

THE BEEET



Joint Chapter Meeting:

TeraHertz Technology for Space and Earth Applications

Antennas and Propagation Distinguished Lecturer Series

SPEAKER: Dr. Peter de Maagt, European Space Research and Technology Centre and European Space Agency

LOCATION: University of Arizona, Room ECE 530

DATE: Monday August 24, 6:00 pm

Refreshments Provided (pizza and soft drinks)

The terahertz (THz) part of the electromagnetic spectrum falls between the lower frequency millimetre wave region and, at higher frequencies, the far-infrared region. The frequency range extends from 0.1 THz to 10 THz, where both these limits are rather loose. As the THz region separates the more established domains of microwaves and optics, a typical THz technique will incorporate aspects of both realms, and may even draw on the best of both. The two bounding parts of the spectrum also yield distinct sets of methods of generating and detecting THz waves. These approaches can thus be categorised as having either microwave or optical/photonics origins. As a result of breakthroughs in technology, the THz region is finally finding applications outside its traditional heartlands of remote sensing and radio astronomy. Extensive research has identified many attractive uses and has paved the technological path towards flexible and accessible THz systems. Examples of novel applications include medical and dental imaging, gene therapy, communications and detecting the DNA sequence of virus and bacteria. The presentation will discuss the range of THz applications and will present the components and systems that are utilised for the frequency region.

BIOGRAPHY

Peter de Maagt was born in Pauluspolder, The Netherlands, in 1964. He received the M.Sc. and

INSIDE THIS ISSUE

General Meeting Announcement	1
Message from the Section Chair	2
Message from the Section Chair	2
Chapter News	3
IEEE Student Members.....	3
We Need to Hear from You!.....	4

Ph.D. degrees from Eindhoven University of Technology, Eindhoven, The Netherlands, in 1988 and 1992, respectively, both in electrical engineering. In the period 1992/1993 he was station manager and scientist for an INTELSAT propagation project in Surabaya, Indonesia. He is currently with the European Space Research and Technology Centre (ESTEC), European Space Agency, Noordwijk, The Netherlands. His research interests are in the area of millimetre and submillimetre-wave reflector and planar integrated antennas, quasi-optics, electromagnetic bandgap antennas, and millimetre- and submillimetre-wave components. Dr. de Maagt was co-recipient of the H.A. Wheeler Award of the IEEE Antennas and Propagation Society for the best applications paper of 2001. He was granted a European Space Agency Award for innovation in 2002. He was co-recipient of the LAPC 2006 and IWAT 2007 best paper award. In 2008 he received as a co-recipient the H. A. Wheeler Award for the Best Applications Paper for a second time.

Dr. de Maagt is an active member of the IEEE, serving as an Associate Editor for the IEEE Transaction on Antennas and Propagation since 2005. Dr. de Maagt is currently also a Distinguished Lecturer for the IEEE APS and a member of the AP ADCOM. He is also a member of the IET (formerly IEE) Antenna and Propagation Professional Network Executive Team since 2002.

Message From the Section Chair

By Joseph Wu

I'd like to invite everyone in the Tucson Section to participate in IEEE. In the last year, we've conducted activities for schools, the University of Arizona, the community, and for you, the membership. These activities are a great way to get involved in IEEE and show the impact of engineers in our community.

Before the end of the year, we'll be electing new officers, starting up a micromouse contest and a student paper contest at the U of A, starting our preparations for next year's Engineers Week, and organizing additional meetings. All of this is done on a volunteer basis.

We have a great core of volunteers but we could always use your help. I'm asking people to get involved. With more people the Tucson Section could do so much more for the membership and this community.

If you're interested in helping out or becoming an officer, contact us through the following website:

<http://www.ieee.org/tucson>

Become an IEEE Senior Member!

Do you want to become a senior member of the IEEE? The IEEE wants to promote qualified candidates to senior membership! If you have 10 years of professional experience of which five years of significant professional performance, you are qualified for a senior member upgrade. Educational experience such as a bachelor's degree in an IEEE-designated field counts 4 years to that number, a master's degree counts 5 years and a doctorate counts 6 years. In order to find out more, point your web browser to www.ieee.org and search for senior membership!

Senior Membership:

<http://www.ieee.org/web/membership/senior-members/>

Applications can be found online. You will need the references of three current senior members or fellows. If you need assistance, contact Joseph Wu at

IEEE Student Members....

Student Paper Contest and Micromouse Competition

The Tucson Section of the IEEE sponsors a Student Paper Contest and a Micromouse competition. Winners can win cash prizes and advance to regional contests and win extra money.

For the Student Paper Contest, entries will be

judged by the content of the paper and an oral presentation.

For the Micromouse, teams of students will build a microprocessor controlled mouse to negotiate a maze to find the center.

These contests will be held in March or April of 2010 so stay tuned for details!

Keep Up with the Tucson Section: Join our email list!

The Tucson Section email list delivers the latest IEEE Tucson news right to your email box. To join, simply send an email to

listserv@listserv.ieee.org

Put the following in the body of the message:

subscribe TUCSON-SECTION-ALL yourfirstname yourlastname

You'll receive an email with instructions for confirming your new subscription.

Chapter News

AP/MTT/Com/EMC

This joint chapter is formed from members of the Antennas and Propagation, Microwave Theory and Techniques, Communications, and Electromagnetic Compatibility Societies. There are approximately 150 members in these societies combined in the Tucson Section. If you're interested, contact Hao Xin at hxin@ece.arizona.edu.

University of Arizona Student Chapter

The student chapter at the University of Arizona has a motivated team of students, officers and advising faculty that take an avid interest in doing that "little bit extra" to gain an edge. Every year, they host a full schedule of activities and events, including the popular MicroMouse competition, a student paper competition, and much more.

To find out what's going on with the student chapter, check out their site at:

<http://uaieee.org>

Tucson Section, Institute of
Electrical and Electronics Engineers
2626 E Malvern St.
Tucson, AZ 85716

Section Chair:

Joseph Wu (joewu@ieee.org)

Joint AP/MTT/Com/EMC Chapter Chair:

Hao Xin (hxin@ece.arizona.edu)

Newsletter Editor:

Brenda Huettner(bphuettner@ieee.org)

Student Chapter Information:

uaieee.org

To report address changes:

address-changes@ieee.org

Other record changes (typographical errors)

record-changes@ieee.org

Other membership issues including subscriptions

member-services@ieee.org

General IEEE Information

1-800-678-IEEE(4333)

We need to hear from you!

How can we make IEEE a better organization? We can only do it with your help. As a volunteer organization, IEEE depends on your participation to accomplish all of our goals.

As you can see from this newsletter, there are lots of activities where you can actively contribute. Are you good at organization? Volunteer to head one of our Chapters or to help organize our general meetings. Want to show off or improve your internet skills? Volunteer to help with our Web site. Interested in promoting our field to the next generation of engineers? Help with Engineers Week, or as a judge for any of our student competitions.

Even if you only have a little bit of time, there's sure to be an IEEE opportunity that will interest you. Even if you have no free time at all, but have ideas for meetings or activities that promote engineering and the IEEE, let us know! We'd like to hear from you. Please contact Joseph Wu at joewu@ieee.org or at 325-4781.

We're on the Web!

Visit us at:

<http://www.ieee.org/tucson>

IEEE Tucson Section
2626 E Malvern St.
Tucson, AZ 85716

PRESORTED
STANDARD
US POSTAGE PAID
TUCSON AZ
PERMIT NO 140