



Report of the Research Team

**Biomaterials in Dentistry and Dental Restoration and
Endodontics**

Standard form (DRAC)

Responsible: ROIG CAYON, Miguel

Number of pages containing: 14

Date: 18 of february of 2016

Information of the group of the research team

Acronym: 2014 SGR 981

Name: Biomaterials in Dentistry and Dental Restoration and Endodontics

Persons in charge: ROIG CAYON, Miguel

Discharge date: 01/01/2014

Date of low: 31/12/2016

Ojectives: Over the last 5 years this research group has published 36 articles in indexed JCR journals on Dentistry and Oral Medicine (20 in the first quartile). It has also published 3 articles in indexed journals in Pubmed and Scopus, and supervised 7 doctoral theses. There are currently members of the group on the Board or the Executive Committee of the Spanish Association of Endodontics, the Spanish Prosthesis Association and the European Society of Endodontology.

The group was chosen to organise the next biannual conference for the European Society of Endodontology (Barcelona 2015).

An invitation has been received for members of the group to give conferences and teach courses in scientific associations and universities in Kuwait, Lebanon, the US, Portugal, the United Kingdom, Peru, Venezuela and Columbia.

Totals table

Personal	
Professorat	8
Investigadors externs	0
Personal de suport a la recerca	0
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Publicacions i tesis	
<hr/>	
Articles en revista indexades	20
JCR-Science Edition	16
JCR-Social Sciences Edition	1
SCOPUS-SJR-SCImago Journal Rank	3
Altres articles en revista	3
Text en actes de congrés	1
Edició de llibre d'actes de congrés	0
Llibre	0
Capítol de llibre	0
Edició de catàleg d'exposició	0
Autoria de capítol de catàleg d'exposició	0
Altres documents científico-tècnics	0
Software	0
Treball acadèmic: tesis, PFC, ...	4
Manual-apunts	0
Altra producció documental	0
<hr/>	
Congressos, cursos i altres esdeveniments	
<hr/>	
Treballs presentats a congressos	3
Impartició de cursos i seminaris	0
Impartició de conferències	0
Col·laboració en exposició	0
Organització d'edició de congrés	0
Organització de curs o seminari	1
Organització d'edició de premi	0
Assistència a curs o seminari	6
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Projectes i propietat intel·lectual i industrial	
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Participació en projecte RD i competitiu	0
Participació en projecte RD i no competitiu	2
Participació en projectes d'innovació docent	0

Titularitat de propietat industrial intel·lectual	0
Comissions i societats	
Pertinença a comissió consultora o avaluadora	2
Pertinença a comitè d'edicions de congressos	0
Pertinença a tribunal o jurat d'edició de premi	0
Pertinença a tribunal o jurat de concurs	0
Pertinença a Societat científica	1
Col·laboració en publicacions i tesis	
Col·laboració en llibre	0
Col·laboració en revista	0
Col·laboració en mitjà de comunicació	0
Direcció, tutoria o tribunal de treball acadèmic	4
Reconeixements personals	
Premis i reconeixements	3
Publicació sobre l'obra	0
Concurs d'arquitectura	0
Obtenció d'ajut	0
Obtenció de beca	0
Altres mèrits	0
Estades i altres activitats	
Estades a centre RDi	3
Altres activitats	0
Gestió R+D+I	0
Activitats pròpies de les unitats	
Organització d'unitat d'edició de congrés	0
Organització d'unitat de curs o seminari	0
Organització d'unitat en exposició	0
Altres activitats d'unitat	0
Estada a la UPC de personal forà	0

Active personnel of the research team Biomaterials in Dentistry and Dental Restoration and Endodontics

Teacher

ABELLA SANS, Francesc	A. doctor	100%	Temps complet
BALDRICH PALLARÉS, Borja	J. faculty	100%	Temps complet
DURÁN-SINDREU TEROL, Fernando Salvador	Adjunt	100%	Temps complet
MAYORAL MOLINA, Juan Ricardo	Col·laborador	100%	Temps complet
PAULO RODRÍGUEZ, Berta	J. faculty	100%	Temps complet
RAMÍREZ SEBASTIÀ, Anaïs	Associat	100%	Temps complet
ROIG CAYON, Miguel	Agregat	100%	Temps complet
VALLÉS RODRÍGUEZ, Marta	A. doctor	100%	Temps complet

D. Publications

Papers in journals

- ABELLA SANS, F; ROIG CAYON, M; DURÁN-SINDREU TEROL, F. Combined endodontic therapy and intentional replantation for the treatment of palatogingival groove. *Journal of Endodontics*. Year: 2016. Volume: 42. Number: 2. Pp.: 324 ~ 328. Impact agency: JCR-Science Edition. Impact factor: 3.375. DOI:10.1016/j.joen.2015.10.009.
- ABELLA SANS, F. Comparative accuracy of the clearing technique, CBCT and micro-CT methods in studying mesial root canal configuration of mandibular first molars. *International Endodontic Journal*. Year: 2015. Impact agency: JCR-Science Edition. Impact factor: 2.971.
- ABELLA SANS, F; DURÁN-SINDREU TEROL, F; ROIG CAYON, M. Endodontic applications of cone beam computed tomography: case series and literature review. *Giornale Italiano di Endodonzia*. Year: 2015. Impact agency: SCOPUS-SJR-SCImago Journal Rank. Impact factor: 0.16.
- ABELLA SANS, F; TEIXIDÓ, L.; ROIG CAYON, M; DURÁN-SINDREU TEROL, F. Cone-beam Computed Tomography Analysis of the Root Canal Morphology of Maxillary First and Second Premolars in a Spanish Population.. *Journal of Endodontics*. Year: 2015. Pp.: in press. Impact agency: JCR-Science Edition. Impact factor: 2.788.
- ABELLA SANS, F; DURÁN-SINDREU TEROL, F; MERCADE, M; BUENO MARTINEZ, J; ROIG CAYON, M. “Evaluación del estado periapical de dientes tratados endónticamente mediante radiografías periapicales digitales y tomografía computarizada de haz cónico”. *Revista Española de Endodoncia*. Year: 2014.
- ABELLA SANS, F; ROIG CAYON, M. European Society of Endodontology position statement: the use of CBCT in endodontics.. *International Endodontic Journal*. Year: 2014. Volume: 47. Number: 6. Pp.: 502 ~ 504. Impact agency: JCR-Science Edition. Impact factor: 2.971.
- ABELLA SANS, F; DURÁN-SINDREU TEROL, F; Patel, S.; MERCADE, M; BUENO MARTINEZ, J; ROIG CAYON, M. An evaluation of the periapical status of teeth with necrotic pulps using periapical radiography and cone-beam computed tomography.. *International Endodontic Journal*. Year: 2014. Volume: 47. Number: 4. Pp.: 387 ~ 396. Impact agency: JCR-Science Edition. Impact factor: 2.971. Number of citations: 5. DOI:10.1111/iej.12159.
- ABELLA SANS, F; DE RIBOT, J.; Dória, G.; DURÁN-SINDREU TEROL, F; ROIG CAYON, M. Applications of piezoelectric surgery in endodontic surgery: a literature review. *Journal of Endodontics*. Year: 2014. Volume: 40. Pp.: 325 ~ 332. Impact agency: JCR-Science Edition. Impact factor: 3.375. Number of citations: 4. DOI:10.1016/j.joen.2013.11.014.
- ALI HUSSEIN, A.; OLIVIERI, J.; DURÁN-SINDREU TEROL, F; ABELLA SANS, F; ROIG CAYON, M; GARCÍA FONT, M. Influence of preoperative pain intensity on postoperative pain after root canal treatment: a prospective clinical study. *Journal of dentistry*. Year: 2016. Volume: 45. Pp.: 39 ~ 42. Impact agency: JCR-Science Edition. Impact factor: 2.749. Link to text: <http://www.sciencedirect.com/science/article/pii/S0300571215300762>. DOI:doi: 10.1016/j.jdent.2015.12.002.
- BAHILLO, J.; JANE, L.; Bortolotto, T.; Krejci, I.; ROIG CAYON, M. Full-mouth composite rehabilitation of a mixed erosion and attrition patient: A case report with v-shaped veneers and ultra-thin CAD/CAM composite overlays. *Quintessence Internacional*. Year: 2014. Volume: 45. Number: 9. Pp.: 749 ~ 756. Impact agency: JCR-Science Edition. Impact factor: 0.95. DOI:10.3290/j.qi.a32439.
- BAHILLO, J.; Bortolotto, T.; ROIG CAYON, M; KREJCI, I. Bulk filling of Class II cavities with a dual-cure composite: Effect of curing mode and enamel etching on marginal adaptation. *Journal of Clinical and Experimental Dentistry*. Year: 2014. Volume: 6. Number: 5. Pp.: 502 ~ 508. Impact agency: SCOPUS-SJR-SCImago Journal Rank. Impact factor: 0.166. DOI:10.4317/jced.51558.
- BASILIO MONNÉ, J; MAYORAL MOLINA, J. Colour stainability of indirect CAD-CAM processed composites vs. conventionally laboratory processed composites after immersion in staining solutions. *Journal of dentistry*. Year: 2014. Impact agency: JCR-Science Edition. Impact factor: 2.749.

Papers in journals

- CEPERUELO, D.; LOZANO, M.; DURÁN-SINDREU TEROL, F; MERCADE, M. Supernumerary fourth molar and dental pathologies in a Chalcolithic individual from the El Mirador Cave site (Sierra de Atapuerca, Burgos, Spain). *Homo-journal of comparative human biology*. Year: 2015. Volume: 66. Number: 1. Pp.: 15 ~ 26. Impact agency: JCR-Social Sciences Edition. Impact factor: 0.729. DOI:10.1016/j.jchb.2014.05.007.
- CEPERUELO, D.; LOZANO, M.; DURÁN-SINDREU TEROL, F; MERCADE, M. Root Canal Morphology of Chalcolithic and Early Bronze Age Human Populations of El Mirador Cave (Sierra de Atapuerca, Spain). *The anatomical record*. Year: 2014. Volume: 297. Pp.: 2342 ~ 2348. Impact agency: SCOPUS-SJR-SCImago Journal Rank. Impact factor: 1.581. DOI:10.1002/ar.22958.
- GARCÍA FONT, M; MORELLÓ, S.; OLIVIERI, J.; ABELLA SANS, F; ROIG CAYON, M; DURÁN-SINDREU TEROL, F. Conformación de conductos radiculares con sistemas recíprocos por alumnos de grado: estudio in vitro de la incidencia de fractura. *Endodoncia*. Year: 2016. Pp.: in press.
- MARFISI, K.; MERCADE, M; Plotino, G.; Clavel, T.; DURÁN-SINDREU TEROL, F; ROIG CAYON, M. Efficacy of Reciproc and Profile Instruments in the Removal of Gutta-Percha from Straight and Curved Root Canals ex Vivo. *Journal of Oral and Maxillofacial Research*. Year: 2015. Volume: 6. Number: 3. Pp.: 1 ~ 8. DOI:10.5037/jomr.2015.6301.
- MAYORAL MOLINA, J; AROCHA MA; Ardu, S.; ROIG CAYON, M. Color stainability of indirect CAD-CAM processed composites vs. conventionally laboratory processed composites after immersion in staining solutions. *Journal of dentistry*. Year: 2014. Volume: IN PRESS. Impact agency: JCR-Science Edition. Impact factor: 2.749.
- OLIVIERI, J.; Stoeber, E.; GARCÍA FONT, M; Gonzalez, JA; Bragado, M.; ROIG CAYON, M; DURÁN-SINDREU TEROL, F. In vitro Comparison in a Manikin Model: Increasing Apical Enlargement with K3 and K3XF Rotary Instruments. *Journal of Endodontics*. Year: 2014. Volume: 40. Number: 9. Pp.: 1463 ~ 1467. Impact agency: JCR-Science Edition. Impact factor: 3.375. Number of citations: 1. DOI:10.1016/j.joen.2014.02.023.
- PEÑATE, L.; BASILIO MONNÉ, J; ROIG CAYON, M; MERCADE, M. Comparative study of interim materials for direct fixed dental prostheses and their fabrication with CAD/CAM technique. *Journal of prosthetic dentistry*. Year: 2015. Pp.: in press. Impact agency: JCR-Science Edition. Impact factor: 1.419.
- RAMÍREZ SEBASTIÀ, A; Bortolotto, T.; Cattani, M.; GINER TARRIDA, L; ROIG CAYON, M; KREJCI, I. Adhesive restoration of anterior endodontically treated teeth: influence of post length on fracture strength. *Clinical Oral Investigations*. Year: 2014. Volume: 18. Pp.: 545 ~ 554. Impact agency: JCR-Science Edition. Impact factor: 2.352. Number of citations: 3. DOI:10.1007/S00784-013-0978-3.
- TEIXIDÓ, L.; ABELLA SANS, F; DURÁN-SINDREU TEROL, F; Moscoso, S.; ROIG CAYON, M. The use of Cone-Beam Computed Tomography in the Preservation of Pulp Vitality in a Maxillary Canine with Type 3 Dens Invaginatus and an associated Periradicular Lesion. *Journal of Endodontics*. Year: 2014. Volume: 40. Number: 9. Pp.: 1501 ~ 1504. Impact agency: JCR-Science Edition. Impact factor: 3.375. Number of citations: 2. DOI:10.1016/j.joen.2014.01.033.
- Moscoso, S.; Pineda, K.; BASILIO MONNÉ, J; Alvarado, C.; ROIG CAYON, M; DURÁN-SINDREU TEROL, F. Evaluation of Dentaport ZX and Raypex 6 Electronic Apex Locators: An in vivo study. *Medicina oral, patología oral y cirugía bucal*. Year: 2014. Volume: 19. Number: 2. Pp.: 202 ~ 205. Impact agency: JCR-Science Edition. Impact factor: 1.171.
- PATEL, S.; Durack, C.; ABELLA SANS, F; Shemesh, H.; ROIG CAYON, M; Lemberg, K.. Cone beam computed tomography in endodontics: a review. *International Endodontic Journal*. Year: 2014. Volume: 48. Number: 1. Pp.: 3 ~ 15. Impact agency: JCR-Science Edition. Impact factor: 2.971. Number of citations: 7. DOI:10.1111/iej.12270.

Publications in conference proceedings

- ABELLA SANS, F. Endodontic treatment and aesthetics. *Endodontic Treatment and Aesthetics*. Year: 2015.

Theses

- ABELLA SANS, F. Detección de patología periapical mediante radiografías periapicales y tomografía computerizada de haz cónico de volumen limitado. Type of academic work: Tesi Doctoral (en marxa). Date: 12/06/2014. Mark: 030. Directors: MERCADE, M; DURÁN-SINDREU TEROL, F. Institution: Universitat Internacional de Catalunya.

Theses

- PAULO, B.. Effect of endodontic irrigants on glass fiber post retention with different resin cements. Type of academic work: Tesi doctoral. Date: 25/06/2014. Mark: 010.
- RAMÍREZ SEBASTIÀ, A. Reconstruction of endodontically treated anterior teeth. Type of academic work: Tesi doctoral. Date: 03/07/2014. Mark: 030. Directors: ROIG CAYON, M. Institution: Universitat Internacional de Catalunya. Link to text: <http://hdl.handle.net/10803/146257>.
- Vallés, Marta. Estabilidad del color del Agregado Trióxido Mineral. Type of academic work: Tesi doctoral. Date: 12/06/2014. Directors: MERCADE, M; DURÁN-SINDREU TEROL, F. Institution: Universitat Internacional de Catalunya. Link to text: <http://hdl.handle.net/10803/145441>.

E. Conferences, courses and other events

Presentations of works in congresses

- MERCADE, M. Nuevos avances de la odontología en el Siglo XXI innovación, tecnología y ciencia. VI Congreso de la Facultad de Odontología de la Universidad El Bosque. Year: 2014.
- MERCADE, M; ARREGUI, M.; FERNANDEZ, S.; GINER TARRIDA, L; Violant, D.. Universitat Internacional de Catalunya faculty of Dentistry student mobility program. A 10-year study.. 8th International Technology, Education and Development Conference. Year: 2014.
- ROIG CAYON, M. Desinfección químico-mecánica del sistema de conductos radiculares, uso de longitud de trabajo mediante LEA y obturación termoplástica del sistema de conductos radiculares.. Congreso conmemorativo de los 75 años de la Fundación de la Facultad de Odontología. Universidad de San Carlos de Guatemala. Year: 2015.

Organizations of editions of congress

- MERCADE, M - Vocal Comité Organitzador. Sessió conjunta de Recerca 2014. Year: 2014. Town/city: Barcelona. Country: Espanya.

Assistance in course or seminar

- ABELLA SANS, F. XXXV Congreso Nacional de la Asociación Española de Endodoncia. Year: 2014.
- ABELLA SANS, F. Curso teórico-práctico de Endodoncia Avanzada. Year: 2014. Town/city: Donosti.
- MERCADE, M. The 6th European Meeting of the Association of Basic Science Teachers in Dentistry. Year: 2014. Town/city: Madrid. Country: Espanya.
- MERCADE, M. Introduce la investigación clínica en tu práctica diaria: taller práctico. Year: 2014. Town/city: Madrid. Country: Espanya.
- MERCADE, M. XII simposium AEDE y I Simposium conjunto AEDE-SEPA. Year: 2014. Town/city: Madrid. Country: Espanya.
- MERCADE, M. Jornada link de recerca. Year: 2014. Town/city: Barcelona. Country: Espanya.

F. Projects and intellectual and industrial

Participation in non-competitive R&D projects

- Scientific coordinator: ROIG CAYON, M. Participants: MAYORAL MOLINA, J; GINER TARRIDA, L; KREJCI, I.; CHAVEZ, M.. Estudio multicentrico de efectividad in-vivo de endocoronas de composite adhesivas en dientes posteriores. Start date: 15/04/2009. End date: 15/04/2014. Duration [YY/MM/DD]: 5/0/1. Funding: 18.672,00 € Field: Internacional. Category: De recerca i desenvolupament inclosa traslacional. Entity in which the research was undertaken: Universitat Internacional de Catalunya. Fundig body: Kerr Have. Participating entities: Facultat de Odontología de Universidad de Ginebra; Universitat Internacional de Catalunya.

G. Committees and societies

Membership of consulting or assessment committee

- Member: MERCADE, M. Type of participation: Vocal. Name of committee: Comissió Acadèmica de Doctorat en Ciències de la Salut de l'Escola de Doctorat. Entity: Escola de Doctorat de la UIC. Start date: 23/11/2012.
- Member: MERCADE, M. Type of participation: Altres. Name of committee: Comisión para la selección de alumnos de Grado de Odontología. Start date: 01/01/2009.

Membership of scientific societies

- Member: MAYORAL MOLINA, J. Type of participation: Membre. Scientific society: Sociedad Española de Prótesis Estomatológica. Start date: 01/02/2012.

H. Contributions to publications and theses

Thesis supervisor, tutor or panel member

- Author of the work: ABELLA SANS, F. Collaborator: MERCADE, M; DURÁN-SINDREU TEROL, F; GINER TARRIDA, L. Type of contribution: Director; Membre tribunal. Title of paper: Detección de patología periapical mediante radiografías periapicales y tomografía computerizada de haz cónico de volumen limitado. Type of work: Tesi Doctoral (en marxa). Date of eading: 12/06/2014. Entity:Universitat Internacional de Catalunya.
- Author of the work: AROCHA MA. Collaborator: HERNANDEZ ALFARO, F; Chimenos, E.; Gil, X.; MAYORAL MOLINA, J. Type of contribution: Membre tribunal; Director. Title of paper: Propiedades ópticas del complejo dentina-esmalte y de los materiales restauradores directos e indirectos.. Type of work: Tesi doctoral. Date of eading: 16/07/2015. Entity:Universitat Internacional de Catalunya.
- Author of the work: DE NOÉ, S.. Collaborator: MERCADE, M; DURÁN-SINDREU TEROL, F. Type of contribution: Director. Title of paper: Estudio clínico prospectivo del tratamiento de pulpotomía versus pulpectomía en dientes permanentes maduros con pulpitis irreversible. Type of work: Projecte de tesi. Date of eading: 2014.
- Author of the work: RAMÍREZ SEBASTIÀ, A. Collaborator: ROIG CAYON, M; MERCADE, M. Type of contribution: Director; Membre tribunal. Title of paper: Reconstruction of endodontically treated anterior teeth. Type of work: Tesi doctoral. Date of eading: 03/07/2014. Entity:Universitat Internacional de Catalunya. Link to text: <http://hdl.handle.net/10803/146257>.
- Author of the work: SANCHO, M.. Collaborator: HERNANDEZ ALFARO, F; Schneider, D.; ROIG CAYON, M; Hämmerle, C.; Pradíes, G.. Type of contribution: Director; President; Membre tribunal. Title of paper: Efficiency of conventional and computer-assisted implant planning and placement in partially edentulous patients using single splints. Type of work: Tesi doctoral. Date of eading: 01/10/2015. Entity:Universitat Internacional de Catalunya.
- Author of the work: Vallés, Marta. Collaborator: MERCADE, M; DURÁN-SINDREU TEROL, F; GINER TARRIDA, L. Type of contribution: Director; Membre tribunal. Title of paper: Estabilidad del color del Agregado Trióxido Mineral. Type of work: Tesi doctoral. Date of eading: 12/06/2014. Entity:Universitat Internacional de Catalunya. Link to text: <http://hdl.handle.net/10803/145441>.
- Author of the work: Gómez, G.. Collaborator: DURÁN-SINDREU TEROL, F; ROIG CAYON, M; MERCADE, M. Type of contribution: Director; Membre tribunal. Title of paper: Efectos de instrumentos odontológicos sobre los marcapasos. Type of work: Tesi doctoral. Date of eading: 03/07/2014. Entity:Universitat Internacional de Catalunya. Link to text: <http://hdl.handle.net/10803/146254>.

I. Personal acknowledgements

Awards and acknowledgements

- Rewarded: ABELLA SANS, F; DURÁN-SINDREU TEROL, F; MERCADE, M; BUENO MARTINEZ, J; ROIG CAYON, M. Name of award (edition): Premio Ruiz de Temiño: "Evaluación del estado periapical de dientes tratados endónticamente mediante radiografías periapicales digitales y tomografía computarizada de haz cónico". Year: 2014. Grounds/work acknowledged: Al mejor trabajo de investigación publicado en la Revista Española de Endodoncia en 2014. Date of resolution: 12/09/2015. Result: Accesit.
- Rewarded: GONZÁLEZ, J.; DURÁN-SINDREU TEROL, F; DE NOÉ, S.; MERCADE, M; ROIG CAYON, M. Name of award (edition): Premio Ruiz de Termino. Year: 2016. Grounds/work acknowledged: Premio al mejor trabajo de investigación publicado en la revista endodoncia durante el año 2013. Date of resolution: 01/11/2014. Result: Primer Premi. Awarding body: Asociación Española de Endodoncia.
- Rewarded: RAMIREZ, A.; Bartolotto, T.; Cattani, M.; GINER TARRIDA, L; ROIG CAYON, M; KREJCI, I.. Name of award (edition): Premi Simó Virgili 2015. Year: 2015. Grounds/work acknowledged: Artículo "Adhesive restoration of anterior endodontically treated teeth: influence of post length on fracture strength".. Date of resolution: 22/04/2015. Result: Primer Premi. Awarding body: Societat Catalana d'Odontologia i Estomatologia.

K. Stays and other activities

Stays in R&D centres

- Participant: MAYORAL MOLINA, J. Type of participation: Altres. Name of centre: Tokyo Dental and Medical University. Purpose of stay: Altres. Tasks testable: Optical Coherence Tomography application for real time assessment and marginal detection of resin composites adhesive interfaces.. Start date: 01/01/2010.
- Participant: MAYORAL MOLINA, J. Type of participation: Altres. Name of centre: Tokyo Dental and Medical University. Purpose of stay: Altres. Tasks testable: Real-time gap formation of resin composites using SS-OCT during photopolymerization / Optical coherence tomography as an optical alternative to X-ray microtomography for evaluation of internal adaptation of resin composites.. Start date: 01/01/2009.
- Participant: MAYORAL MOLINA, J. Type of participation: Altres. Name of centre: Université de Genève. Purpose of stay: Altres. Tasks testable: Marginal seal stability of one bottle adhesives in Class V vs Class I cavities under simulated dentinal fluid. Start date: 01/01/2008.