Dentists, meet Big Data…

Just one year and a half ago – January 2016, the media began informing us about 3 areas of high-tech activity – autonomous vehicles, big data and deep learning.

In March 2016, a computer program called AlphaGo defeated Lee Sedol, one of the world’s best at the game Go. Twenty years earlier, IBM’s Big Blue was successful in winning chess matches against one of the world’s best players. The difference in the methods is dramatic and foretells the future of computers. IBM’s chess program was rules based: if “A” then “B” else “C” and so on. AlphaGo was developed using Deep Learning and neural networks – the algorithms are learned through training rather than from programming rules. In the case of AlphaGo thousands of games were inputted with rules on how to play them.

Big Data has many definitions. But for our purposes as dental consultants when 3rd party benefit plan administrators start to look at data from multiple sources and make decisions using deep learning, our roles will change. Imagine a list of “outlier” dentists in relation to their claims data. Add to this a computer that watches their social networking. Perhaps a gambling habit will be revealed.

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So I did a computer search on Manulife and Big Data. Manulife offered 99 jobs in reply to my search. Here is one job description:

“We are actively seeking an entrepreneurial data scientist/ machine learning engineer to join our artificial intelligence team. As a data scientist you will:

• Develop AI systems and platforms that help us structure and understand text, voice, or vision data
• Work with a range of structured and unstructured data sources
• Design and build customized data scrapers
• Design and build customized large-scale cloud-based machine learning systems
• Stay on top of the latest academic research in AI
• Implement novel machine learning algorithms from scratch
• Test and validate different algorithms against each other
• Create robust machine learning models
• Meet with business teams and identify where machine learning and AI can help”

This all got started with an open source program called Apache-Hadoop. Large companies (Google, Yahoo and Facebook), were early adapters of big data and machine learning. By the way, Google owns the company that developed AlphaGo.

If you have an interest in Big Data and the time and money being spent to utilize this new computer development, take a look at www.splunk.com.

The clinical practice of dentistry is going to continue to be a good career for the foreseeable future. I read a list of 100 careers that are threatened by automation – you’ll be glad to know that dentistry was in the 10 least likely (right up there with hairdressers). But medical radiology is one of the most vulnerable as machine learning builds its algorithms after viewing tens of thousands of images.

As dental consultants, we must continue to add value to our work since this is something machines can’t do yet. Now consider this: "At the very least, we have a moral obligation to figure out what to teach our machines about the best way in which to live in the world. Once we've done that, we may well feel compelled to reconsider how we treat them." Simon Parkin

http://www.1843magazine.com/features/teaching-robots-right-from-wrong

Dr. Rick Beyers, Editor
2017 CADC September Symposium Agenda

**Friday, September 15**

*Afternoon Golf (optional) – contact Ed Zieba for arrangements*

- 6:00 – 7:30 Meet and Greet Welcome Reception
  - Cocktail party at the hotel after which we will go for dinner

**Saturday, September 16**

- 8:30 – 9:00 Complimentary breakfast for delegates and guests
- 9:00 – 9:15 Welcome from CADC president, Sandy Tse
- 9:15 – 10:30 Dr. Reena Talwar, *implants and bone grafting*
  - 10:30 – 10:45 Coffee break
- 10:45 – 12:00 Dr. Michael Eggert, *perio*
  - 12:00 – 1:30 Lunch
- 1:30 – 2:45 Dr. Liran Levin, *perimplantitis*
  - 2:45 – 5:00 Group discussion session
- 7:00 Dinner at a delightful restaurant

**Sunday, September 17**

- 9:00 Breakfast and dental consultants business meeting
- 11:00 Concluding remarks

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**Fantasyland Hotel**

West Edmonton Mall

Calgary, AB

The hotel is easily accessed from the Edmonton International Airport and all major highways. If you happen to drive there in your Tesla, electric car charging stations are available.

**Distance to nearby tourist destinations:**
- Calgary – 281 km
- Jasper – 365 km
- Banff – 413 km

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West Edmonton Mall is home to more than 800 stores and services including nine world-class attractions, two hotels, over 100 dining venues, the widest variety of one-of-a-kind retailers, and entertainment for all ages (ice skating, swimming, mini-golf, theatres and more). Average yearly visitation is approximately 30.8 million, making West Edmonton Mall the province's number-one tourist attraction. At 5.3 million square feet, the Mall is the size of a small city and is accredited as a zoo. So bring your skates, swim suit and wallet and let’s have some FUN!
Symposium Speakers

Dr. F. Michael Eggert
DDS, MRCD(C), MSc, PhD

Dr. Eggert will be speaking on “Avoidance of Failures” - perio

Dr. Eggert currently teaches Periodontology and Preventive Dentistry at the University of Alberta. Previously, he taught Periodontology and Oral Medicine at The Royal London Hospital School of Dentistry in Whitechapel. Dr. Eggert has taught in the Division of Periodontics of the University of Alberta since 1981, and served as Head of the Division of Periodontics from 2010 to 2015 where he implemented a standardized assessment of periodontal patients.

Dr. Eggert’s credentials include:

- Undergraduate and specialty training in Periodontics in the Faculty of Dentistry, University of Toronto
- Master’s degree in biochemistry in the Department of Biochemistry of the Faculty of Medicine at the University of Toronto
- PhD in the Division of Immunology of the Department of Pathology in the University of Cambridge
- Post-doctoral fellowship in the Department of Dental Sciences of The Royal College of Surgeons of England to learn histochemistry

Dr. Eggert has a major interest in teaching and research related to the prevention of dental caries and periodontitis.

Dr. Liran Levin, DDS
University of Alberta, Faculty of Medicine and Dentistry

Prof. Levin received his MDM degree at Tel Aviv University and his post graduate periodontology program at Rambam Health Care Campus.

Currently, Prof. Levin is the Head of Periodontology Division at the University of Alberta. He is also a visiting professor at the Harvard School of Medicine, Boston, MA. Prior to this Dr. Levin was Head of Research at the School of Dentistry in Israel.

Prof. Levin has published over 200 articles and book chapters in the international professional literature and is involved in research mainly in periodontology, dental implants and dental trauma. He has lectured extensively (nationally and internationally) in the fields of dental implants and periodontal diseases.

Prof. Levin has served as Chairman of the Ethics in Dental Research Committee of the International Association for Dental Research. He is currently the secretary of the International Association for Dental Traumatology.

Dr. Reena Talwar

Dr. Talwar is a certified specialist in Oral and Maxillofacial Surgery, practicing in Edmonton since 2011. She is also an Associate Professor in the Faculty of Medicine and Dentistry, discipline of Oral and Maxillofacial Surgery at the University of Alberta. Her full bio was in our last newsletter or read it on our website, www.dentalconsultants.ca

Dr. Talwar will be speaking on grafting procedures relating to implants; this will involve bone grafting as well as soft tissue grafting for ridge augmentation or for attachment reasons.
Canadian Association of Dental Consultants
2017 Symposium Registration Form

September 15 – 17, 2017

Fantasyland Hotel in the
West Edmonton Mall
1 (800) 737-3783
17700 87 Ave NW, Edmonton, AB T5T 4V4

When booking your room, tell the hotel that you are attending the CADC Symposium for the special rate.

Delegate Information:
Name: ____________________________________________
Address: ____________________________________________________________
Tel: _______________________________ Email: ________________________________
Special Diet Requirements: ______________________________________________

Registration Fee: CADC Member $150 / Non-Member $275

Activities:
Friday afternoon golf: □ Yes □ No With Guest: □ Yes □ No
Friday evening reception: □ Yes □ No With Guest □ Yes □ No
Saturday evening event: □ Yes □ No With Guest: □ Yes □ No
Sunday Business Meeting and Breakfast (CADC members only): □ Yes □ No

Please return this form with your cheque made payable to CADC to:

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Orillia, ON L3V 7N5