ICCBMT 14

OOSTERBEEK - THE NETHERLANDS

OCTOBER 22-27, 2023

International Conferences on the Chemistry and Biology of Mineralized Tissues

ICCBMT 14 - PROGRAM

ICCBMT 14
Hotel De Bilderberg
Oosterbeek - The Netherlands

For more information
www.iccbmt.org

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OCTOBER 22-27, 2023

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International Conferences on the Chemistry and Biology of Mineralized Tissues

Statement of Commitment to Provide a Safe Environment:

ICCBMT and its board of directors are committed to maintaining a community and environment dedicated to advancing and transmitting scientific knowledge and creative endeavors.

All ICCBMT conferences are organized such that scientists who participate can work and learn together in an atmosphere free of harassment, exploitation, or intimidation. Therefore, unaccepted behaviors will not be tolerated. In accordance, the ICCBMT board and conference organizers respond promptly and effectively to reports of such conduct. This includes action to stop, prevent, correct, and, when necessary, discipline behavior that violates our policies.

The ICCBMT board members and organizers of the meeting ask all attendees to respect and behave according to these principles and agreements established by the event organizers.

ICCBMT and its board of directors are committed to the following:

- Respecting the dignity of all individuals and striving to uphold a just community where discrimination and hate are not tolerated.
- We are ensuring freedom of expression and dialogue that elicits the full spectrum of views our varied communities hold.
- We respect the differences and commonalities that bring us together and call for civility and respect in our interactions.
- Believing that active participation and leadership in addressing the most pressing issues facing our local and global communities are central to our mission.
- Embracing that open and equitable access to opportunities for learning and development is our obligation and goal.

The ICCBMT president, board members, and organizers of the meeting ask all attendees to respect and behave according to these principles and agreements established by this document.

Expectations of Behavior:

ICCBMT has been a leader in establishing and implementing a "zero-tolerance" policy for inappropriate behavior and harassment at our conferences.

ICCBMT does not tolerate illegal or inappropriate behavior at any conference. ICCBMT has general policies prohibiting harassment and discrimination on the basis of protected categories. ICCBMT condemns inappropriate or suggestive acts or comments that demean another person because of their gender, gender identity or expression, race, religion, ethnicity, age, or disability or that are unwelcome or offensive to other attendees and their guests. Attendees of events organized by ICCBMT are expected to behave by these policies, including:

Discrimination, Harassment, and Affirmative Action in the conference: ICCBMT prohibits discrimination against any attendee of the conference based on race, color, national origin, religion, sex, gender, gender expression, gender identity, gender transition status, pregnancy, physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), ancestry, marital status, age, sexual orientation, citizenship, or service in the uniformed services, including protected veterans.

ICCBMT also recognizes that retaliation for reporting harassment is also a violation of this policy, as is reporting an incident in bad faith. Individuals should not be intimidated, exposed, pressured or discriminated against for filing a complaint, furnishing information or for participating in any manner in good faith in an investigation or any other activity related to the administration of the laws and regulations and/or this policy to ensure the appropriate treatment of attends to ICCMBT Meetings.

Sexual Violence and Sexual Harassment (SVSH): The SVSH Policy communicates expectations for individual conduct and outlines the ICCBMT responsibilities and procedures related to Prohibited Conduct to ensure an equitable and inclusive environment free of sexual violence and sexual.

Preventing and Responding to Bullying and Other Demeaning & Disruptive Behavior: ICCBMT prohibits bullying and other demeaning and disruptive behavior and communicates the importance of promoting and maintaining a safe environment.

Attendees Code of Conduct: ICCBMT communicates ethical and professional principles and rules of conduct intended to foster behaviors that are consistent with a civil and professional setting. Unacceptable behaviors include but not limited to:

- Disruption of presentations during sessions and not complying with the instructions of the moderator.
- Capturing/copying and sharing information about presentations without permission of the presenters/ investigators /collaborators.

PROGRAM

Sunday Oct 22	Arrival Day	
16:00-19:00	Registration Desk Open	Hotel De Bilderberg Lobby
19:30-22:00	Welcome Reception/Dinner	Julia's Kitchen
Monday Oct 23		
07:30	Registration Desk Open	Hotel De Bilderberg Lobby
08:30	Welcome Address from Conference Co-organizers Bernhard Ganss, University of Toronto, Canada Mina Mina, University of Connecticut Health Center, USA Nico Sommerdijk, Radboud University Medical Center, Netherlands	Zappeion/Megaron Rooms
Notes	**POSTER SET UP is Monday after lunch in the Bibliotheque & Oval Office Rooms** **ORAL PRESENTATIONS** Oral presenters will have 15 minutes to present their research + 5 minutes for questions Session Chairs will have an additional 10 minutes to give a session overview ALL ORAL PRESENTATIONS WILL BE HELD IN THE ZAPPEION/MEGARON ROOMS **Presenters: As we have a full agenda, we thank you in advance for keeping to the schedule below; your adherence to start and end times is very much appreciated.**	

	Speaker	Presentation Title	Institution
Monday Oct 23		**'Tribute to Art Veis'**	
08:45	Janet Oldak **Chair**		University of Southern California, Los Angeles, USA
08:50	Anne George **Session Keynote**	*Arthur Veis, an educator and visionary leader in calcified tissues and beyond*	University of Illinois, Chicago, IL, USA
09:20	Deborah Veis	*Arthur Veis, patriarch of an extensive science family*	Washington University School of Medicine, St. Louis, USA
09:40	Steve Weiner	*Art Veis: the discoverer of the first Asp-rich protein in mineralized tissues*	Weizmann Institute of Science, Rehovot, Israel
10:00	Charles Sfeir	*Art Veis: the mentor and pioneer on the trail of phosphates and their kinases*	University of Pittsburgh, Pittsburgh, USA
10:20	Stuart Stock	*The hard thing about sea urchin teeth: Arthur Veis, proteins and minerals*	Northwestern University, Chicago, USA
10:40		Break	Koffie Corner

Monday Oct 23			Oral Session 1 Basic Biomineralization Mechanisms A	
11:10	M1	Henry Margolis **Session Keynote and Chair**	*Role of amelogenin phosphorylation in enamel mineral formation during secretory amelogenesis*	University of Pittsburgh, Pittsburgh, USA
11:40	M2	Janet Oldak	*Interrogating the multitargeting domain in ameloblastin; implications for its multifunctionality in amelogenesis*	University of Southern California, Los Angeles, USA
12:00	M3	Thomas Diekwisch	*Effect of polyproline repeat length on enamel crystal formation: Of frogs and bulls*	University of Rochester, Rochester, USA
12:20	M4	Xingchen Zhao	*High diffusivity pathways and selective ion transport in dental enamel*	Northwestern University, Evanston, USA
12:40			Lunch	Julia's Kitchen
			Poster Set Up	Bibliotheque & Oval Office Rooms
Monday Oct 23			**Oral Session 2 Basic Biomineralization Mechanisms B**	
14:40	M5	Elena Macías-Sánchez	*Three-dimensional study of early mineralization events in fibrolamellar bone*	Universidad de Granada, Granada, Spain
15:00	M6	Chenglong Li	*The role of citrate in extrafibrillar mineralization of bone*	Radboud University Medical Center, Nijmegen, Netherlands
15:20	M7	Luco Rutten	*In-situ model to investigate the effect of collagen overglycosylation on the fibril structure and mineralization*	Radboud University Medical Center, Nijmegen, Netherlands
15:40	M8	Xiaofang Wang	*The critical roles of a novel GTPase regulator, Din, in the homeostasis of MSCs in bones, sutures and teeth*	Texas A&M University School of Dentistry, Dallas, USA
16:00			Break	Koffie Corner
Monday Oct 23			**Oral Session 3 Basic Biomineralization Mechanisms C**	
16:30	M9	Raed Said	*Effects of circadian clock disruption in dental mineralized tissues formation*	University of Saskatchewan, Saskatoon, Canada
16:50	M10	Marcos Cruz	*Unravelling the relationship between isolated bone matrix vesicles and forming mineral at the nanometer scale*	Radboud University Medical Center, Nijmegen, Netherlands
17:10	M11	Avathamsa Athirasala	*Accelerated biomineralization and osteocyte maturation on-a-chip: A 3D bioprinting and microfluidics approach*	Oregon Health & Science University, Portland, USA
17:30	M12	Cassandra Villani	*Transcriptome analysis indicates a stimulatory role of DMP1 in periodontal ligament stem cells and promotes osteoblast differentiation*	University of Illinois, Chicago, IL, USA
17:50	M13	Caris Smith	*Runx2 is required for hypertrophic chondrocyte mediated cartilage degradation and bone resorption*	University of Alabama at Birmingham, Birmingham, AL
18:10		Dinner		Julia's Kitchen
20:00		FLASH ORAL POSTER PRESENTATIONS (9) **P4-F, P19-F, P22-F, P37-F, P43-F, P49-F, P52-F, P55-F, P58-F**		Zappeion/Megaron Rooms
20:30		All posters available for viewing - complete poster list - pages 10-13 **PRESENTER AT POSTER ♦ P1, P4-F, P7, P10, P13, P16, P19-F, P22-F, P25, P28, P31, P34, P37-F, P40, P43-F, P46, P49-F, P52-F, P55-F, P58-F, P61, P64**		Bibliotheque & Oval Office Rooms

Tuesday Oct 24			Oral Session 4 Methods and Techniques in Mineralized Tissue A	
08.50	T1	Peter Fratzl **Session Keynote and Chair**	*The potential role of internal stresses for the mechanical properties of bone*	Max Planck Institute of Colloids and Interfaces, Potsdam, Germany
09:20	T2	Lara Estroff	*Biomineralogical signatures of pathological mineralization*	Cornell University, Ithaca, USA
09:40	T3	Anat Akiva	*3D correlative live-to-cryo microscopy shows collagen development in zebrafish scale*	Radboud University Medical Center, Nijmegen, Netherlands
10:00	T4	Andreia Sousa da Silveira	*Evolutionary materials optimization? Neutron tomography reveals differences in water permeability between osteocytic and anosteocytic bone*	Charité-Universitaetsmedizin, Berlin, Germany
10:20			**Group Photo**	Location TBA
10:30			Break	Koffie Corner
Tuesday Oct 24			**Oral Session 5 Methods and Techniques in Mineralized Tissue B**	
11:00	T5	Thierry Azaïs	*Structural description of CaCO3 prenucleation clusters through 13C MAS-DNP NMR*	Sorbonne Université, Paris, France
11:20	T6	Roland Kröger	*Studying collagen mineralization dynamics using in-situ Raman spectroscopy together with in-situ small and wide angle X-ray scattering*	University of York, York, UK
11:40	T7	Katrein Sauer	*X-ray primary radiation damage spreads in bone via collagen destruction due to photoelectron ionization and secondary emission self-absorption*	Charité-Universitaetsmedizin, Berlin, Germany
12:00	T8	Palwinder Kaur	*Precision remineralising technologies to advance dental enamel health*	University of Leeds, Leeds, UK
12:20		Joerg Lindenau (Sponsor)	*X-Ray microscopy of soft and mineralized tissue*	ZEISS Microscopy
12:45		Lunch		Julia's Kitchen
		ICCBMT Board of Directors Meeting - Private lunch		
		AFTERNOON OFF Activity options will be listed at a later date		
18:00		Dinner		Julia's Kitchen
20:00		FLASH ORAL POSTER PRESENTATIONS (9) **P8-F, P20-F, P26-F, P29-F, P32-F, P38-F, P47-F, P50-F, P56-F**		Zappeion/Megaron Rooms
20:30		All posters available for viewing - complete poster list - pages 10-13 **PRESENTER AT POSTER ♦ P2, P5, P8-F, P11, P14, P17, P20-F, P23, P26-F, P29-F, P32-F, P35, P38-F, P41, P44, P47-F, P50-F, P53, P56-F, P59, P62**		Bibliotheque & Oval Office Rooms

Wednesday Oct 25			Oral Session 6 Evolution A	
09:00	W1	Fabio Nudelman **Session Keynote and Chair**	*Structural and mechanical adaptation of Lingula anatina shells*	University of Edinburgh, Edinburgh, Scotland
09:30	W2	Timothy Bromage	*Metabolic profiling of modern and fossilized mineralized tissues: The crystallite/mineral niche*	New York University, New York, USA
09:50	W3	Joseph Deering	*Mineral and fiber/organic assemblies in the gekkotan eggshell in 3D as characterized by submicron X-ray tomography and FIB-SEM serial sectioning*	McGill University, Montréal, Canada
10:10	W4	Frederic Marin	*The shell calcitic prismatic layer of Pinna nobilis and its protein repertoire*	University of Burgundy, Dijon, France
10:30			Break	Koffie Corner
Wednesday Oct 25			**Oral Session 7 Evolution B**	
11:00	W5	Adrian Rodriguez-Palomo	*Spiralled structure of narwhal tusk studied by multimodal hierarchical imaging*	Aarhus University, Aarhus, Denmark
11:20	W6	Ron Shahar	*New insights into the nature of osteodentin*	The Hebrew University, Rehovot, Israel
11:40	W7	Philippe Ganot	*Specific genes for calcification of the red coral corallium rubrum: Identification and evolution deduced from tissue expression and phylogeny*	Centre Scientifique de Monaco, Monaco, Monaco
12:00	W8	Thorbjørn Erik Køppen Christensen	*Amorphous phase distribution in the side of the stomatopod dactyl club*	MAX IV, Lund, Sweden
12:20			Lunch	Julia's Kitchen
Wednesday Oct 25			**Oral Session 8 Human Pathologies A**	
14:00	W9	Olivier Duverger **Session Keynote and Chair**	*A unique type of syndromic amelogenesis imperfecta sheds light on the mechanism that leads to enamel rod decussation*	NIDCR/NIH, Bethesda, USA
14:30	W10	Monzur Murshed	*Heterozygous variants in MGP lead to endoplasmic reticulum stress causing spondyloepiphyseal dysplasia*	McGill University, Montréal, Canada
14 50	W11	Robin van der Meijden	*Aortic valve mineralization: A detailed look using correlative Raman-EM imaging*	Radboud University Medical Center, Nijmegen, Netherlands
15:10	W12	Nicola Partridge	*Comparison of the effects of PTH (1-34), PTHrP (1-36) and abaloparatide (ABL) on the murine osteoblast transcriptome*	New York University, New York, USA
15:30	W13	Netta Vidavsky	*Zinc in microscopic calcifications isolated from thyroid fine needle aspiration may serve as a biomarker of thyroid nodule malignancy*	Ben-Gurion University of the Negev, Beer Sheva, Israel
15:50			Break	Koffie Corner
Wednesday Oct 25			**Oral Session 9 Human Pathologies B**	
16:20	W14	David Kohn	*Compromises in osteocyte lacunar canalicular network with diabetes and correlations with matrix properties*	University of Michigan, Ann Arbor, USA
16:40	W15	Eve Donnelly	*The paradox of fragile but dense bones in Type 2 diabetes*	Cornell University, Ithaca, USA

17 00	W16	Nadja Fratzl-Zelman	*Alterations in bone matrix mineralization caused by the coexistence of osteogenesis imperfecta and hypophosphatasia*	Ludwig Boltzmann Institute of Osteology, Vienna, Austria
17:20	W17	Marta Cerruti	*Physico-chemical characterization of minerals in cardiovascular tissues of senior body donors sheds light on cardiovascular calcification progression*	McGill University, Montréal, Canada
18:00			Dinner	Julia's Kitchen
20:00		FLASH ORAL POSTER PRESENTATIONS (9) **P9-F, P18-F, P30-F, P36-F, P39-F, P45-F, P54-F, P63-F**		Zappeion/Megaron Rooms
20:30		All posters available for viewing - complete poster list - pages 10-13 **PRESENTER AT POSTER ♦ P3, P6, P9-F, P12, P15, P18-F, P21, P24, P27, P30-F, P33, P36-F, P39-F, P42, P45-F, P48, P51, P54-F, P57, P60, P63-F**		Bibliotheque & Oval Office Rooms
Thursday Oct 26			**Oral Session 10 Animal Models A**	
08.50	TH1	Derk Joester **Session Keynote and Chair**	*Large scale comparison of mineralized tissues in wildtype and mutant mouse jaws: from semantic segmentation to extraction of metrics*	Northwestern University, Evanston, USA
09:20	TH2	Harvey Goldberg	*Osteopontin-derived phosphopeptide inhibits in vivo calcium oxalate formation in Drosophila melanogaster*	University of Western Ontario, London, Canada
09:40	TH3	The Nghia Nguyen	*Role of Claudin-10 in amelogenesis*	Université Paris Cité Dental School, Montrouge, France
10:00	TH4	Tia Calabrese	*Tooth root organoids as models to study dental tissue regeneration*	University of Pittsburgh, Pittsburgh, USA
10:20	TH5	Tegnteng (Toni) Tang	*Lactation is associated with changes in mouse bone cellular and sub-cellular network architecture*	McMaster University, Hamilton, Canada
10:40			Break	Koffie Corner
Thursday Oct 26			**Oral Session 11 Animal Models B**	
11:10	TH6	Brian Foster	*Native and recombinant bone sialoprotein improves alveolar bone healing in mice*	The Ohio State University, Columbus, USA
11:30	TH7	Pierre Moffatt	*Crispr-engineered conditional knock-in mouse model to study osteogenesis imperfecta type V*	McGill University, Shriners Hospitals for Children, Montréal, Canada
11:50	TH8	Marc McKee	*Attaching organic fibers to mineral: The case of the avian eggshell*	McGill University, Montréal, Canada
12:10	TH9	Carole Le Henaff	*Deletion of Prkar1a subunit in osteoblasts cause severe bone pathology with impairment of osteoblast differentiation and increased osteoclast activity*	New York University, New York, USA
12:30			Lunch	Julia's Kitchen
			ICCBMT Board of Directors Meeting - Private Lunch	
Thursday Oct 26			**Oral Session 12 Applied and Translational Science**	
14:00	TH10	Judith Schaart **Session Keynote and Chair**	*Development of a bone-on-a-chip to study bone formation in health and disease*	Radboud University Medical Center, Nijmegen, Netherlands
14:30	TH11	Robert Dzhanaev	*Application of the mineral-binding protein fetuin-A for the detection and treatment of calcified lesions*	RWTH Aachen University Hospital, Aachen, Germany
14 50	TH12	Vivian Merk	*Interfibrillar mineralization of three-dimensional chitin scaffolds derived from mushrooms*	Florida Atlantic University, Boca Raton, USA

15:10	TH13	Ibrahim Hoja	*A novel biofilm inhibitor & TTO modulate dental bacteria involvement & enhance tertiary dentin formation to synergistically prevent & delay caries*	University of Saskatchewan, Saskatoon, Canada
15:30	TH14	Sara Gamea	*Development of protein-based matrices for enamel regeneration*	King's College London, London, UK
15:50			Conference **EVALUATION SURVEY**	Zappeion/Megaron Rooms
16:00			Break	Koffie Corner
16:30		***Eve and Arthur Veis Plenary Speaker*** **MELINDA J. DUER, FRSC, PhD** ***Professor of Biological and Biomedical Chemistry*** ***Department of Chemistry, University of Cambridge, UK*** ***Using solid-state NMR spectroscopy to understand calcified tissues in health and disease***		
18:00		Departure to Castle		
18:30		**Dinner at Koetshuis Castle Doorwerth** **AWARD PRESENTATIONS** Closing Remarks from Conference Co-organizers and Janet Moradian-Oldak (ICCBMT President)		
21:00 approx		Return to Hotel De Bilderberg for Evening Entertainment Dance Night with DJ – B's Bar (Cash Bar)		
Friday Oct 27				
08:00-10:00		POSTER TAKE DOWN		Bibliotheque & Oval Office Rooms

Breakfast and Departure

'Safe Journey!' 'Goede reis en wel thuis!'

Shuttles will be arranged for transport from Hotel De Bilderberg to the Arnhem Train Station
(more information will be sent at a later date)

ICCBMT 14 - CONFERENCE CO-CHAIRS

Bernhard Ganss, PhD

University of Toronto
Toronto, Ontario
Canada

Mina Mina, DMD, PhD

University of Connecticut
Health Center
Farmington, Connecticut, USA

Nico Sommerdijk, PhD

Radboud University
Medical Center
Nijmegen, The Netherlands

POSTERS LISTED BELOW

POSTERS

Based on the scored rank as determined by scientific advisory board member reviews of abstracts, a select number of posters have been selected for a 3-minute (2 slides) **Flash Oral Presentation** session that takes place Monday, Tuesday and Wednesday evenings to kick off the regular poster session. This status is indicated by an "F" added to the poster number. Flash presentations will occur in the lecture hall (Zappeion/Megaron Rooms) at 8:00pm.

Following flash presentations, we ask that you visit the Bibliotheque & The Oval Office Rooms to view all posters. Authors will be available for questions on the indicated day.

Poster#	Presenter	Poster Title	Institution
MONDAY			
P1	Raphaela Allgayer	*Modeling cardiovascular calcification: in vitro collagen calcification at pathological fetuin A levels replicates characteristic morphology and phases*	McGill University, Montréal, QC, Canada
P4-F	Natalie Andras	*Exploring site-specific functions of bone sialoprotein in mineralization using conditionally ablated mouse models*	The Ohio State University College of Dentistry, Columbus, OH, USA
P7	Dimitra Athanasiadou	*Ultrastructural and chemical analysis of aortic valve calcification in a rabbit model*	Chalmers University of Technology, Gothenburg, Västergötland, Bohuslän and Halland, Sweden
P10	Lynda Bonewald	*Osteokines and myokines as the mediators of the effects of exercise*	Indiana University, Indianapolis, IN, USA
P13	Robert Davies	*Surface modification of biomimetic self-assembling peptide scaffolds on their potential to promote de novo nucleation of hydroxyapatite*	University of Leeds, Leeds, West Yorkshire, UK
P16	Guillaume Falgayrac	*Raman spectroscopy assessement of the mineral produced by human osteoblasts differentiated on the extracellular matrix of bone marrow adipocytes*	Univ Lille MABLAB ULR4490, Lille, Nord, France
P19-F	Bernhard Ganss	*Evaluating amelotin-coated hydroxyapatite nanoparticles for the remineralization of artificial carious lesions in vitro*	University of Toronto, Toronto, ON, Canada
P22-F	Bojana Ginovska	*Understanding structure and aggregation of amelogenin under various conditions*	Pacific Northwest National Laboratory, Richland, WA, USA
P25	Stéphane Hilliquin	*The sacroiliac joint: a sensitive tool to highlight altered bone phenotype in murine models of skeletal disorders*	Université Paris Cité, Institut des maladies musculo-squelettiques, Montrouge, Ile-de-France, France
P28	Hemalatha Kanniyappan	*Promising strategy to enhance biomineralization for bone repair and regeneration: Bioactive tissue engineered scaffold*	UIC College of Medicine Rockford, Rockford, IL, USA
P31	Janet Moradian-Oldak	*Triple function of amelogenin peptide-chitosan hydrogel for dentin repair*	University Southern California, Los Angeles, CA, USA
P34	Hossein Poorhemati	*A computational model accounting for physicochemical aspects of bone mineralization*	McGill University, Montréal, QC, Canada
P37-F	Emeline Raguin	*Insights into mineral transport within the embryonal chick femur using cryo-FIB SEM 3D volume imaging*	Max Planck Institute of Colloids and Interfaces, Potsdam, Brandenburg, Germany

P40	Dawn Raja Somu	*Characterization of biomineralization in shark vertebral cartilage*	Florida Atlantic University, Boca Raton, FL, USA
P43-F	Adrian Rodriguez-Palomo	*Nanostructure of regenerated bone in critical-size defects imaged by X-ray scattering*	Aarhus University, Aarhus, Denmark
P46	Anastasiia Sadetskaia	*Secondary hyperparathyroidism in nephrectomized rats: changes to osteocyte lacunar volume distribution through an X-ray computed tomography study*	Aarhus University, Aarhus, Denmark
P49-F	Victoria Schemenz	*Bone matrix and lacuno-canalicular network is altered in a mouse model for Marfan Syndrome*	Charité - Universitätsmedizin Berlin, Berlin, Germany
P52-F	Wendy Shaw	*Evaluating the role of the N-terminus, histidine-rich region, and C-terminus on the Interaction of amelogenin with hydroxyapatite*	Pacific Northwest National Laboratory, Richland, WA, USA
P55-F	Stephan Sutter	*In vitro models of calcific aortic valve disease to evaluate the effect of mineral phase on aortic valve cell populations*	Cornell University, Ithaca, NY, USA
P58-F	Alyssa Williams	*Nanoscale analysis of osteonal bone tissue using 3D electron microscopy*	McMaster University, Hamilton, ON, Canada
P61	Stephanie Wong	*Alterations of the carbonate environment with Na or K substitution in biomimetic apatites*	University of Connecticut Health Center, Farmington, CT, USA
P64	Dina Abdelfattah	*Characterisation of Ti implant surfaces: Coated with self-assembling peptide (SAP) P11-4*	St James's University Hospital, School of Dentistry, University of Leeds, Leeds, UK
TUESDAY			
P2	Mohammed Al-Mosawi	*New insights into the effects of a metabolic disorder on the crystallography of dental enamel*	University of Leeds, Leeds, West Yorkshire, UK
P5	Peter Bell	*Dysregulated proteolytic processing as a disease mechanism in skeletal dysplasia – evidence from proteomics data mining*	University of British Columbia, Vancouver, BC, Canada
P8-F	Sarah Boyer	*Semantic segmentation of enamel caries using convolutional neural networks*	Northwestern University, Evanston, IL, USA
P11	Yannicke Dauphin	*Inner structure and composition of cultured black pearls from Pinctada margaritifera*	Museum national d'histoire naturelle (MNHN), Paris, France
P14	Guillaume Falgayrac	*Bone diagenesis at early stage followed-up during 12 months by Raman spectroscopy*	Univ Lille MABLab ULR4490, Lille, Nord, France
P17	Reham Gonnah	*Investigating the role of self-assembling peptides in guided enamel remineralisation on the micro- and nanoscale using synchrotron X-ray techniques*	University of Leeds and Diamond Light Source, Leeds, West Yorkshire, UK
P20-F	Asmaa Harfoush	*Texture distribution changes in dental enamel with KLK4 mutation: Implications for understanding amelogenesis imperfecta pathogenesis*	University of Leeds, School of Dentistry, Leeds, West Yorkshire, UK
P23	Christian Hasberg	*Structure-function analysis of Fetuin-A*	RWTH Aachen University Hospital, Aachen, NRW, Germany
P26-F	Elis Lira dos Santos	*Impact of therapeutic strategies on dentoalveolar phenotype in the murine model of X-linked hypophosphatemia: what about gene therapy?*	Université Paris Cité, Montrouge, Ile-de-France, France
P29-F	Aaron Morgan	*Miniaturized device for assessing calcification propensity of implant materials using simulated body fluid calcification medium*	RWTH Aachen University Hospital, Aachen, NRW, Germany

P32-F	Monzur Murshed	*Understanding the craniofacial abnormalities in the C19F variant and two models lacking the conserved functional residues of Matrix Gla protein*	McGill University, Montréal, QC, Canada
P35	Ellie Northall	*Identification of candidate pathways and pharmacological drugs that mediate pathological skeletal remodelling in spinal osteoblasts*	University of Birmingham, Birmingham, West Midlands, UK
P38-F	William Querido	*Optical photothermal infrared (O-PTIR) spectroscopy and imaging of bone mineralization at submicron scale*	Temple University, Philadelphia, PA, USA
P41	Luca Reicher	*Live imaging of mineralization and calcification in cell cultures*	RWTH Aachen University Hospital, Aachen, NRW, Germany
P44	Thomas Robinson	*Shear-dependent self-assembly of calcium pyrophosphate nanostructures*	University of Birmingham, Birmingham, West Midlands, UK
P47-F	Genevieve Romanowicz	*Mineralized and vascularized bone-like organoid created with high-throughput bioprinting*	University of Oregon, Eugene, OR, USA
P50-F	Benjamin Rudski	*Just average: Constructing a 3D digital anatomical atlas of the human distal femur*	McGill University, Montréal, QC, Canada
P53	Maximilian Rummler	*The patchiness of the osteocyte lacunocanalicular network in trabecular bone of human vertebrae*	Max Planck Institute of Colloids and Interfaces, Potsdam, Brandenburg, Germany
P56-F	D. Rick Sumner	*Development and initial uses of a rat model of cortical bone matrix maturation during remodeling*	Rush University Medical Center, Chicago, IL, USA
P59	Camilla Winkler	*Fetuin-A Phosphorylation regulates mineral binding*	RWTH Aachen University Hospital, Aachen, NRW, Germany
P62	Mahdi Ayoubi	*Morphological characterization of the osteocytes lacunocanalicular network (LCN) at osteolytic tumorous lesions in murine tibia*	Cornell University, Ithaca, NY, USA
WEDNESDAY			
P3	Sylvie Babajko	*Dentin mineralization alteration in mice exposed to Di(2-ethylhexyl) phthalate (DEHP), a widespread endocrine disruptor*	Université Paris Cité, Paris, France
P6	Miguel Castilho	*3D printing of fibrillar collagen scaffolds with native-like organization*	Eindhoven University of Technology, Eindhoven, Netherlands
P9-F	Yinghua Chen	*Transcriptome profiling of DPSCs stimulated with DPP identifies key signaling networks responsible for odontoblast-specific lineage differentiation*	University of Illinois at Chicago, Chicago, IL, USA
P12	Miruna Chipara	*Assessing traumatic injuries in a bone ex vivo model*	University of Birmingham, Birmingham, West Midlands, UK
P15	Brittany Foley	*Biomimetic mineralization using seriated ALP-functionalized multilayer systems*	Université de Technologie de Compiègne and Sorbonne Université, Paris, France
P18-F	Mebin George Varghese	*Unraveling the complexity of cave bear molars: The influence of enamel distribution and enamel-dentine junction shape*	Institute of Biotechnology, University of Helsinki, Viikinkaari, Helsinki, Finland
P21	Abshar Hasan	*Environmental pH modulates organic-inorganic interactions to regulate hierarchical mineralization*	University of Nottingham, Nottingham, UK
P24	Ryan Lee Chan	*DNA assemblies guide calcium phosphate mineralization*	University of Toronto, Toronto, ON, Canada

P27	Mikayla Moody	*Developing a novel bone explant model to investigate physiological influences on bone health*	University of Connecticut Health Center, Farmington, CT, USA
P30-F	Antonio Nanci	*Structural and molecular characterization of an Scpppq1 knock out mouse*	Université de Montréal, Montréal, QC, Canada
P33	Nadine Nassif	*Biomimetic bone materials as versatile models for biomineralization studies and tissue repair*	CNRS, Paris, France
P36-F	Sarah Peters	*Matrisome proteomic profiling between young and old dentin identifies age- and sex-differences*	The Ohio State University College of Dentistry, Columbus, OH, USA
P39-F	Nicole Sempertegui	*Bone matrix mineral content regulates early-stage metastasis by altering mesenchymal stem cell fate*	Cornell University, Ithaca, NY, USA
P42	Charles Sfeir	*The effects of CK2 alpha 1 conditional knockout on mineralization of skeletal bone and teeth*	University of Pittsburgh, Pittsburgh, PA, USA
P45-F	Susanna Sova	*What regulates the enamel matrix distribution? Normal and abnormal enamel distribution in human molars*	University of Helsinki, Helsinki, Uusimaa, Finland
P48	Stuart R. Stock	*Microstructure quantification of shark vertebral mineralized cartilage*	Northwestern University, Chicago, IL, USA
P51	Sermin Utku	*The consequences of dehydration-hydration on bone anisotropy and implications on the sublamellar organization of mineralized collagen fibrils*	Yeditepe University, Istanbul, Türkiye
P54-F	Vilma Väänänen	*X-ray microtomography imaging of gene expression in mineralizing tissues*	University of Helsinki, Helsinki, Uusimaa, Finland
P57	Nina Kølln Wittig	*Influence of measurement parameters on determination of osteocyte lacunar morphology with laboratory X-ray micro-CT*	Aarhus University, Aarhus, Denmark
P60	Zhiming Wu	*Aberrations of the crosslink of collagen type I and bone structure organization in osteogenesis imperfecta*	UMC Utrecht, Utrecht, Netherlands
P63-F	Liyang Zhong	*An in vitro model for preferential gap zone collagen mineralization*	University of Toronto, Toronto, ON, Canada

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