of 2018.

Proof of Concept (PoC): ICREA Prof. at ICFO Frank Koppens was awarded his third PoC to date, the eighth award of this kind for ICFO in the past six years, for the project titled GTRACK. This project’s main goal is to demonstrate a semi-transparent eye-tracking system that is disposed in the line of sight of the user, for portable applications.

FET Launchpad coordinated project: UVALITH, a project which has been granted to ICREA Prof. at ICFO Morgan Mitchell, proposes to advance patent protected optical frequency conversion technology towards industrial and biomedical use, allowing to efficiently convert inexpensive near-infrared (NIR) light into coherent UVA.

FET Launchpad participation: HERMES SR, a project awarded to the Israeli company IDEA Bio-Medical, with the participation of CRG and ICFO, aims to further advance the development and commercialization plans of a patent protected super resolution microscope that will allow to visualize in single cells, in parallel, DNA, mRNAs and proteins with nanoscale resolution.
Women in Science Month received strong support from the entire ICFO community.

Today there is a significant gender imbalance in science around the world and there is much to be done on all levels if this is to change. The reasons behind the "leaky pipeline", with far too few women transitioning into leadership roles in science, are varied and disputed, as are the actions needed to bring about lasting improvements. ICFO celebrated this month by showcasing women's ongoing contributions to science and by opening meaningful discussions on ways to ensure that more women enter research, are recognized for their contributions, and rise to positions of leadership in their fields.

On February 11th, ICFO Director Lluis Torner kicked off the month by underscoring ICFO's commitment to supporting women in science, followed by informative presentations by ICREA Professor at ICFO Maria Garcia-Parajo and Rob Sewell, Academic Affairs. Further reinforcing institutional support, during the inaugural ceremony, BIST Director Gabby Silberman launched the "To the Mothers of Science" supporting grant for women scientists in the BIST community with families.

Events that took place at the center throughout the ensuing month aimed to highlight and celebrate the contributions of women in science, contemplate actions to support and increase the number of women who choose science as a career, benchmark best practices from around the world in managing diversity issues in science, and debate alternative scenarios that would lead to a healthier gender ratio in science.

The Beyond Curie Poster exhibit was on display in the NEST Hall throughout the month. The posters were raffled off to ICFOians on the final day.
ICFO participates in the 2018 Edition of YoMo
The Graphene Corner

ICFO hosted and coordinated The Graphene Corner, a 6x6m space that was entirely dedicated to the world of graphene, created with the support of the Graphene Flagship and ICFO’s GSMA Chair. The stand displayed information about the properties, applications and history of graphene.

Visitors had the opportunity to learn by testing the conductivity of graphene sheets that were donated by Graphene-XT, producing their own graphene with the traditional peeling system using cello tape, and then estimating the layers produced. They were also able to interact with an ICFO prototype of a light sensor fabricated with graphene. The Graphene Corner had some special visitors, such as Barcelona’s mayor Ada Colau, GSMA CEO John Hoffman, as well as Vincenzo Palermo, Vice-president of the Graphene Flagship.

In addition to the Graphene Corner, ICFO also offered a Quantum Eraser activity on the final day of the fair within a larger BIST institutional participation. Through this activity, ICFO’s Outreach team introduced students and teachers to the fascinating world of quantum.

BIST Winter School and Symposium

Approximately 200 people from the BIST community registered to attend the day-long closing Symposium at ICFO.

The BIST Winter School on Microscopy, Nanoscopy and Imaging Sciences, part of the training program of the BIST-UPF Master of Multidisciplinary Research in Experimental Sciences, was held during the first two weeks of February, culminating with a special BIST Symposium hosted by ICFO on February 9th.

The Winter School program was designed to introduce students to a core set of techniques and technologies that are used in a wide range of scientific fields. It included theoretical and practical classes hosted at five of the BIST institutes. ICFO researchers, under the leadership of ICREA Prof. at ICFO Maria García-Parajo, contributed to the program on advanced Optical Microscopy.

Approximately 200 people from the BIST community registered to attend the day-long closing Symposium at ICFO and enjoyed talks from leading Spanish and International researchers on an extremely diverse range of topics from Electron Microscopy, Scanning Probe Microscopy, Imaging Science and Optical Microscopy. Four external sponsors contributed to the cost of the event, including Ibaizabal Scientific, Monocomp Instrumentación, S.A., Sociedad de Microscopía de España and Thermo Fischer Scientific.

Talks covered topics ranging from the nano scale – e.g. Super-resolution imaging to uncover how immune cells migrate in the tissue and lymph nodes, Alessandra Cambi, (Radboud University Medical Center, Nijmegen, The Netherlands) – to the cosmological scale – e.g. Precise imaging of distant galaxies: mapping the invisible Universe with weak gravitational lensing, Ramon Muñoz (Institute of High Energy Physics, IFAE, Barcelona, Spain).

Jordi Arbiol, ICREA Professor and Group Leader at ICN2 and coordinator of the Winter School, notes, “An exciting and continuously developing field, microscopy is nowadays a ‘must know’ for anyone interested in following a career in experimental sciences. Because SEEING the world is understanding... and understanding builds the knowledge of our society.”
People

Women for Africa Foundation

Contributing to sustainable development in Africa through the drive of female scientists like Prof. Rose Alani

ICFO participates for the third consecutive year in the Science By Women program, sharing our knowledge and facilities, while benefiting from the expertise and perspectives of a visiting senior researcher in the ICFO community.

The Women for Africa Foundation (Fundación Mujeres por Africa), a private entity aimed at contributing to the sustainable development of Africa through the drive of its women, began the Science By Women program in 2014, offering fellowships for African women scientists to spend a six month sabbatical in a Severo Ochoa Research Institute in Spain. The program specifically aims to enable African women scientists to tackle the great challenges faced by Africa through research which can be transferred into products and technologies having impact on people’s lives.

The Women for Africa Foundation... did not just provide funds but made possible the collaboration with ICFO.

What motivated you to participate in the Visiting Senior Research Fellowships program?

Rose Alani: The World Health Organization (WHO) recently showed four cities in Nigeria as the worst cities in the world for air pollution. A love for my country and passion for my people motivated me to search for solutions. Air pollution is a serious problem because of its ease of proliferation, direct negative health effects on humans and potential to pollute both land and water.

What inspired you to pursue a career in science?

RA: My first teachers were my parents who both taught mathematics and science related subjects. All but one of my ten siblings work in science related fields. In secondary school, my Chemistry teacher, Miss Ette, took special interest in me. Physics was my best subject but somehow, I ended up with Chemistry. My late husband, Mr Anthony Alani, helped me to realize my dream of earning my PhD in Environmental/Analytical Chemistry and sponsored my stay in the Great Lakes Institute for Environmental Research (GLIER), University of Windsor, Ontario, where I did all my PhD laboratory work. The University of Lagos took over the sponsorship of my PhD program after the demise of my husband. My pastors also gave me a great push. I remarried and my husband, Mr Adekunle Adelani and my five children are a very strong positive influence to me, even now.

What issue would you most like to see resolved for the next generation of women scientists in Nigeria?

RA: I would like to see communities encourage their girls to go to school and to bring them back to school if they are put in the family way during their education. This would require support from the government and NGOs. The government should give all the necessary support and encouragement to women scientists, knowing that as homemakers they will surely use their scientific research to better their society.

What role will this sabbatical program play in overcoming challenges in your country?

RA: The Women for Africa Foundation stepped in when I was facing challenges and frustrations of lack of capacity and lack of access to proper experimental infrastructures to resolve problems in my research. They did not just provide funds but made possible the collaboration with ICFO. This will help to bridge the knowledge gap and provide the infrastructures necessary for tackling the pressing air pollution problem in Africa generally and in Nigeria in particular. This research, when concluded, will have a great impact on air and water quality monitoring in Nigeria.

Research Interests

Air quality monitoring, particularly passive air monitoring for POPs with the main aim of assessing the status of the environmental pollutants in coastal regions along the Maritime Silk Road from Southeast Asia to Africa and the globe as a whole. Other interests include ambient air monitoring of the chemical compositions, sources and health impact of fine particulate matters (PM2.5) in Nigeria.

Work at ICFO

Prof. Alani will spend March through August 2018 working with the Optoelectronics research group led by ICREA Prof. at ICFO Valerio Pruneri to develop new photonic technology platforms for air pollution assessment and water quality monitoring.

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Are there any obstacles that make it more difficult for women to access scientific careers in Nigeria?

RA: In Nigeria, and I think in Africa as a whole, everyone belongs to each other and so has responsibility towards each other in the family and the community. Women’s responsibilities are multifaceted: facing her career, being a wife, being a mother, being a sister, being a child to both her biological parents and her husband’s parents, also being a good neighbor. An African woman needs the grace of God and all available support to survive all these and still go into reasonable scientific research.

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My time at ICFO
I joined ICFO in 2012 as a postdoc in the group of Niek van Hulst. Overall, it was a good time, with bumpy parts, but also nice people and excellent scientific conditions! Furthermore, Parc del Garraf offered great possibilities for "relaxing" on a mountain bike. It was clear for me from the start that I would only stay at ICFO for two years. The most important reason was that I wanted to settle down with my partner who remained in the Netherlands.

The present
Nowadays the mountain bike has changed for a “bakfiets”- the Dutch version of a cargo bike used to transport kids. I have a daughter of 2.7 years and a son of 11 months. It is a rather hectic period of my life, especially in combination with the starting up of my own research group at Wageningen University. I use biophysical techniques to reveal how photosynthetic organisms manage to cope with the different light conditions they experience in nature. I am also teaching physics and spectroscopy courses and in addition, need to acquire funding for my research. My time at ICFO definitely helped me to get this tenure track position. Both for the research training I got and for the experience abroad, which is highly valued in the Netherlands.

Women in Science month
In March, I was at ICFO to give a talk. It was very nice to be back! So many bright people together who are passionate about science and eager to discover new things. It makes a great atmosphere. My talk was part of the Women in Science month at ICFO, so apart from the scientific part I also shared my experiences as a woman in science. For me being a scientist and a parent is a constant balance between my personal life and scientific career. It seems that planning gets exponentially more complicated with the number of people who are involved. With one partner and two kids, simple things, such as going to a conference, become rather complicated. On the other hand, this is not a gender issue. I think most important is that you share the tasks at home equally, are confident about your qualities at work and keep up the good spirit.

OUTREACH

YOUNG MINDS want to know...
How do solar panels work?

The Outreach team at ICFO welcomes school groups to the institute, allowing them to explore the facility and encouraging them to ask questions and develop a mindset based on the scientific discovery and process. Seemingly simple questions pave the way for insightful conversations that introduce some basic concepts behind the science of light.

3rd grade students at Istituto Italiano Statale Comprensivo, Barcelona ask How do solar panels work?
Dr. Laura Ciammaruchi, postdoctoral research in the Organic Nanostructured Photovoltaics research group, responds:

Solar panels are made out of special materials, called "photovoltaic" materials. The great thing about them is that when the sun shines on the panel, the solar energy is absorbed in it, and is able to make the electrons move across the photovoltaic material. Electricity is nothing more than the constant flow of these electrons! In order to use electricity in our everyday devices, we need to collect the electrons flow in an ordered way, this is why we create "roads" for them – that is, we wrap the panel with electrical cables - so that electrons can be extracted from the panel... and can be used to power our favorite video game at home!
151 Women and Men have successfully defended their theses at ICFO since its founding in 2002.

Together they have helped us measure what we have learned, how far we have come, and how much we have yet to learn. The following ICFOnians have recently succeeded in defending their PhD theses. Honoring ICFO’s tradition, ICFOnians gather to celebrate your accomplishments and encourage you to Go & Fly! Remember that wherever you go, you will always be a part of the ICFO community.

1. At the young age of 15, she chastised actor Liam Cunningham (Davos from Game of Thrones) for fishing from the river bank in her garden.

2. At the age of 21 she decided The West Bank was where she would go on holidays.

3. During Uni she worked in a theatre where she met people like Janelle Monáe (Hidden Figures) and Cillian Murphy (Peaky Blinders).

4. She is not sporty, but she has completed a 65km triathlon.

Mystery ICFOnian

How much do you know about the people you work with?

ICFOnians are a fascinating group, with hobbies, interests and talents that may surprise you. Have a look around and see if you can guess who this edition’s Mystery ICFOnian is! Look for the answer in the next edition of ICFOnians.
Based on your combined business and scientific experiences, would you say that women have gained more ground in the corporate or scientific world?

I’d say in both. Every day I see more women in science and at higher level positions in industry. I am often not the only woman in the room any longer – it used to happen all the time about ten years ago – and that is a great feeling. However, we still have a long road ahead of us. There are still way fewer women than men when I look at conference attendance and publications lists in my field. In technology based businesses very few women get to be general managers for example. It will take time to reach true equality but we are making visible progress every day.

What is CORNING doing right in its effort to support women in science?

We have many formal efforts to support women and that helps. They go from support groups for female engineers and scientists, to having our executive female leaders committing and coach at least two other upcoming women, to leadership training focused on midcareer females. But, the most important and impactful thing that Corning does is that our top leaders are true supporters of diversity – that establishes a culture of valuing diversity that permeates the entire organization.

Many talk about the positive impact that a mentor can have on career growth, especially as a woman in science. As a mentor, what do YOU get out of the experience?

Shunryu Suruki (a teacher of Zen Buddhism) wrote, "In the beginner's mind there are many possibilities, but in the expert's there are few". Apart from the pure joy of seeing others succeed, I learn a lot from the people I coach or mentor. For example, it allows me to keep in touch with the way younger generations think and the challenges they face. It is also fascinating to see how others internalize and interpret different situations; and the solutions they come up with. The people I coach and mentor broaden my possibilities.

Science Quiz

Match the researcher with her discovery/invention

1) Parity violation
2) Artemisinin, lifesaving malaria drug
3) Spread-spectrum technology
4) Dark matter

* Find answers on pg. 2.

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