

CURRICULUM VITAE

Tarek El-Bialy
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Professor of Orthodontics and Biomedical Engineering with Tenure
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EDUCATION AND TRAINING:

1) Degrees

a. Dental degrees/training

- 2015-2019 Doctor of Medical Dentistry [Doctor medicinae dentariae] (Dr. Med. Den.),
University of Bonn, Germany.
- 1999-2001 Certificate of Specialty in Orthodontics, University of Illinois at Chicago,
Orthodontics,
- 1998-2000 M.Sc., Oral Sciences, College of Dentistry, University of Illinois at Chicago
- 1989-1993 M.Sc., Orthodontics, Faculty of Dentistry, Tanta University, Egypt.
- 1982-1987 B.D.S., Faculty of Dentistry, Tanta University, Egypt,

b. Non-Dental degrees

- 2010-2012: EMBA (Executive Masters of Business and Administration degree), University of
Alberta. (Graduated on June 9th, 2012)
- 1998-2001 Ph.D., Bioengineering, College of Engineering, University of Illinois at Chicago,
USA. (Concomitant with MSc in Oral sciences and Certificate of
Specialty residency program in Orthodontics)
N.B. The graduate college at UIC allowed in time graduate students to be enrolled
in more than one degree concomitantly
- 1990-1994 License of Law Degree, (LLP) Faculty of Law, Tanta University, Tanta, Egypt,
[Concomitant with the MSc in Orthodontics].

2) Other Educational activities

- 2020 Chairs and Academic Administrators Management Program (CAAMP).
- 2016 Graduate Supervision Philosophy workshop
- 2012 Chairs & Academic Administrators Management Program (CAAMP), Academy for academic leadership
- 2010 Institute for teaching and learning, Academy for academic leadership, and American Dental Education Association

3) Professional Certifications

- 2007 Fellow of the Royal College of Dentists of Canada
- 2006 Diplomate, American Board of Orthodontics

HONORS AND RECOGNITIONS:

- 2019 Nominated and accepted for the Pierre Fauchard Academy fellowship
- 2016 Nominated for the IADR distinguished scientist award.
- 2013 Alexander von Humboldt Research Award/Fellowship for Experienced Researchers. Bonn, Germany. (Highest recognition of scientists by this German foundation, many of the awardee of this award are Nobel Prize Laureates)
- 2012 Nominated by the American Board of Orthodontics to participate in the ABO/CDABO Resident Advocacy Program.
- 2010 American Association of Orthodontists scholarship for the Institute for Teaching and Learning (ITL), a joint program of the American Dental Education Association and the Academy for Academic Leadership.
- 2007 Expert, Round Table Group's Expert Network, Expert Witness Search & Referral, USA. <http://www.roundtablegroup.com/>
- 2006 Faculty Development Award, American Association of Orthodontists Foundation (AAOF).
- 2003 Inclusion in Who's Who, American Biographical Institute.
- 2001 Young Investigators Competition, American Association of Dental Research, Chicago Section.

1999 Postdoctoral Research Award, College of Dentistry, University of Illinois at Chicago.

PROFESSIONAL MEMBERSHIPS:

International Association for Dental Research (IADR)

American Association for Dental Research (AADR)

Canadian Association for Dental Research (CADR)

American Association of Orthodontists

Canadian Association of Orthodontists

Alberta Society of Orthodontists

World Federation of Orthodontists

Alberta Dental Association and College

EMPLOYMENT

2018-	Adjunct Professor, University of Manitoba, Winnipeg, Manitoba, Canada.
2016-	Professor, Orthodontics and Adjunct Professor, biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada.
2005- 2016	Associate Professor of Orthodontics and Adjunct Associate Professor, Department of Biomedical Engineering, University of Alberta, Edmonton, Alberta, Canada. <u>(Tenured granted in 2010).</u>
2002 – 2005	Assistant Professor of Orthodontics and Bioengineering, Faculty of Dentistry, King Abdul Aziz University (KAAU), Jeddah, Saudi Arabia.
April- July 2002	(Locum) Orthodontic Specialist, Gulf Dental specialty Hospital, Manama, Bahrain.
June- Nov. 2001	Assistant lecturer at Department of Orthodontics, Tanta University.
2001 –2002	Research Assistant Professor, Department of Mechanical Engineering/ Bioengineering, University of Illinois at Chicago.
1999 – 2001	Teaching assistant, Department of Orthodontics, University of Illinois at Chicago.
1993-1997	Assistant Lecturer, Department of Orthodontics, Faculty of Dentistry, Tanta University, Egypt.
1989-1993	Undergraduate Laboratory Instructor, Department of Orthodontics, Faculty of Dentistry, Tanta University, Egypt.

LICENSED ORTHODONTIST IN:

Alberta, Canada (2007- present)

Yukon Territory, Canada (2015- present)

LEADERSHIP EXPERIENCE:**Administrative duties:**

- 2020- Governance committee member, Academic association of University of Alberta
- 2019-2021 General Faculties Council representative to the Faculty of Extension Council and Faculty Evaluation Committee. Faculty of Extension, University of Alberta, Edmonton, Canada.
- 2019-2020 Director of Orthodontics, at the Royal College of Dentists of Canada board.
- 2018-2019 Faculty Evaluation Committee representative, Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Canada
- 2016-2019 University of Alberta Senate
- 2016-2019 Councilor for Orthodontics at the Royal College of Dentists of Canada Council. <https://rcdc.pixieset.com/2017convocation/governanceportraits/>
- 2007 Acting Head, Division of Orthodontics, University of Alberta, Edmonton, Canada, while our head was on sabbatical leave.
- 1989-1997 Acting Chair, Department of Orthodontics, Tanta University, Egypt.

Infrastructure and team building at the University of Alberta

- 2005- Present Established the first tissue engineering facility at the Department of Dentistry, Faculty of Medicine and Dentistry, University of Alberta. Established research in consultation with most of the world's leading researchers in this field for example:
- Prof. Dror Aizenbud, Professor and Chair, Orthodontic and Craniofacial Department, Rambam Health Care Campus, Haifa, Israel (President IADR Israeli Division);
- Prof. Eiji Tanaka, Head, Department of Orthodontics, Tokushima University, Japan;
- Prof. Hasan Uludag, Chemical and material Engineering, and BME, UA;
- Prof. Alastair Sloan, Vice Dean and Director, Tissue engineering laboratory, Cardiff University, Wales, UK;

Prof. John E. Davis, IBME, Faculty of Dentistry, University of Toronto;
 Prof. Ayman El-Kadi, Associate Dean, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta; Dr. Michael Doschak at the Faculty of Pharmacy, Dr. Samer Adeeb at the Department of Civil and Environmental Engineering, Dr. Adetola Adesida at the Surgery Department and Dr. Nadr Jomha, Department of Surgery, University of Alberta Hospital.

My research team has grown substantially under my leadership over the past eleven years. I graduated five post-doctoral fellows; Four PhD students Saleh Al-Daghreer in June, 2012, Laura Rose in 2014, Behzad Vafaeian in 2015 and Harmanpreet Kaur in 2016. Also, I graduated seven MSc students (Jacqueline Crossman, Hasnain Raza, Sayeh Ehsani, Yasamin Hadaegh, Imran Khan, Taghreed Aldosary and Nesreen Mustapha) currently I supervise 1 PhD students Jacqueline Crossman (Expected graduating in June 2021); 2 MSc students Silpi Jalan (Expected graduation in 2022) and Antonio Rossi, (graduating June 201).

2009-2011 Established a research facility at the Queen Medical Centre, Doha Qatar supported by Qatar National Research Foundation. I serve as the PI for the operating grant USD \$1,042,545.00.

Other leadership experience:

2020	Chairs and Academic Administrators Management Program (CAAMP), by the Academy for Academic Leadership (AAL), Aug 20-21, 2020
2017-2018	President, Alberta Society of Orthodontists
2012	Attended the Chairs and Academic Administrators Management Program (CAAMP), by the Academy for Academic Leadership (AAL), July 19-22, 2012
2012	Attended the faculty Development workshop, University of Alberta, School of Dentistry by Prof. Bill Hendricson and Dr. Paula O'Neill, Edmonton, May 10-11
2009-2011	Student Advisor, Faculty of Medicine and Dentistry.
2008	Attended the Leadership Development workshop, Center of Creative Leadership, Colorado Springs, Colorado, sponsored by the Dean, Faculty of Medicine and Dentistry, University of Alberta.
2008	Attended the Project Management Professional (PMP)
2007	Acting Head, Division of Orthodontics, University of Alberta, Canada
2003-2005	Undergraduate orthodontic course coordinator, King Abdul Aziz University, Saudi Arabia.
2003	Participated on organizing committee for the first International Dental

King Abdul Aziz University, Jeddah Saudi Arabia as the Secretary General.

2002-2010 Mentored more than 30 orthodontic residents at different graduate and postgraduate programs in orthodontics.

1989-1997 Acting Chair, Department of Orthodontics, Tanta University, Egypt.

CURRENT RESEARCH ACTIVITIES/ GRANT PROPOSALS:

A) RESEARCH FOCUS

1. The study of the effect of Ultrasound on:
 - Teeth root resorption prevention/regeneration after orthodontic treatment in animals and in Humans;
 - Non-surgical techniques for mandibular condylar growth in animals and in Humans.
 - Stem cell expansion and differentiation for dentofacial tissue engineering.
2. Development of innovative orthodontic/orthopedic appliances.

B) RESEARCH SUPPORT

- 2020-2021 The Effect of Low Intensity Pulsed Ultrasound on TMJ Arthritis in Juvenile Rats. Fund for Dentistry, UA, Department of Dentistry. (Jacqueline Crossman PI [PhD Grad Student], El-Bialy T [Supervisor]) (CAD 5,000)
- 2020-2021 Effect of upper arch expansion by Invisalign on nasal airway volume in children. 2020 North America Align technology University research award. (El-Bialy T, Westover L, PIs) 25,000 USD (32,534.00 CAD).
- 2019-2020 The inhibitory effect of Aevo Oral Ultrasound Gel on dental bacteria. MITACS ACCERATE program. (El-Bialy, PI) 15,000.00 CAD)
- 2018-2020 An evaluation of root resorption associated with the use of photobiomodulation during orthodontic treatment with clear aligners. Biolux Ltd. (El-Bialy, PI) (40,000.00 CAD)
- 2017-2018 Develop multimedia and App for DENT 530 Orthodontic biomechanics and techniques. Centre for Teaching and Learning (CTL) Summer Student Employment Award (Cecilia Ponce Garcia, PI). El-Bialy T, Supervisor. (\$5,000)
- 2017-2019 The Effect of two vibration devices on correction of incisors' irregularities. Propel Orthodontics. El-Bialy T, PI (USD \$31,600.00) (CAD 49,053.55)
- 2016-2017 Effect of Gingival Fibroblasts and Ultrasound on Orthodontically Induced

- Root Resorption in Human Subjects. University of Alberta hospital Foundation. CAD 35,000. El-Bialy T, PI, Paul Major and Hasan Uludag (Co-PIs).
- 2016-2017 Retrospective study of tooth root resorption after treatment by Invisalign and regular orthodontic fixed appliance. 2016 North America Align technology University research award. El-Bialy T, PI. 25,000 USD (CAD33,250).
- 2016-2017 The effect of low intensity pulsed ultrasound on the temporomandibular joint in rheumatoid arthritis in growing mice. Fund for Dentistry, UA, Department of Dentistry. Jacqueline Crossman, PI (My PhD student), El-Bialy T and Patrick Flood (Co-PIs). CAD 4300.
- 2015-2017 Study the effect pf therapeutic ultrasound on TMJ juvenile arthritis. Women and Children's Health Research Institute, Edmonton. Innovative grant award. CAD 50,000. El-Bialy T, PI, Patrick Flood (Co-PI).
- 2015-2016 Study the effect of therapeutic ultrasound on TMJ juvenile arthritis, A Pilot study. Fund for dentistry, UA, Department of Dentistry. Nadia Alzaheri (My Post Doctoral fellow) PI, Tarek El-Bialy Co-PI. CAD 4,500.
- 2015-2016 The Effect of ultrasound on extrusion tooth movement with Invisalign aligners. MITACS, Accelerate program, Industry supported clinical trial (Sponsored by SmileSonica Company, a spin- off company of the University of Alberta). CAD 15,000. El-Bialy (PI), Harmanpreet Kaur, Co-PI.
<http://www.mitacs.ca/accelerate/apply-now/interns-getting-started>
- 2012-2014 The Effect of ultrasound on tooth movement. Industry supported clinical trial (Sponsored by SmileSonica Inc., a spin- off company of the University of Alberta). CAD 43,875. El-Bialy (PI)
- 2012-2012 Public Health Agency of Canada: Diabetes, Oral Health, and Nutrition: Interrelationships and Interventions. CAD 10,080. El-Bialy (PI)
- 2012-2012 Public Health Agency of Canada: The relationship between inflammation and the complications of type 2 diabetes. CAD 23,760.00. El-Bialy (PI)
- 2012-2013 Optimization of therapeutic ultrasound for mandibular growth enhancement in rabbits. Fund for dentistry, UA, Department of Dentsitry. CAD 4,500. (My graduate student [Yasamin Hadaegh] is the PI).
- 2011-2011 NSERC Research Tools and Instruments: A Small Animal Imager for Drug Delivery and Tissue Engineering Research. (CAD 87,000.00) (Hasan Uludag PI; Lavasanifar, Afsane; Tian Tang; El-Bialy, Tarek; Larry Unsworth; Yaman Boluk [CO-Is].

- 2010-2015: Qatar National Research Fund (QNRF) [Qatar]: Using Pluripotent gingival cells and ultrasound for dental/periodontal tissue engineering. (USD **1,042,545.00**) (El-Bialy, T. PI) (Mamdouh Farid and Khaled Abdel Ghaffar Co-PIs).
- 2010-2011: The effect of infrared on mandibular growth in rats. University Hospital Foundation. CAD 25,000.00, (El-Bialy, T. PI) (Nadr Jomha co-I).
- 2009-2011: Treatment of obstructive sleep apnea by gene therapy and ultrasound. Women and Children's Health Research Institute, Edmonton. (CAD 29,978.00) (El-Bialy, T. PI) (Hasan Uludag and Ayman El-Kadi Co-Is)
- 2009-2011: Study the mechanical properties of ultrasound-assisted tissue engineered mandibular condyles. Advanced Cranio-Maxillofacial Forum (ACMF) Sponsored by Stryker, Germany: (El-Bialy, T. PI) (Reda Elgazzar Co-I). CAD 30,591.00
- 2009-2010: Effect of non-viral vector loaded basic fibroblast growth Factor (bFGF) gene therapy and therapeutic ultrasound on mandibular growth modification. Fund for Dentistry (University of Alberta): (El-Bialy PI). CAD 5,000.00
- 2008-2009 Royal Embassy of Saudi Arabia. Study the effect of ultrasound and basic fibroblast growth factor on mandibular growth. (For Jamal Alqahtani [postdoctoral fellow in orthodontics]) El-Bialy, T, PI). CAD 20,000.00
- 2008-2010: Women and Children's Health Research Institute, Edmonton. Effects of ultrasound and local growth hormone injections on lower jaw growth in rats. (El-Bialy, T. PI) (Ayman El-Kadi Co-I). CAD 34,478
- 2008-2009 Fund for Dentistry, University of Alberta, Department of Dentistry. Effect of infrared radiation on mandibular growth in Class II malocclusion. (Neel Kaipature PI [my previous volunteer student]). CAD 3,000.00.
- 2008-2009 Royal Embassy of Saudi Arabia. Study craniofacial morphology in children with chronic renal failure. (For Yousef Althomali [postdoctoral fellow in orthodontics]) El-Bialy, T, PI). CAD 20,000.00.
- 2007 Alberta Heritage Foundation for Medical Research (AHFMR) Major Equipment Award Competitions, CAD 90,000.00 (Uludag H. PI) (Co-Is [El-Bialy, T., Lavasanifar, and Samuel, J]).
- 2007-2009: Canadian Institutes of Health Research (CIHR): Carbon-nanotube Device for DNA Sequencing, (Jie Chen PI) (Co-Is [El-Bialy, T; Pilarski, L., and Tsui, Y.]). CAD 74,850.00 per year for two years

- 2007-2008: Fund for Dentistry, University of Alberta, Department of Dentistry.
Optimizing rat bone marrow stem cell differentiation by ultrasound into nerve cells for dental pulp tissue engineering (Ashraf Abd-Elmeguid PI [my previous student]). CAD 4,760.00 (Project Grant # 2007-02)
- 2007-2008: Fund for Dentistry, University of Alberta, Department of Dentistry.
Stimulation of human mesenchymal stem cell and human umbilical cord privascular cell expansion and differentiation by ultrasound for craniofacial tissue engineering Dr. Taghreed Aldosary [My MSc graduated student]– El-Bialy, T., PI) CAD 4,760.00 (Project Grant # 2007-01)
- 2007-2008: Fund for Dentistry, University of Alberta, Department of Dentistry.
The effect of LIPUS (Low Intensity Pulsed Ultrasound) on odontoblasts *in-vitro*. (Dr. Saleh Al-Daghreer [PhD in Orthodontics student] – El-Bialy, T. PI). CAD 2,926.00 (Project Grant # 2007-03)
- 2007-2008: Fund for Dentistry, University of Alberta, Department of Dentistry.
The effect of EMD (Emdogain) and ultrasound on the proliferation and differentiation of human gingival fibroblasts for tooth fracture healing. (Nesrine Mostafa –PI [My graduated Ms Student]) CAD 3,860.00 (Project Grant # 2007-08).
- 2006-2011 Royal Embassy of Saudi Arabia. Biological and mechanical evaluation of the effect of ultrasound on orthodontically induced root resorption repair. CAD 75,000.00. (For Saleh Aldaghreer [PhD in Orthodontics student] – El-Bialy, T. PI).
- 2006-2009 Royal Embassy of Saudi Arabia. Study the effect of ultrasound on stem cell expansion and differentiation for craniofacial tissue engineering. CAD 45,000.00. (For Taghreed Aldosary) El-Bialy, T, PI).
- 2006-2007: Natural Sciences and Engineering Research Council of Canada (NSERC): Idea to Innovation (I2I) program "Intraoral wireless Device for Dental tissue Formation and Tooth-Root Healing". CAD 124,975.00 (Ying Tsui PI) (Co-Is [El-Bialy, T. and Chin, J.]).
- 2006-2007: Alberta Heritage Foundation for Medical Research (AHFMR): Tooth borne ultrasound device, CAD 35,000.00 per year (EL-Bialy, T. PI).
- 2006-2007: University of Alberta, University Hospital Foundation: Ultrasound assisted engineering craniofacial tissues, CAD 22,500.00 per year (El-Bialy, T. PI, Walied Moussa Co-I).
- 2006-2007: Fund for Dentistry, Faculty of Medicine and Dentistry, UA: Stimulation of stem cell expansion by ultrasound for craniofacial tissue engineering,

CAD \$3,499.00 per year. (El-Bialy, T. PI).

- 2005-2009: University of Alberta, Startup Fund, CAD 60,000.00. (El-Bialy, T. PI)
- 2004-2005: King Abdul Aziz University, Research Council Award, Saudi Arabia. Growth Modification of the mandible using ultrasound in Monkeys. SR 93,000 per year. (El-Bialy, T. PI).
- 2002-2003: Campus Research Board, University of Illinois at Chicago, USA. Development of new paradigm in monitoring bone fracture and health-2. USD 45,000. (Thomas J. Royston, PI, El-Bialy, T Co-I).
- 2001-2002: Campus Research Board, University of Illinois at Chicago, USA. Development of new paradigm in monitoring bone fracture and health-1. USD 50,000. (Thomas J. Royston, PI, El-Bialy, T Co-I).
- 1999-2001: American Association of Orthodontic Foundation, USA. Biomedical Research Award, "Outcome of mandibular distraction in adult orthodontic patients" USD 14,000. (EL-Bialy, PI, Evans, C.A Co-PI).
- 1999-2000: Odontographic Society of Chicago, research prize, USA. Effect of ultrasound in promoting bone healing after mandibular osteodistracted in Rabbits. USD 1,000 per year. (EL-Bialy, PI, Evans, C.A Co-I).

Research grants under review

1. The effect of Low-Intensity Pulsed Ultrasound therapy on arthritic lower jaw (Temporomandibular) joint (TMJ) submitted to the Geoffrey and Robyn Sperber Craniofacial Biology Research Fund. El-Bialy T (PI). Requested (30,000 CAD).
2. Effect of vaping on periodontal health during orthodontic tooth movement in teenagers. Monica Gibson (PI), Tarek El-Bialy and Khaled Altabtbaei Co-PIs). Requested (100,000 CAD).

C) PUBLICATIONS: (Trainees names are in bold)

I: Original Articles:

1. **Diar-Bakirly, S.** and EL-Bialy T. Human Gingival Fibroblasts: Isolation, Characterization, And Evaluation of CD146 Expression. Saudi Journal of Biological Sciences. (In press)
2. **Crossman, J.,** Lai, H. Kulka, M., Jomha, N., Flood, P. El-Bialy, T. Collagen-Induced TMJ Arthritis Juvenile Rat Animal Model. Tissue Engineering, Part C's

Special Issue on Drug and Disease Testing Model Systems.(In press). Published Online:4 Jan 2021<https://doi.org/10.1089/ten.TEC.2020.0294>

3. **Horani, S**, El-Bialy, T, Barmak, A. B., Rossouw, P. E., Michelogiannakis, D. Evaluation of the Change in Airway Dimensions Following Non-Extraction Clear Aligner Therapy in Adult Patients With Mild to Moderate Crowding. (The Journal of Contemporary Dental Practice) (In press).
4. El-Bialy, T.: The effect of high frequency vibration on tooth movement and alveolar bone in non-growing skeletal Class II high angle orthodontic patients: Case series. Dent. J. 2020, 8, 110; doi:10.3390/dj8040110.
5. **Feres, MFN., Eissa, O.**, Roscoe, MG, EL-Bialy, T. Comparison of the condyle sagittal position of Class I and Class II, division 2 orthodontic patients. Cont. Dent Practice. (In press)
6. El-Bialy, T., Molina, H.H., Aizenbud, Y., **Qayyum, W.**, Ali, S., and Aizenbud, D.: Effect of Intraligamentary Injection of Osteogenically Induced Gingival Fibroblasts on Cementum Thickness in Beagle dogs. Adv Exp Med Biol 2020 Jul 14. Epub 2020 Jul 14. https://doi.org/10.1007/5584_2020_551. PMID: 28197400
7. EL-Bialy T. Application of photobiomodulation and clear aligners with mandibular advancement in an adult with skeletal Class II relationship. Journal of clinical orthodontics (In press).
8. **Alobeid, A**, Korkis, R, Popat, H, and El-Bialy, T. Closure of a unilateral maxillary central incisor space using palatal mini-implants. Journal of clinical orthodontics (In press).
9. Alshihah, N., Alhadlaq, A, El-Bialy, T, Aldahmash, A., Bello, I. The effect of low intensity pulsed ultrasound on dentoalveolar structures during orthodontic force application in diabetic ex-vivo model Arch. Oral Biol. (In press)
10. El-Bialy T. The Use of High Frequency Vibration and Clear Aligners in Management of an Adult Patient with Class III Skeletal Malocclusion with Open Bite and Severe Bimaxillary Protrusion: Case Report. Dent J (Basel). 2020;8(3):E75. Published 2020 Jul 14. doi:10.3390/dj8030075
11. **Kaur, H** and El-Bialy T. Shortening of overall orthodontic treatment duration with Low-Intensity Pulsed Ultrasound (LIPUS). J. Clin. Med. 2020, 9, 1303
12. El-Bialy, T, **Farouk, K**, Carlyle, TD, Wiltshire, W, Drummond, R, Dumore, T, Knowlton, K and Tompson, B. Effect of low intensity pulsed ultrasound on tooth movement: a prospective multi-center randomized controlled trial. J. Clin. Med. 2020, 9(3), 804; <https://doi.org/10.3390/jcm9030804>.
13. **Huerta, R.R.**; Silva, E.K.; El-Bialy, T and Saldaña, M. D. A. Clove essential oil emulsion-filled cellulose nanofiber hydrogel produced by high-intensity ultrasound technology for tissue engineering applications Ultrasonics Sonochemistry. 2019 Oct 28:104845. doi: 10.1016/
14. **Huerta, R.R.**; Silva, E.K.; Ekaette, I.; El-Bialy, T and Saldaña, M. D. A. High-intensity ultrasound-assisted formation of cellulose nanofiber scaffold with low and high lignin content and their cytocompatibility with gingival fibroblast cells. Ultrason Sonochem. 2019 Aug 28:104759. doi: 10.1016/j.ultsonch.2019.104759.
15. Shipley, T, **Farouk, K**, Tarek El-Bialy: Effect of high frequency vibration on orthodontic tooth movement and bone density. J Orthod Sci. 2019 Aug 8;8:15.

16. **Robertson, L.J., Lee, D., Eimar, H.,** and El-Bialy, T. Treatment of a Challenging Class III Malocclusion Case using Invisalign clear aligners and micro-osteoperforation: A Case Report. *Journal of Aligner Orthodontics* 2019;3(2):1-13.
17. El-Bialy T. Rethinking bioprogressive technique for Class II correction with clear aligners. *Journal of Aligner Orthodontics*. 2019;(2):119-127.
18. **Crossman, J., Alzaheri, N.,** Abdallah, M-N, Tamimi, F., Flood, P., Alhadainy, H., and El-Bialy, T. Low Intensity Pulsed Ultrasound Increases Mandibular Height and Col-II and VEGF Expression in Arthritic Mice. *Arch. Oral Biol*. 2019 Aug; (104)112-118
19. El-Bialy T, **Alobeid A,** Dirk C, Jäger A, Keilig L, Bourauel C. Comparison of force loss due to friction of different wire sizes and materials in conventional and new self-ligating orthodontic brackets during simulated canine retraction. *J Orofac Orthop*. 2019 Mar;80(2):68-78.
20. **Kaur, H,** Siraki, AG, Sharma, M., Uludag, H, Dederich, H, Flood, P, and El-Bialy T. Reactive Oxygen Species (ROS) mediate Therapeutic Ultrasound induced Mitogen Activated Protein Kinases activation in C28/I2 Chondrocytes. *Ultrasound Med Biol*. 2018 Oct;44(10):2105-2114.
21. **Farouk K,** Shipley T, El-Bialy T. Effect of the application of high-frequency mechanical vibration on tooth length concurrent with orthodontic treatment using clear aligners: A retrospective study. *J Orthodont Sci* 2018, Nov. 7 (1), 1-5.
22. **Eissa, O;** ElShennawy, M; Gaballah, S; ElMeehy, G; and El-Bialy, T. Treatment of Class III malocclusion using miniscrew-anchored inverted forsus FRD: a controlled clinical trial. *Angle Orthod. The Angle orthodontist*, 2018, Nov. 88(6), pp. 692-701. doi: 10.2319/110717-760.1.
23. **Alobeid, A.,** El-Bialy, T, Reimann, S., L. Keilig, Dirk, C., Jäger, A., and Bourauel, C. Comparison of the efficacy of tooth alignment among lingual and labial brackets: An In-vitro study. *Eur J Orthod*, 2018, Nov.40(6), Pages 660–665.
24. **Eissa, O,** Carlyle, O, and El-Bialy, T. Evaluation of root length following treatment with clear aligners and two different fixed orthodontic appliances. A pilot study. *J Orthod Sci*. 2018 Jun 6;7:11.
25. **Horiuchi, S;** Yumoto, H.; Kimura, T.; Sato, M.; Mitsui, S.N.; Hiasa, M.; Nishikawag, E.; El-Bialy, T.; Tanaka, E. Effect of pulsed ultrasound toothbrush on *Streptococcus mutans* biofilm removal. *Am J Dent*. 2018 Apr;31(2):67-70.
26. El-Bialy, T. Genetic markers of nasolabial morphology. *Arch Oral Biol*. 2018 Mar;87:52-53.
27. **Feres, M,** Rozolen, B, Alhadlaq, A, Alkhadra, A, and El-Bialy, T. Comparative tomographic study of the maxillary central incisor collum angle between Class I, Class II, division 1 and 2 patients. *J Orthod Sci*. 2018 Feb 15;7:6.
28. **Eissa, O;** ElShennawy, M; Gaballah, S; ElMeehy, G; and El-Bialy, T. Treatment outcomes of Class II malocclusion cases treated with miniscrews-anchored forsus fatigue resistant device: A randomized controlled trial. *Angle Orthod*. 2017 Nov;87(6):824-833.
29. **Kaur, H,** Siraki, AG, Uludag, H, Dederich, H, Flood, P, and El-Bialy T. Role of reactive oxygen species during low intensity pulsed ultrasound application in MC-3T3 E1 pre-osteoblast cell culture. *Ultrasound Med Biol*. 2017 Nov;43(11):2699-2712.
30. **Alhazmi, K.S.A.,** EL-Bialy, T., Afify, A.R., Merdad, L.A and Hassan A.H. Ultrasound enhances dentoalveolar remodeling in an ex vivo orthodontic ovariectomized-induced

- osteoporotic model. *Ultrasound Med Biol.* 2017 Sep;43(9):1963-1974.
31. **Lee, D.;** Heo, G.; El-Bialy, T.; Carey, J.P.; Major P.W.; Romanyk, D.L. Initial forces experienced by the anterior and posterior teeth during dental-anchored or skeletal-anchored en-masse retraction in vitro. *The Angle Orthod.* 2017, Jul;87(4):549-555.
 32. **Alobeid, A.,** Cornelius Dirk, C., Reimann, S., El-Bialy, T, Jäger, A., and Bourauel, C. In-Vitro-Study to Compare the Mechanical Properties of Different Esthetic and Conventional Orthodontic Wires in Bending Tests. *Journal of Orofacial Orthopedics/ Fortschritte der Kieferorthopädie.* 2017 May;78(3):241-252.
 33. **Alobeid A,** El-Bialy T, Khawatmi S, Dirk C, Jäger A, Bourauel C.T. Comparison of the force levels among labial and lingual self-ligating and conventional brackets in simulated misaligned teeth. *Eur J Orthod* (2017) Jan. 39 (4): 419-425.
 34. **Kaur, H,** Uludag, H, Dederich, H, and El-Bialy T. Effect of Increasing Low-Intensity Pulsed Ultrasound and a Functional Appliance on the Mandibular Condyle in Growing Rats. *Ultrasound in Medicine Journal* 2017 Jan;36(1):109-120.
 35. **Crossman, J.,** Hassan, A.H., Saleem, A., Felemban, N., Aldaghreer, S., Fawzi,E., Farid, M., Abdel-Ghaffar, K., Gargoum, A., and El-Bialy, T. Effect of gingival fibroblasts and ultrasound on dogs' root resorption during orthodontic treatment. *J. Orthodo.*2016 Science. Jan-Mar;6(1):28-35.
 36. **AlSubaie, M.,** Talic, N., Khawatmi, S., Alobeid. A., Bourauel, C., El- Bialy, T. Comparative study of force loss due to friction among two different ceramic brackets during sliding tooth movement. *Journal of Orofacial Orthopedics/ Fortschritte der Kieferorthopädie.* 2016 Sep;77(5):334-40).
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III: Invited review articles:

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IV: Books

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V: Book Chapters:

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2. El-Bialy, T., Kusnoto, B. Chapter 18. The Use of Temporary Anchorage Devices with Wilson Distalizing Arch. In: Temporary Anchorage Devices in Clinical Orthodontics, Ed. Park JH. Wiley, Hoboken, NJ, Feb. 2020. pp. 161-167.
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VI: Manuscripts under review:

1. Hadaegh, Y; Uludag, H; Dederich, D. and El-Bialy, T. H. Effect of Low Intensity Pulsed Ultrasound on the mandible in Young Adult Rats: Morphometric Study. (Under review by *Annals of Biomedical Engineering*).
2. Bahammam, M., and El-Bialy, T. Effect of Low Intensity Pulsed Ultrasound (LIPUS) on Alveolar Bone during Maxillary Expansion using Clear Aligners (Under review JCM).
3. Al-Dbousha, R.; Rossib, A.; El-Bialy, T. Volumetric evaluation of root resorption in maxillary incisors using cone beam computed tomography following orthodontic clear aligner therapy with low intensity pulsed ultrasound: A retrospective study. (Under review by *Angle Orthodontists*).
4. Al-Dboush, R., Naseri Esfahani, A and El-Bialy T. Retrospective study/Efficiency of different tooth movement accelerating devices on treatment duration during clear aligner therapy. (In preparation for submission to *Angle Orthodontists*).
5. El-Bialy, T and Kaur, H.: Application of low-intensity pulsed ultrasound (LIPUS) and clear aligners with mandibular advancement in adults with skeletal Class II relationship. (In preparation for submission to *J. Clin. Med.*)

ABSTRACTS/CONFERENCE PAPERS:

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2. Kaur, H and El-Bialy, T. Reduction of overall orthodontic treatment duration with low-intensity pulsed ultrasound. IADR/AADR/CADR General Session, Washington, D.C., USA, March 20, 2020. Abstract ID: 3320210. (Accepted but IADR conference was cancelled due to COVID-19 Pandemic)
3. Feres MFN, Eissa O, El-Bialy T. Comparison of the Condyle Sagittal Position of Class I and Class II, Division 2 Orthodontic Patients. IADR/AADR/CADR General Session, Washington, D.C., USA, March 20, 2020. (Accepted but IADR conference was cancelled due to COVID-19 Pandemic)
4. Youssef, A.; El-Bialy, T.; and Bourauel, C. Force loss due to friction in new orthodontic bracket systems. IADR/AADR/CADR General Session, Washington, D.C., USA, March 2020. Abstract ID: 3316020. (Accepted but IADR conference was cancelled due to COVID-19 Pandemic)
5. Basudan, A, Hassan, A., Zawawi, K, Al Saggaf, D and El-Bialy T. Three-Dimensional Evaluation of Clear Aligner Transverse Treatment Outcome. IADR/AADR/CADR General Session, Washington, D.C., USA, March 21, 2020. Abstract ID#: 3542. (Accepted but IADR conference was cancelled due to COVID-19 Pandemic)
6. Kaur, H., Saleem, A., Felemban, N. and El-Bialy T. Effect of Ultrasound Gingival and Fibroblasts on Periodontal Defect Repair. IADR Vancouver, Canada, June 22, 2019 (ID 3340). (Accepted but IADR conference was cancelled due to COVID-19 Pandemic)
7. Bahammam, MA, El-Bialy T. Effect of arch expansion using clear aligners on alveolar bone. IADR/AADR/CADR General Session, Washington, D.C., USA, March 20, 2020. Abstract ID: 332135. (Accepted but IADR conference was cancelled due to COVID-19 Pandemic)
8. Eissa, O., Flores-Mir, C., Saltaji, H. and El-Bialy, T. Treatment Effects of Miniscrew anchored Forsus : A Meta-analysis of Randomized Clinical Trials. IADR, Vancouver, Canada, June 22, 2019 (ID 3853).
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11. Diar-Bakirly, S., and El-Bialy, T. Isolation And Characterization Of Human Gingival Mesenchymal Stem Cells. IADR, Vancouver, Canada, June 21, 2019 (ID 8231).
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INVITED PRESENTATIONS/KEYNOTE SPEAKER.

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| 2020 | Invisalign Ortho Summit, Winner Invisalign teen case, November 18-21, 2020 (Virtual meeting) |
| 2020 | Success Keys to treat deep bite patient. ICA Ortho Services Pte Ltd (3250 - Singapore) Via Webinar, July 8 th , 22 nd , 2020 |

- 2020 Acceleration of tooth movement in orthodontics, what works and what does not work. Egyptian Orthodontic Society Meeting Via Webinar, June 9th, 2020.
- 2020 Applications of Dual Top TADs in orthodontics. JedMed Health Center & Alrazi Medical center/RMO, Via Webinar, June 9th, 2020
- 2020 Biomechanics of complex cases using Invisalign Clear Aligners. Glasgow Orthodontic Academy, Via Webinar, May 14, 2020
- 2020 The use of therapeutic ultrasound in Orthodontics. Alazhar University, Egypt, Via Webinar presentation, April 26, 2020.
- 2020 Biomechanics of treatment difficult orthodontic-Prosthodontist-periodontic cases with Invisalign,. Alfarabi Faculty of Dentistry, Saudi Arabia Via Webinar, April 19-2020.
- 2020 Advanced Aligner Cases using High Frequency Vibration. Via Webinar, Propel Orthodontics. March 26, 2020.
- 2020 Application of Orthodontics Biomechanics in Treatment of Complex orthodontic cases using Clear aligners. Tanta University, Egypt, January 25, 2020.
- 2020 New technology in orthodontics. Good bye for wires and headgears. Alahram university, Cairo, Egypt January 24, 2020.
- 2019 Taking Invisalign beyond the possible for just plastic aligners Tanta University, December 29-2019.
- 2019 Learn techniques to build clinical confidence with Invisalign and smart growing your practice today. Midwest Orthodontics, ELCL, DSO, Addison IL, Dec.-14, 2019
- 2019 Photobiomodulation – Beyond the Limits of Traditional OrthodonticsI. ADR Vancouver, Canada. (Presentation ID 0474). Symposium #96. Orthodontics - Basic Science Behind Mechanotherapy.
- 2019 Clear aligners, the possible and impossible: Is it the plastic or the orthodontist? The Arab Orthodontic Society Meeting, Jeddah, Saudi Arabia. February 23rd 2019
- 2019 Widen the Orthodontic Horizon; Advanced Acceleration by Photobiomodulation; Reduced Orthodontic Treatment Time by Up to 50% with Light Therapy. Association of Orthodontists Singapore Congress.

February 21st 2019.

- 2019 Accelerated orthodontics, facts and fiction. Charite University, Berlin, Germany, February 15, 2019
- 2018 Acceleration planning with complex aligner cases and mandibular advancement in adults. 5th German Scientific Conference for Aligner Orthodontics 2018 of the DGAO in Cologne, Germany, November 23, 2018.
- 2018 How to treat these cases by Invisalign clear aligners. Invisalign ortho summit, LV, Nevada, November 17, 2018.
- 2018 Protocols to treat complex orthodontic cases using clear aligners. Saudi Orthodontic Society meeting, Riyadh, September 30 2018,
- 2018 Increased clinical results with Orthodontic Ultrasound Treatment. Round Table presentation, Canadian Association of Orthodontists meeting, Vancouver, BC. Canada, September 2018.
- 2018 From Basic Science to Clinical Trial and Implementation of Therapeutic Ultrasound in Orthodontics. International Association for dental Research/Pan European Research (IADR/PER) session, July 25, 2018. ID: 0064, Jerusalem, Israel
- 2018 Weekly aligner changes using Invisalign SmartTrack™ Aligners. Asia Pacific Invisalign (APAC) Summit, Singapore, May-June 2018.
- 2018 Treating Teen with Invisalign. SmartTrack® material mad it possible to treat difficult cases with one week aligner change. Invisalign Spanish Forum. TEEN COUNTRY FORUM. MADRID / 25th May
- 2018 Dual effect of low intensity pulsed ultrasound in orthodontics and its booster efficacy with Invisalign treatment. Rochester University, NY, USA. May 17-18.
- 2018 Phase I, Teen Growth, Challenging Cases, One-Week Wear, and More. Las Vegas Invisalign study club. April 26, 2018
- 2018 The promise of low intensity pulsed ultrasound to accelerate to fracture healing and beyond. Connecting through Research seminar. Women and Children Health Research Institute. University of Alberta. March 26, 2018.
- 2017 Biomechanics of treatment of difficult orthodontic cases using Smart Track Invisalign aligners. University of Illinois at Chicago, December 9th,

- 2017.
- 2017 Indonesian Orthodontic Society Meeting, Medan, Indonesia. New technologies to enhance tooth movement and to minimize side effects in orthodontics, October 23-2017.
 - 2017 Universiti Teknologi Mara (UiTM). Interceptive Orthodontics using Wilson 3D appliances. UITM, Malaysia, October 24th, 2017.
 - 2017 Israeli Orthodontic Society meeting. Treatment of complex cases using Invisalign SmartTrack aligners. Diagnosis and biomechanics. November, 2017
 - 2017 San Diego and Orange County s\Invisalign study clubs. Biomechanics of Invisalign SmartTrack material in treatment of difficult orthodontic cases. August 24-25, 2017.
 - 2017 Montréal Invisalign study Club: Diagnosis and treatment mechanics of using Invisalign SmartTrack aligners in treatment of deep bite, open bite, class II and class III cases. August 10-2017.
 - 2017 93rd Congress of the European Orthodontic Society Congress, Montreux, Switzerland. June 7, 2017. Efficacy of the one week aligners' change in the treatment of difficult and complex cases: Biomechanics and case management. Keynote Speaker.
 - 2017 Los Angeles Invisalign study club, August 8, 9: Expanding your aligner usage into all case types. "Phase I, Teen Growth, Challenging Cases, and more"
 - 2017 Invisalign Expo, Banff, March 3rd, 2017. (what clear aligners CAN achieve)
 - 2017 Invisalign and the Adolescent/Teen patients. Northern California Invisalign Symposium, Lafayette, CA, February 9-10.
 - 2017 New Protocols for Treatment of difficult cases with clear aligners. (Keynote Speaker), Invisalign Study Club, Sane Jose, Costa Rica, January 25-28, 2017.
 - 2016 Treatment of complex orthodontic cases using one week change of Invisalign smart track aligners. (Keynote Speaker), Invisalign Ortho Summit, Las Vegas, USA, November 10th, 2016.
 - 2016 Get up to Speed with Clear Aligner Therapy (Advanced workshop), Sydney, Australia, December 11, 2016.

- 2016 Therapeutic ultrasound in Orthodontics. In Symposium: Cellular and Molecular Biology Behind Orthodontic Tooth Movement. IADR/PER, Jerusalem, Israel. September 20, 2016.
- 2016 Treatment Class II with Clear Aligners: Molar Distalization or Bite Jump? Round table presentation, The Canadian Association of Orthodontists' meeting, Charlottetown, September 16, 2016.
- 2016 Acceleration of tooth movement and prevention of root resorption by Ultrasound (Keynote Speaker), The 75th Annual Meeting of the Japanese Orthodontic Society to be held in Tokushima, Japan, November 8, 2016
- 2015 Early treatment, treatment of difficult cases by Invisalign and repair of orthodontically induced tooth root resorption. Orthodontic and Craniofacial Department Deputy Director School of Graduate Dentistry Rambam Health Care Campus Technion, Faculty of Medicine Haifa, Israel, November 12th, 2015.
- 2015 Early treatment, treatment of difficult cases by Invisalign and repair of orthodontically induced tooth root resorption straight wire low friction technique. Arab Orthodontic Society meeting, Jericho, West Bank, Palestine. November 13th, 2015.
- 2015 Contemporary Bioprogressive technique. University of San Marcos, Lima, Peru, August 3-6, 2015
- 2015 Simplified early orthodontic treatment using Wilson 3-D appliances. Colorado Summer Orthodontic meeting, Steamboat Springs. Colorado. July 17-19, 2015.
- 2015 Non –extraction versus extraction orthodontic treatment and effect on TMJ. The International College of Cranio-Mandibular Orthopedics (ICCMO), San Diego, CA. Oct. 2, 2015
- 2014 Diagnostic Tools in Treating Complex Cases for Short Treatment Time and Predictable Results with Clear Aligners Table # 5. Canadian Association of Orthodontists, Montreal, Sept.5, 2014.
- 2013 Three ways to produce torque with clear aligners. The Canadian Association of Orthodontists. Banff, September 20, 2013.
- 2013 Preventive and corrective orthodontics in early childhood. The 10th Makkah International Dental Conference. Saudi Arabia, April 2-4, 2013.
- 2013 Early orthodontic treatment: A systematic approach to diagnosis and treatment planning early orthodontic problems. (Post conference

- workshop). The 10th Makkah International Dental Conference. Saudi Arabia, April 2-4, 2013.
- 2012 The Use of Wilson 3-D in Phase I orthodontic treatment to facilitate Phase II orthodontics. Colegio de Ortodoncistas, del Estado de Jalisco, A.C. Guadalajara, Mexico, October 12.
- 2012 Cell and Tissue Engineering in Orthodontics. Colegio de Ortodoncistas, del Estado de Jalisco, A.C. Guadalajara, Mexico, October 12.
- 2012 Repair of Orthodontically induced root resorption by ultrasound. Colegio de Ortodoncistas, del Estado de Jalisco, A.C. Guadalajara, Mexico, October 12.
- 2012 Friction in Orthodontics, from lab to clinical applications. Facts and Myths? Colegio de Ortodoncistas, del Estado de Jalisco, A.C. Guadalajara, Mexico, October 12.
- 2012 Growth Modification Simplified. Round Table, Canadian Association of Orthodontists. September 6.
- 2012 Stem cell therapy for dentofacial regeneration and tissue engineering: Current approaches, challenges and future directions. Keynote Speaker. Emerging Cell Therapies, Cell Therapy-2012, Chicago, IL, October 1-3.
- 2012 Friction and self ligating brackets in Orthodontics. Facts and Myth Treatment of Challenging cases with Invisalign: How big is the envelope? Accelerated tooth movement. European University College, Dubai Healthcare City, UAE, July 15th, 2012.
- 2012 Orthodontically induced root resorption diagnosis, management and repair. European Orthodontic Society meeting, Santiago de Compostela, Spain, June, 21st.
- 2012 Friction and Self Ligating Brackets in Orthodontics. Facts and Myth. Association Mexicana De Orthodontica. March, 6th, San Luis Potosí, S.L.P., México.
- 2012 Treatment of difficult cases by Invisalign. Facts and clinical handling. Saudi Orthodontic Society Meeting, Jeddah, Saudi Arabia, Jan 31st.
- 2012 The use of Wilson 3D appliances to simplify Phase II orthodontic treatment. Saudi Orthodontic Society Meeting, Jeddah, Saudi Arabia, Jan 31st.

- 2011 Problem Solving in Orthodontics. Fondaco Education, Jakarta, Indonesia. September 30th.
- 2011 Self ligating bracket system: Claims vs. clinical experience. Round Table Program, the 63rd Annual Scientific, Session of the Canadian Association of Orthodontists; Halifax, NS, September, 22nd.
- 2011 Craniofacial regeneration by therapeutic ultrasound: current facts and future applications. Canadian Association of Physicists in St. John's, June 13-17th.
- 2011 Self ligating systems and what is the scientific evidence of their effectiveness. Arizona School of Dentistry & Oral health (ASDOH), Phoenix, USA (June 20th).
- 2011 Early orthodontic treatment in pre-adolescence. University of Dammam. College of Dentistry, 9th Annual Dental Symposium (Raising the Bar in Dentistry), Dammam, Saudi Arabia, May 4th-5th.
- 2011 What do we know about self-ligating bracket systems? A clinical perspective. Pacific Dental Conference, Vancouver, March 12th.
- 2011 Three dimensional analysis of treatment outcome using self-ligating system. Saudi Orthodontic Society Meeting, Riyadh, Saudi Arabia, January 18-19th.
- 2011 Self ligating systems: Claims versus clinical experience. Saudi Orthodontic Society Meeting, Riyadh, Saudi Arabia, January 18-19th.
- 2011 Efficacy of self-ligating bracket systems: A clinical perspective. Syrian Orthodontic Society, Hummus, Syria, January 21-22nd.
- 2010 Friction and clinical efficiency of self-ligating orthodontic bracket systems. Continuing Education course, University of Buffalo, NY. USA, December 17th.
- 2010 Craniofacial repair using therapeutic Ultrasound. Victoria and Dental District Society, Victoria, BC, Canada, November 18-19. (Invited plenary speaker).
- 2010 Friction and self-ligating bracket systems. Facts and Myth. Centro Latinoamericano De Estudios Orthodonticos. Mexico City, Mexico, October 8th.
- 2010 Can we re-grow teeth? Facts and future. Pacific Dental Conference. April 17th, Vancouver, Canada.

- 2010 Self Ligating Systems and the Scientific Evidence of their Effectiveness, OPAL Dental Education, Accredited by Saudi Commission for Health Specialties, Jeddah, Saudi Arabia, Jan 27-28th.
- 2009 Treatment of orthodontically induced root resorption by ultrasound" in the "Rising Stars" American Association of Orthodontists meeting, Boston, MA., USA.
- 2009 Distraction Osteogenesis: From Bench to Chair-side (Workshop with Hands-on). University of Manitoba, Winnipeg, Canada, March 30-31.
- 2009 Clinical and Molecular basis of Therapeutic Ultrasound Applications in Craniofacial Repair and Tissue Engineering. 35th Annual International Conference on Craniofacial Research (the "Presymposium"). Moyers Symposium, Ann Arbor, Michigan, February 27th.
- 2008 Treatment of root resorption and growth modification of the mandible by therapeutic ultrasound Fifth International Dental Collaboration of the Mekong River Region Congress, Hanoi, Vietnam. October 21-24th.
- 2008 Treatment of root resorption and growth modification of the mandible by therapeutic ultrasound. Dept. of Orthodontics University of Colorado Denver. May 13th.
- 2008 Low Intensity Pulsed Ultrasound (LIPUS) Uses in Dentofacial Growth, Repair and Tissue Engineering. International Dental Student Conference, February 2nd, Edmonton, Canada.
- 2008 Long term outcomes of mandibular distraction osteogenesis by intraoral tooth-borne distraction device. Saudi Orthodontic Society, Jeddah, January 24th.
- 2007 ROD-tooth borne distraction devices. 3rd Asian and Pacific conference on Craniofacial Distraction osteogenesis, Maldives (April 30th).
- 2007 Applications of Low Intensity Pulsed Ultrasound in Tissue engineering. Biomedical Engineering Department, University of Calgary, Calgary, Ab, Canada, November 5th.
- 2007 Therapeutic Ultrasound for Bone and Tooth repair: Edmonton Aging Symposium. Edmonton, AB, Canada, March, 30th.
- 2005 Applications of Therapeutic Ultrasound in Orthodontics and Dentofacial Orthopedics. Guest lecture, (Advances in Clinical Orthodontics session)

American Association of Orthodontics, San Francisco, California, USA, May 21st.

- 2004 Orthodontic and Surgical Considerations of Intraoral Distraction Osteogenesis (Contemporary Concepts and Principles). IADR Saudi Section, January, 2004, Cairo University, Cairo, Egypt, November 21st.
- 2004 Maxillary total and segmental distraction: Which way to go. First Arab Dental Forum. Sponsored and organized by Faculty of Dentistry, Tanta University, Tanta, Egypt, November, 20th.
- 2004 Basic Mechanics in Clinical Orthodontics, Cairo University, Cairo, Egypt, November, 22nd.
- 2004 Orthodontist-patient communication and its role in successful practice. 7th Makkah Dental Meeting, Makkah, Saudi Arabia, October 5th.
- 2004 Maxillary Anterior Segmental Advancement by Distraction Osteogenesis. 1st Conference of Recent Advances in Dentistry, Faculty of Dentistry, King Abdul Aziz University, Jeddah, Saudi Arabia (April 19th.
- 2001 Orthodontic and Surgical considerations of using tooth-borne distraction devices. 10th meeting of the Egyptian Dental Association, November, Cairo, Egypt.
- 2000 Quantitative calculations of temporomandibular joint reaction forces as a function of mandibular lengthening by distraction osteogenesis." The Twenty-Sixth Annual Pre-symposium Conference on Craniofacial Research, University of Michigan, Ann Arbor, Michigan, March 3rd.

PATENTS:

1. Ultrasound Stimulation Devices. El-Bialy Tarek, Jie Chen and Ying Tsui, Patent Number: US 8,079,966 B2, Date of Patent: Dec. 20, 2011. Institution, United States. This patent has been licensed to a spinoff company (SmileSonica) initiated by one of my students. This company has won a second place in Alberta Venture Prize competition between 140 companies.
The first intraoral ultrasound device for dentoalveolar regeneration is now distributed in European Union countries and Australia.
2. Novel Upper Expansion Appliance. (US Provisional Patent) El-Bialy, T. Patent Application Serial No. 61/364,309 (2012).
3. New technique to monitor bone fracture healing and bone health (Provisional patent), Patent Number: 60360465, 2002, T. Royston and **T. El-Bialy**, United States of America.

UNIVERSITY AND COMMUNITY SERVICES

University services and committees

2013-2021	General Faculties Council, Faculty of Medicine and Dentistry representative, University of Alberta.
2016-2019	Senator, University of Alberta Senate
2013-2019	Chair, University Appeal Board, University of Alberta.
2016-2019	Academic Appeal Committee (member)
2007- present:	Peer consultation committee, University Teaching Services/ Center for Teaching and Learning, University of Alberta
2010-2016	Medical Sciences Library Committee, University of Alberta.
2011-2013	Department Chair Search and Selection committee, University of Alberta (General Faculties Council representative) (School of Business, Faculty of Arts, and Faculty of Engineering).
2011-2012	University of Alberta Chancellor Search and Selection committee (General Faculties Council Representative).
2010-2012;	University of Alberta, General Faculties Council
2010-2012	Academic standards committee (ASC) and Department Chair Selection Committee Panel [two years' terms starting July 2010)
2007-2008:	Curriculum committee, graduate committee, Department of Dentistry, Faculty of Medicine and Dentistry, University of Alberta.
2007-2009:	Clinical committee, Department of Dentistry, Faculty of Medicine and Dentistry, University of Alberta.
2007-2009:	Faculty Search and Selection Committee (Oral and Maxillofacial Surgery) Department of Dentistry, Faculty of Medicine and Dentistry, University of Alberta.
2007	Steering Committee, Department of Dentistry, Faculty of Medicine and Dentistry, University of Alberta.

- 2007 Advisory Council, Department of Dentistry, Faculty of Medicine and Dentistry, University of Alberta.
- 2006-2007: Community of practice committee (Chaired by University of Alberta vice president for Information technology in education).
- 2002-2005 Committees and educational services at King Abdul Aziz University
 Faculty Accreditation committee
 Medical records committee.
 Curriculum development committee
 Saudi Board of Orthodontics (Director)
 Member and treasurer of the organizing committee of the 1st conference of Recent Advances in Dentistry, conducted by the Faculty of Dentistry, KAAU (April 19-22), 2004.
 Faculty newsletter committee

COMMUNITY SERVICE/VOLUNTEERING

- 2016-2022 Councilor of orthodontics (2016-2019) and Director of Orthodontics, Royal College of Dentists of Canada Board (2019-2022)
- 2018-2019 Past president, Alberta Society of Orthodontists.
- 2017-2018 President, Alberta Society of Orthodontists.
- 2016-2017 Vice president, Alberta Society of Orthodontists.
- 2015-2016 Secretary/Treasurer, Alberta Society of Orthodontists.
- 2011 Co-coach, under 12 years twin Brooks Community league soccer team.
- 2007- 2010 Twin Brooks Community league board of directors (member at large).
- 2007-2009 Edmonton Federation of Community Leagues (District K representative) [representing 10 community leagues in the southwest area of Edmonton.
- 2009 Elementary schools and community presentations about dental care awareness.
- 2008-2010 General dentistry awareness in different Middle Eastern religious communities in Edmonton (Egyptian Orthodox Coptic Church; Alrashid Mosque).

REVIEWER FOR ACADEMIC PORTFOLIOS, GRANT AND SCIENTIFIC JOURNALS

Review promotion portfolios for academic staff promotion/tenure

2006-present Reviewed 10 portfolios for academic professors for tenure and promotion to Associate professors in Canada and overseas.

Grants/conference abstract reviewed

2016 Reviewed grant for Health and Medical Research Fund, Hong Kong Research Council.
2012- 2016 Reviewed two establishment grants, University of Saskatchewan
2012- present Reviewer, Canadian Association for Dental Research) CADR Students award applications.
2012-present Reviewed CIHR grant for a UA applicant (Internal reviewer)
2011 Reviewer, Public Health Agency of Canada (PHAC).
2010 Reviewer, Canadian Foundation for Innovation (CFI) grant.
2008 NIH/NIDCR grant reviewer
2012 Reviewed twenty abstracts for the Alberta Biomedical Engineering Conference, Banff, October, 2012.

Editorial board

2019- Section Editor, The Journal OF clinical Dental Practice

Manuscript reviewed

2016-present Reviewer for Scientific report, Nature; AJODO; Angle orthodontists; EPS journal, Journal of health specialists, Journal of orthodontic science; AMBE; PLOS One; Ultrasonic; Ultrasound in Medicine and Biology; Archives of Oral biology; Orthodontics and Craniofacial Research; progress in Orthodontics.
2012- Present Associate Editor
Open Journal of Stomatology
Saudi Dental Journal
Orthodontics and Craniofacial Research
2012 Invited Guest Editor, Open Dentistry Journal. Special issue
2012 Invited to Editorial boards of the following journals
1. World Journal of Translational Medicine
2. Journal of Health Specialties (by Saudi Commission for Health Specialties and Department of Medical Education and Postgraduate Studies)
3. Open Journal of Stomatology
4. Modern Plastic Surgery Journal
5. Journal of Orthodontic Sciences.

2012	Reviewed 35 manuscripts for different Journals in orthodontics, Dentistry, Plastic surgery, Biomedical Engineering and Cell biology.
2009-2011	Reviewed three National and International academic faculty members for promotion to Associate Professor in Dentistry
2011	Associate Editor, Open Journal of Stomatology.
2011	Invited Editor, Saudi Dental Journal.
2004-present	Reviewer, Journal of Dentistry
2009	Invited Guest Editor, Special issue entitled "Can we regrow teeth? Current facts and future directions of Dental tissue repair. Current concepts and future directions." Bentham Science Publishers Ltd.
2009	Invited Editor of E-book series (books published exclusively online). Bentham Science Publishers Ltd.
2007- present	Reviewer, Angle Orthodontists Journal
2006-present	Reviewer, Journal of Head and face Medicine
2006	Reviewer, Arthritis and Rheumatism Journal
2004-present	Reviewer, Journal of Dental Research
2003	Reviewer, Saudi Medical Journal.
2002	Education Research Group, Award Assessor, International Association for Dental Research
1999- present:	Reviewer, American Journal of Orthodontics and Dentofacial Orthopedics

TEACHING PHILOSOPHY

My teaching philosophy is to facilitate the learning process of undergraduate, graduate, postgraduate and summer students. I acknowledge differences in the students' preferred learning styles and I believe that my role is to facilitate the learning process that would be the most efficient and suitable for every student. Even in undergraduate settings, I encourage discussion, prompt probing/challenging questions to the students, and strive to get the students more engaged and participating in the learning process as well as to create a positive and healthy learning environment. In addition, my experience with problem –based learning, or sometimes called discovery learning, makes it easy for me to get the students more engaged in the learning process by encouraging them to have an open discussion, to look for answers to address problems, and to encourage them to find potential solutions to clinical problems. Moreover, based on my basic science background, I encourage students to apply basic science knowledge to clinical situations in orthodontics. It is very important to me and to the future generations of dentists and researchers to focus on basic sciences as the foundation for the evidence-based patient care. In evaluating students' learning, I make all efforts to focus on the students' grasp of basic concepts and how they handle problems rather than memorizing course materials. With this method, I ensure that students apply the knowledge they learn in course to clinical situations that they will face in their future practices.

TEACHING AT UNIVERSITY OF ALBERTA COURSE TAUGHT

2020	DENT 740 (Orthodontic Seminars) Third year residents (Course Coordinator).
2020	DENT 741 (Graduate Orthodontic Clinics) Third year residents (Course Coordinator).
2019	DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]. Graduate orthodontic clinic
2018	DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]. Graduate orthodontic clinic DENT 540, 640, 740 Preclinical seminars
2017	DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]. Graduate orthodontic clinic DDS 565 (Undergraduate orthodontic lectures and clinics) DENT 540, 640, 740 Preclinical seminars
2016	DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]. Graduate orthodontic clinic DDS 565 (Undergraduate orthodontic lectures and clinics) DENT 540, 640, 740 Preclinical seminars
2015	DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]. Graduate orthodontic clinic DDS 565 (Undergraduate orthodontic lectures and clinics) DENT 540, 640, 740 Preclinical seminars
2014	DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]. Graduate orthodontic clinic DDS 565 (Undergraduate orthodontic lectures and clinics) DENT 540, 640, 740 Preclinical seminars
2013	DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]. Graduate orthodontic clinic DDS 565 (Undergraduate orthodontic lectures and clinics) DENT 540, 640, 740 Preclinical seminars

2012	Sabbatical leave
2011	<p>DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer].</p> <p>Graduate orthodontic clinic</p> <p>DDS 565 (Undergraduate orthodontic lectures and clinics)</p> <p>DENT 540, 640, 740 Preclinical seminars</p>
2010	<p>DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]</p> <p>Graduate orthodontic clinic</p> <p>DDS 565 (Undergraduate orthodontic lectures and clinics)</p> <p>DENT 540, 640, 740 Preclinical seminars</p> <p>DENT 531 (Advanced Biomechanics in Orthodontics) Graduate course [Course coordinator and sole lecturer]</p>
2009	<p>DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]</p> <p>Graduate orthodontic clinic</p> <p>DENT 540, 640, 740 Preclinical seminars</p> <p>DDS 565 (Undergraduate orthodontic lectures and clinics)</p> <p>DENT 531 (Advanced Biomechanics in Orthodontics) Graduate course [Course coordinator and sole lecturer]</p> <p>Discovery Learning [DL] (Problem based Learning) Course</p>
2008	<p>DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]</p> <p>Graduate orthodontic clinic</p> <p>DENT 540, 640, 740 Preclinical seminars</p> <p>DDS 565 (Undergraduate orthodontic lectures and clinics)</p> <p>Discovery Learning [DL] (Problem based Learning)</p>
2007	<p>DENT 530 (Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]</p> <p>Graduate orthodontic clinic</p> <p>DENT 540, 640, 740 Preclinical seminars</p> <p>DDS 565 (Undergraduate orthodontic lectures and clinics)</p> <p>Discovery Learning [DL] (Problem based Learning)</p> <p>BME 310 (Introduction to Biomedical Engineering).</p>
2006	<p>DENT 530 (Orthodontics Biomechanics and Techniques) Graduate course [Course coordinator and sole lecturer]</p> <p>Graduate orthodontic clinic</p> <p>DENT 540, 640, 740 Preclinical seminars</p> <p>DDS 565 (Undergraduate orthodontic lectures and clinics)</p>

DH 215 (Biomaterials for dental hygiene students)

TEACHING AT King Abdul Aziz University, Saudi Arabia

- 2005** Orthodontics biomechanics and techniques) Graduate course [Course coordinator and sole lecturer]
- 2005** Undergraduate orthodontic course director
- 2004** Orthodontics Biomechanics and techniques) Graduate course [Course coordinator and sole lecturer].
- 2004** Undergraduate course director.
- 2003** Orthodontics Biomechanics and techniques. Graduate course [Course coordinator and sole lecturer]

OTHER TEACHING EXPRIENCE

- 2016-2020** Invited to teach biomechanics and technique crash course at the University of Manitoba, Winnipeg, Manitoba, Canada. Appointed as nil Adjunct professor, University of Manitoba, Canada (Volunteer position)
- 2001** Orthodontics Biomechanics and techniques, Department of Orthodontics, Tanta University, Egypt
- 1999-2001** Teaching assistant, Undergraduate Orthodontics, Department of Orthodontics, University of Illinois at Chicago, USA.
- 1989-1997** Undergraduate Orthodontics: Department of Orthodontics, Tanta University, Egypt

MEDIA RELEASE

- 1- Guest interviewed at show at Hamilton College Radio, New York (September 2012) <http://www.radio4all.net/index.php/program/63443>
- 2- Featured in the USA Dental Tribune (June, 2007) (A Man of many qualifications)
- 3- CBC Nature of things, by David Suzuki (January 9-18th, 2009).
- 4- CBC report on intraoral ultrasound device invention, 2006

- 5- Media Analysis Report: (Canadian Universities in the Media: Summer 2006):
Ranked tenth overall Canada (10th on Canadian Universities media reports)

EXTRACURRICULAR ACTIVITY

Soccer, Fishing, Hunting