

SSCS-Tainan and Taipei Host Magazine EIC

During a trip to Taiwan this spring, hosted by Prof. Kao at National Yang-Ming University (Taipei), *IEEE Solid-State Circuits Magazine* Editor-in-Chief (EIC) Mary Lanzerotti was fortunate to have the opportunity to visit the Society's Chapters in Taipei and Tainan. Prof. Chang, chair of SSCS-Tainan Chapter, was her host in Tainan. Prof. Chang, chair of SSCS-Tai-

pei Chapter, and Prof. Kuo, secretary of SSCS-Taipei Chapter, were her hosts in Hsinchu. In Tainan, her hosts scheduled a tour of the Chip Implementation Center and LiuChiu Island beach and caves, as well as student laboratories and offices at National Chen Kung

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University (NCKU), where she enjoyed an informal lunch with NCKU faculty. Her schedule in Hsinchu, arranged by Prof. Chang and Prof. Kuo, featured tours of MediaTek, Inc. and Hsinchu's Chip Implementation Center, guided by Charlie Wu.

—Mary Y. Lanzerotti

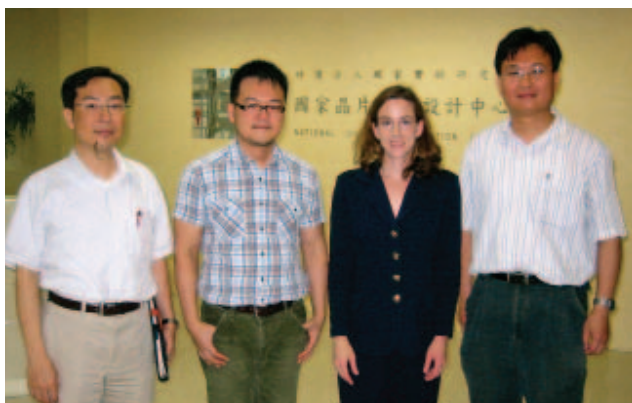
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IEEE Solid-State Circuits Magazine Editor-in-Chief Mary Lanzerotti with members of SSCS-Tainan.



From left: Dr. Lin, Prof. Huang, Prof. Chang, Dr. Hsu, Dr. Lin, Mary Lanzerotti, and Prof. Kao at Tainan's LiuChiu Beach.



From left: Prof. Kuo, Mr. Wu, Mary Lanzerotti, and Prof. Chang at the Chip Implementation Center in Taipei.



From left: Prof. Chang, Mary Lanzerotti, and Dr. Chen at MediaTek in Taipei.

EIC MARY LANZEROTTI INTERVIEWS CHAPTER OFFICERS

In Tainan: with SSCS-Tainan Chapter Chair Soon-Jyh Chang (SJC) and Student Member Ying-Zu (Chris) Lin (YZL)

EIC: Please tell us about the expansion of IC design in Tainan.

SJC and YZL: The first science-based industrial park, established in Hsinchu, Taiwan, in 1980, has proven to be a successful model for the development of advanced technological industries. After it became saturated, the government extended the concept by building the Southern Taiwan Science Park (STSP) based in Tainan County. In response to the government's plans, the BioMEMS and MEMS divisions of the National Chip Implementation Center (CIC) moved from Hsinchu to Tainan in 2002.

Relocating to Tainan was good for graduate students in south Taiwan, since the CIC, created by the National Science Council in 1992 to make Taiwan a global center of IC design, links Taiwanese universities and foundries for fabrication and provides measurement services. CIC occupies part of the second electrical engineering building at National Chen Kung University (NCKU), built in part by Chimei, a local company that sponsors many joint development projects with universities. Some companies in Hsinchu plan to have a presence in Tainan to communicate with the foundries here. As a result, many students who graduate from universities in Tainan hope to be able to stay, or come back, to work here.

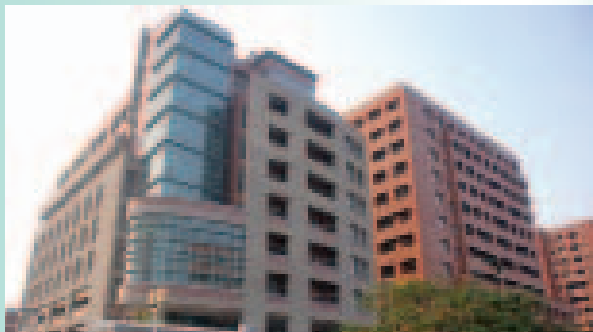
SJC: In Taiwanese culture, people tend to live with their parents. Hence, most Taiwanese are happy to go back to their hometowns if they can find suitable jobs. Since the opening of STSP in Tainan, perhaps 25% of Tainan IC graduates have been able to find local jobs. This is a big improvement over the past.

YZL: As a student, I taped out 15 chips during my Ph.D. work thanks to the support of the CIC. In November 2010, I will join NovaTek in Hsinchu, a leading company that focuses on driver IC design.

SJC and YZL: Some Tainan people working in Hsinchu want to go back to their hometowns. This will be a great help for the development of IC design in south Taiwan.

EIC: How and why was the SSCS-Tainan Chapter started?

SJC: After the government established the Tainan Science Park, the time was right to establish a new group for engineers in south Taiwan. So our Chapter was launched in 2007.



The Chimei Building at NCKU.

In Taipei: with SSCS-Taipei Chapter Chair Dr. Wei-Zen Chen (WZC) and Secretary Dr. Chien-Nan Kuo (CHK)

EIC: Good afternoon. And thank you for the opportunity to meet today. Congratulations, also, on receiving SSCS Best Chapter Awards in 2002 and 2008. May I start by asking you both what the chapter is most excited about working on?



Wei-Zen Chen

WZC: The "VLSI/CAD Symposium," the largest domestic conference on VLSI and related fields in Taiwan, which is held every year during the first week in August, is now in the works. We expect more than 1,000 attendees. At this conference, our Chapter has a membership recruitment booth where we replay the latest ISSCC short courses and tutorials. We plan also to have a side meeting cosponsored by the National SoC Program, of which I am deputy director, for colleagues at universities to discuss a major theme called "Leadership Team Projects." It has three coordinating funding sources: the National Science Council (NSC), the Ministry of Economic Affairs, and the Ministry of Education for university education improvements. For this side meeting, we have invited five panelists who are winners of Best Projects in the National SoC Program. Finally, there will be a Ph.D. Forum at the conference, where students who have presented papers at ISSCC and DAC can talk about their research experiences.

EIC: Please tell us about the book on SoC technologies that the chapter is working on.

WZC: Starting in 2010, we will edit a popular science and technology book on SoC-related technologies. This project will be led by professors and will have input from high school students and high school teachers. We will also do some interviews with companies and research groups. We hope to publish the book by April 2011 and distribute it to all high schools in Taiwan to introduce IC/SoC technologies to our young generations. We have already defined ten themes for the book. They are:

- the revolution and evolution of microelectronics
- EDA introduction
- microprocessors and DSP
- SoC for wireless communications
- SoC for sensor networks
- MEMS interfaces
- lab on chips
- biomedical electronics
- green electronics
- automotive electronics.

EIC: Can you please describe the unique characteristics of the IEEE SSCS Taipei Chapter?

WZC: Our Chapter is run by professors, many of whom are decision-makers in government, including consultants to the Ministry of Education. One of my roles is deputy director of the National SoC Program.

EIC: How many members are in your group?

WZC: There are 275 members. It is the largest Chapter in the Taipei Section.

YZL: The major focus of the Tainan Science Park is photoelectronics and foundry work, notably at the Taiwan Semiconductor Manufacturing Company (TSMC) and at UMC, a leading global semiconductor foundry.

EIC: Please tell me about the huge student design contest that you sponsor every year.

SJC: CASS- and SSCS-Tainan and Taipei sponsor a student design contest hosted mainly by the Taiwan Ministry of Education and CIC every year since 2001 and held at the CIC in Hsinchu. In this contest, two students per team work all day to solve different types of questions in a two-stage process. First, the teams download a design contest sheet in their home labs. Then, selected teams from the first stage participate in the design contest at Hsinchu.

Our Chapter also sponsors technical speeches and local and international conferences as well as an IC design contest for university/college students with SSCS-Taipei, CASS-Taipei, and several companies, and I visit schools to give speeches for membership development. We currently have 53 members, composed of 22 faculty from academia, 28 students, and three people in industry. For November 2010, we are organizing the IEEE International Symposium on Next-Generation Electronics (ISNE) on advanced green technology, and we will cosponsor the 21th VLSI Design/CAD Symposium jointly with the IEEE Circuits and Systems Society (CASS) for the CASS and SSCS Taipei and Tainan Chapters. In addition, we sponsor a technical short course for members of both SSCS Taiwan Chapters presented by visitors from the Department of Electrical Engineering, University of Texas at Arlington, and Industrial Technology Research Institute (ITRI), a government research group in Taiwan. The Taiwan government formed ITRI, located in Hsinchu, to train researchers to do advanced research. Researchers at ITRI also cooperate with other companies.

EIC: How do you keep Chapter activities organized?

SJC: I am obtaining a secretary and setting up an advisory board, hopefully with several professors from local universities to help promote SSCS, especially among students, because these schools do not have their own Chapters.

EIC: What else would you like to tell us?

SJC and YZL: In 2011, we will cohost the International Symposium on VLSI Design, Automation, and Test. Also, the replay of ISSCC workshops offers the opportunity to attract industrial members in Taiwan in the future.

EIC: Are all of your Chapter activities documented on your Web site?

SJC and YZL: Yes. We also have an annual report, and the PDF for 2009 is posted there.

EIC: Do you have any questions for us?

SJC and YZL: Our question is, would it be at all possible to collect presenter slides for other conferences such as VLSI Symposium and VLSI Circuits?

EIC: I will inquire. Thank you for speaking with me today.

The Web site of SSCS-Tainan is at: <http://ssc.as.nctu.edu.tw/ieee/sscs>

*Tuesday, 29 June 2010
Tainan, Taiwan*

EIC: Can you please describe its relationship to industry?

WZC: There are some funding sources for industrial physics, such as for new technology development, to cultivate new talent, and to promote local IC industry.

EIC: Secretary Kuo, please tell me about your interest and involvement in the IEEE SSCS Taipei Chapter.

CNK: As a member of the IEEE SSCS Taipei Chapter, I attend IEEE activities and make events available to people in the Taipei area. We try to promote IEEE activities to all our members and to recruit new members through visits of Distinguished Lecturers and short courses.

WZC and CNK: Recent lecturers include Stefan Rusu (Intel), Bernard Boser (Berkeley), Rakesh Kumar (SSCS treasurer), and Ken O (University of Texas at Dallas) in April 2010. In July, we hosted Donald Lee of Texas Tech. In November 2009, Anantha Chandrakasan visited for the ISSCC press conference and gave a talk at National Taiwan University.

EIC: How many people typically attend these talks?

WZC and CNK: Usually 30–40 people attend the ones at National Chiao-Tung University Campus and at National Taiwan University. When we have speakers, we like to arrange for them to give talks at each of these schools. Having two talks allows many people to attend Chapter events.

EIC: What portion of your attendees are in academia, industry, and government?

WZC and CNK: Approximately half are from academia, and half are from industry. People who work in companies in Taipei attend the talks at National Taiwan University.

EIC: Thank you for speaking with me today.

*Friday, 25 June 2010
Hsinchu, Taiwan*