SCANews

The SOCIETY of CORE ANALYSTS

P.O. Box 2861, Dublin, CA 94568-2405

April 2007

Published by the SCA, Editor: Andrew Cable

Volume 19, Number 1

Update from the Vice President of Technology

by ***David Potter***

Dear SCA Members,

We received over 80 abstracts for the 21st International Symposium of the Society of Core Analysts that will take place on 10th-13th September 2007 in Calgary, Canada.

The abstracts have been evaluated by the Technical Committee and decisions have been sent out to authors. The Symposium will consist of 3 days of technical sessions 10th-12th September which will include both oral and poster presentations. A 1 day workshop will be held on the 13th September. Based on the abstract evaluations there will be around 38 oral presentations in the following technical sessions (not necessarily in this order):

Photo: David Potter VP Technology 2007

1. Wettability
2. Pore Scale Modelling (1)
3. Pore Scale Modelling (2)
4. Pore Scale Modelling (3); a half session) + Other topics (half session)
5. Improved SCAL (1)
6. Improved SCAL (2)
7. Improved Oil Recovery
8. Displacement Mechanisms (1)
9. Displacement Mechanisms (2)
10. Case Studies

We also have around 6 alternate oral presentations in case of any no shows. This year we hope to increase the value of the posters sessions. There should be significant poster sessions with around 35 posters. A reminder that the Symposium theme is **"Core Analysis for Improved Petrophysical Appraisals."** We would like authors to bear this theme in mind as you prepare your manuscripts. Draft manuscripts are required by 30 April, and authors have been informed of the reviewers to whom they should send their manuscripts.

A detailed programme will be put together once the completed and revised manuscripts have been received. If you require any further information regarding the proposed technical sessions contact me at david.potter@pet.hw.ac.uk.

Best wishes and I look forward to seeing you in Calgary.

Spring issue of SCA News…

by ***Andrew Cable, Editor***

Welcome to SCA News, which is my penultimate edition as your editor. I have decided that this third year as SCA editor will be my last and this summer you will have an opportunity to vote for a new Board member. In earlier editions of *SCA News* I have featured articles about those 'forgotten heroes' that have contributed to the progress of science and technology. Although not necessarily directly related to core analysis, none the less their work and contributions form the backbone of everything we achieve in this modern age. I have always wanted to feature *Hedy Lamarr*. There are surely those in the Society of Core Analysts that might say they have heard of *Hedy Lamarr*, but are wondering what possible connection there might be in core analysis? Most will probably have heard of *Hedy Lamarr* as a result of her contribution to the film industry.

Hedy Lamarr: courtesy of www.hedylamarr.com

Hedy Lamarr was born November 9th, 1914 in Vienna, Austria (Hedwig Eva Maria Kiesler). At just 17 years old Hedy Lamarr starred in her first film "Geld Auf Der Strase" and continued on both German and Czechoslavakian productions until her signing with MGM in 1932. Once in Hollywood, she officially changed her name to Hedy Lamarr and starred in her first Hollywood film, Algiers (1938), opposite Charles Boyer. Often called "The Most Beautiful Woman in Films," Hedy Lamarr's beauty and screen presence made her one of the most popular actresses of her day. She starred alongside the most popular and talented actors of the day, including Spencer Tracy, Clark Gable and Jimmy Stewart.

Overview of Wireless Communication in a Wireless Network:

Wireless networks, like their wired counterparts, rely on the manipulation of electrical charge to enable communication between devices. Changes in signal strength (amplitude) and the rate of those changes (frequency) are used singularly or in combination with each other to encode and decode information. When two devices understand the method(s) used to encode and decode information contained in the changes to the electrical properties of the communications medium, they can communicate with each other. Wireless networks use a special type of electric current, commonly known as Radio Frequency (RF), which is created by applying alternating current (AC) to an antenna to produce an electromagnetic field (EM). The resulting RF field is used by devices for broadcast and reception. In the case of wireless networks, the medium for communications is the EM field, the region of space that is influenced by the electromagnetic radiation. As with wired networks, amplitude decreases with distance, resulting in the degradation of signal strength and the ability to communicate.

EM fields are prone to interference and signal degradation by the presence of other EM fields, for example interference produced by cordless phones, microwave ovens, and a wide range of devices that use the same unlicensed Industrial, Scientific and Medical (ISM) or Unlicensed National Information Infrastructure (UNII) bands.

(continued on page 3)

Hedy Lamarr's Secret Communication System

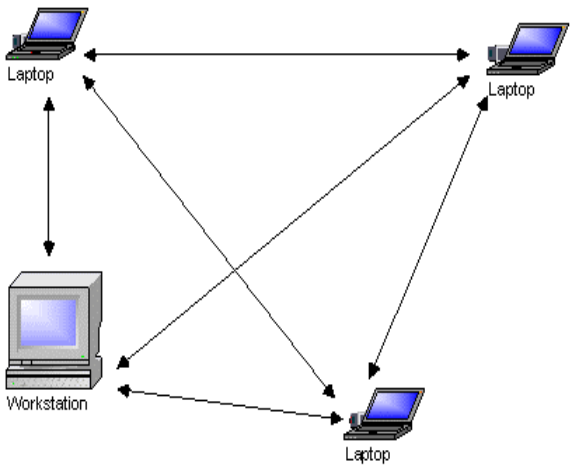
(Editorial cont. from page2)

To mitigate the effects of interference from these devices and other sources of electromagnetic interference, RF-based wireless networks employ Spread Spectrum technologies. Spread spectrum provides a way to "share" bandwidth with other devices that may be operating in the same frequency range. Rather than operating on a single, dedicated frequency such as is the case with radio and television broadcasts, wireless networks use a "spectrum" of frequencies for communication.

"Spectrum" was first conceived of by Hedy Lamarr and George Antheil. Beauty, and screen talent was not enough for the highly intelligent actress. Hedy Lamarr patented an idea that later became the crutch of both secure military communications and mobile phone technology. In 1942, Hedy Lamarr and composer George Antheil patented what they called the "Secret Communication System." The original idea, meant to solve the problem of enemies blocking signals from radio-controlled missiles during World War II, involved changing radio frequencies simultaneously to prevent enemies from being able to detect the messages. While the technology of the time prevented the feasibility of the idea at first, the advent of the transistor and its later downsizing made Hedy Lamarr's idea very important to both the military and the cell phone industry. Due to national security interest, Hedy Lamarr was unable to benefit commercially from her invention. In fact, little was known of this invention until quite recent publicity. Like most inventors - Hedy Lamarr's ingenuity did not stop at the secret communication system and she continued throughout her life to come up with novel ideas.

Spread spectrum defines methods for wireless devices to use a number of narrowband frequencies over a range of frequencies simultaneously for communication. The narrowband frequencies used between devices change according to a random-appearing but defined pattern, allowing the use of individual frequencies to contain parts of the transmission. Someone listening to a transmission using spread spectrum would hear only noise, unless their device understood in advance what frequencies were used for the transmission and could synchronize with them. Two methods to synchronize wireless devices are frequency hopping spread spectrum (FHSS) and direct sequence spread spectrum (DSSS).

So, wireless local area networks, WAPs & WEP's, where would be without them in today core analysis industry?



Note from the VP Arrangements

by ***Apostolos Kanzas***

Dear SCA members,

This year's SCA symposium will be held in the Westin Hotel in Calgary, Alberta Canada 9th-14th September 2007. A workshop (13th September , title TBA) will follow the main symposium (10th-12th September) and this will be combined with a visit to the AEUB core storage facility.

Photo: The Westin Hotel, Calgary

We have prepared the following programme for you. Arrival in Calgary is recommended for the 8th of September or even earlier for those who want to spend some time touring on their own. For the 9th of September we have scheduled a trip to Drumheller to see the Bad Lands and the Royal Tyrrell Museum of Paleontology. Upon your return from the trip we will be waiting for you for registration and the welcoming reception in the hotel.

As mentioned by David Potter, the technical sessions will run on Monday 10th, Tuesday the 11th and Wednesday 12th September. All lunches are included in your registration package.

Photo: Royal Tyrrell Museum of Paleontology

The Conference Dinner and Awards will be held on the 11th of September in the Calgary Zoo. The workshop will be held on the 13th and the conference will close on the 14th of September with the trip to Banff and Lake Louise

Photo: Royal Tyrrell Museum of Paleontology

We are looking forward to seeing you all in Calgary

from the US Director 2006-07

John Shafer

Spring 2007 SPWLA/SCA
Topical Conference
Core-Log Integration

Photo: Sun River Resort Lodge

The following is a brief summary of the 2007 Spring Topical Conference on Core - Log Integration for Improved Petrophysical Analysis that was jointly sponsored by SPWLA and SCA. The conference was held March 25th-29th, 2007 at the Sunriver Resort in Bend, Oregon. Conference co-chairs were Andy Brickell with BHP and Rick Rosen with Shell E&P. SCA members were on the organizing committee. The conference had about 65 attendees, with about a third from outside North America and about a quarter of the attendees were members of the SCA. There were seven half-day sessions from Monday morning to Thursday noon, with 28 talks and two evening breakout sessions leaving two afternoons free to enjoy the scenic surrounds to hike, ski, or play golf. Conference high-lights will be posted shortly on the SPWLA and the SCA websites.

On **May 16th**, the Houston Chapter of the SPWLA will be hosting their annual spring one-day seminar in Chevron's downtown Houston auditorium which this year is being co-sponsored by SCA. Please see the following comments by Brian Driskill/Shell, Houston SPWLA Chapter President:

"This year the topic is Core-Log Integration. It is a bit of a departure in that the Society of Core Analysts is assisting us in setting up the talks. Personally, I am looking forward to this series of talks since I have found out over the years that using core data is not always a simple affair."

Please check SCA or SPWLA website for details.

Photo: Cascade Mountains seen on drive from Portland to Bend, Oregon

Photo: Conference room with key note address E.C. Thomas (Shell)

Photo: Conference room with key note address E.C. Thomas (Shell)


Photo: Cascade Mountains from Sunriver Resort


Photo: (Cont. from p.4)The Canadian Rockies, Banff and Lake Louise

"END-POINT…"

End-point is provided by your Editor for 'miscellany'. Please feel free to send in your contributions…

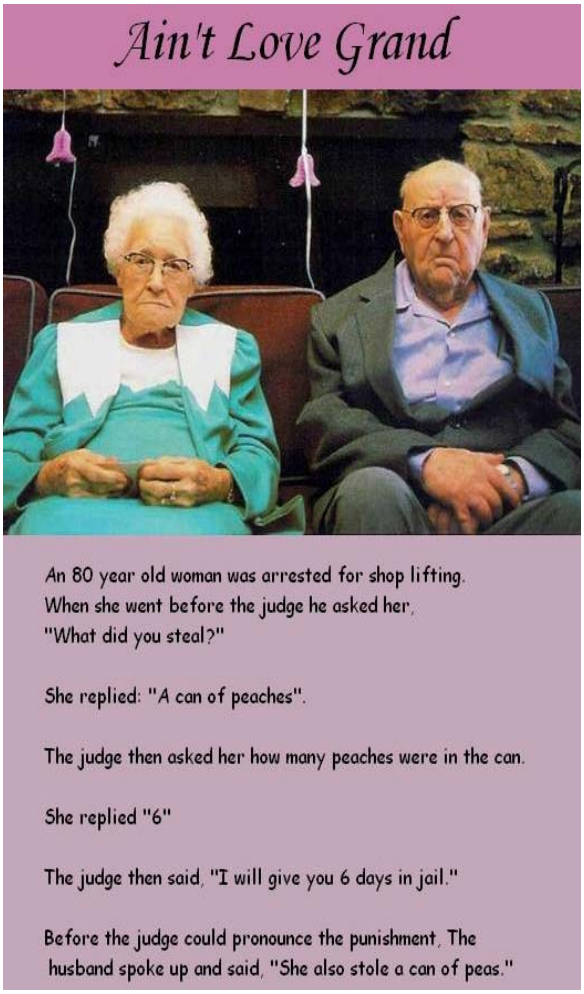
Gerald Hamon - 2007 Darcy Award Winner

The Darcy Award is SCA's technical achievement award that is awarded annually to an individual deemed by the SCA Board of Directors to have made outstanding contributions to the advancement of core analysis technology. The Darcy Award is the SCA's highest honour and the only award for technical achievement. In 2007 Gerald Hamon has been recommended to the Board by the Awards Committee chaired by Bob Smits and unanimously accepted. A biography of Gerald will be published in the next *SCA News.*

"The world isn't getting any easier. With all these new inventions I believe that people are hurried more and pushed more... The hurried way is not the right way; you need time for everything - time to work, time to play, time to rest." - Hedy Lamarr.

Two jokes courtesy of your Australian Director ***Kevin Flynn:***

A mechanic was removing a cylinder-head from the engine of a Harley Davidson motorcycle when he spotted a well-known Cardiologist in the workshop. The Cardiologist was there waiting for the service manager to take a look at his motorbike when the mechanic shouted across the garage: *"Hey Doc, want to take a look at this?"* The Cardiologist, a bit surprised, walked over to where the mechanic was working on the motorcycle. The mechanic straightened up, wiped his hands on a rag and asked, *"Hey Doc, look at this engine. I open its heart, take the valves out, repair any damage and then put it all back together and, when I finish, it works just like new. So how come I make $39,675 a year and you get the really big bucks when you and I are doing basically the same work?"* The Cardiologist paused, smiled and leaned over, then whispered to the mechanic..."*Try doing it with the engine running."*



The next issue of *SCA News* will be in August, just in time to give you last minute information for the symposium. If you have any comments, contributions, articles please do not hesitate to contact me, or any of the current Board members.

Andrew Cable
VP Publications