Biomin09 Scientific Program

(Mo = Monday; Tu = Tuesday; We = Wednesday; Th = Thursday; Fr = Friday)

	MONDAY 5
Mo 01 **21:00 – 21:30**	**Mineral-Matrix Relationships in the Primary, Secondary and Carinar Process Plates in the Developing Tooth of the Sea Urchin, *Lytechinus variegatus*.** Veis, A.[1], Dixit, S.N.[1], Barss, J.[1], Robach, J.[1], Stock, S.R.[2]. *[1]Department of Cell and Molecular Biology, Feinberg School of Medicine, Northwestern University, 303 E. Chicago Avenue, Chicago, IL, 60611, USA.* *[2]Institute for Bioengineering and Nanoscience in Advanced Medicine, Northwestern University, Chicago, IL, 60611, USA.*
	TUESDAY 6
	Vertebrate Mineralization I (Chairperson: E.D. Sone)
Tu 01 **08:30 – 08:50**	**Whole Tooth Deformation: Mapping Nanoscale Displacements During Loading of Human Teeth.** Zazlansky, P.[1], Shahar, R.[2], Friesem, A.A.[3], Weiner, S.[1] *[1]Department of Structural Biology, Weizmann Institute of Science, Rehovot 76100, Israel.* *[2]Koret School of Veterinary Medicine, The Hebrew University of Jerusalem, Rehovot 76100, Israel.* *[3]Department of Physics of Complex Systems, Weizmann Institute of Science, Rehovot 76100, Israel.*
Tu 02 **08:50 – 09:10**	**New Insight to the Hierarchical Structure of Human Dental Enamel.** Cui, F.Z., Ge, J. *Biomaterials Laboratory, Department of Materials Science & Engineering, Tsinghua University, Beijing 100084, China P.R..*
Tu 03 **09:10 – 09:30**	**Evolution of Enamel Structure and its Cytological Backgroung – Ameloblast Grouping and Dancing – by Histology and Immunohistology.** Kozawa, Y., Yokota, R., Hanaizumi, Y. *Departament of Anatomy, Nihon University School of Dentistry at Matsudo, Sakaecho-nishi, Matudo-si, 271-8087, Japan.*
Tu 04 **09:30 – 09:50**	**Tc-99m Labeling of Early-Stage Bone Mineralization in *in vitro* Models of Bone Formation.** Wang, H[1]., Hobbs, L.W.[2] *[1]Children's Hospital, 922 Enders Building, 300 Longwood Avenue, Boston, MA 02115, USA.* *[2]Massachusetts Institute of Technology, Department of Materials Science & Engineering, Room 13-4054, 77 Massachusetts Avenue, Cambridge, MA 02139-4307, USA.*

Tu 05 **09:50 – 10:10**	**Culture of Human Alveolar Bone Cells: Alkaline Phosphatase Obtention.** Ciancaglini, P.[1,] Simão, A.M.S.[1,] Beloti, M.M.[2], Rosa , A.L.[2], de Oliveira, P.T.[2], Pizauro, J.M.[3] *[1]Depto Química, FFCLRP-USP; Av. Bandeirantes, 3900, 14040-901, Ribeirão Preto, SP.* *[2]Depto de Cirurgia TBMF e Periodontia, FORP-USP; Av.do Café,sn .Ribeirão Preto, SP.* *[3]Depto de Tecnologia FCAVJ-UNESP, Jaboticabal, SP.; Brasil.*
Tu 06 **10:10 – 10:30**	**Spherical to Cylindrical Shaped Nano-Sized Particles in Bone and Synthetic Carbonated Apatite.** Klein, E.[1], Wang, L.[2], Nancollas, G.H.[2], Weiner, S.[3] *[1]Department od Research Support, Weizmann Institute of Science, Rehovot 761000, Israel.* *[2]Department of Chemistry, University of Buffalo, State University of New York, Buffalo, NY 14260, USA.* *[3]Department of Structural Biology, Weizmann Institute of Science, Rehovot 76100, Israel.*
	Vertebrate Mineralization II (Chairperson:L.R. Brooker)
Tu 07 **10:45 – 11:05**	**Phosphorylation of Phosphophoryn is Crucial for its Function as a Mediator of Biomineralization.** George, A.[1], Gajjeraman, S.[1], Veis, A.[2] *[1]Department of Oral Biology, University of Illinois at Chicago, Chicago, Il, 60612, USA.* *[2]Department of Cell and Molecular Biology, Northwestern University, Chicago, Illinois, 60611, USA.*
Tu 08 **11:05 – 11:25**	**3D Mineral Nanostructure of Single Lamellae in Osteons.** Wagermaier, W.[1], Gupta, H.S.[1], Gourrier, A.[1], Roschger, P.[2], Burghammer, M.[3], Paris, O.[1], Fratzl, P.[1] *[1]Max Planck Institute of Colloids and Interfaces, Potsdam, Germany* *[2]Ludwig Boltzmann Institute of Osteology, Vienna, Austria* *[3]ESRF, European Synchrotron Radiation Facility, Grenoble, France*
Tu 09 **11:25 – 11:45**	**Chondrocyte Maturation is Characterized by an Interplay Between Uncoupler Protein-3 (UCP-3) and the Hypoxic Environment of the Growth Plate.** Shapiro, I.M., Snyder, B., Freeman, T., Watanabe, H., Bohensky, J., Fertala, J., Srinivas, V. *Department of Orthopaedic Surgery, Thomas Jefferson University, 1015 Walnut Street Suite 501, Philadelphia PA, 19107, USA.*
Tu 10 **11:45 – 12:05**	***In-vitro* Mineralization of 2D and 3D Osteoblasts Culture Systems.** Linhares, A.B.R., Farina, M. *Laboratorio de Biomineralização, Instituto de Ciências Biomédicas, Universidade Federal do Rio de Janeiro, 21941-590, Rio de Janeiro, RJ, Brazil.*
Tu 11 **12:05 – 12:25**	**Enhanced Biomineral Formation in Human Mesenchymal Stem Cell Culture by Applying Mechanical Stimulation.** Wiesmann, H.P.[1], Plate, U.[1], Mentrup, C.[1], Reichenmiller, K.M.[2] *[1]Klinik und Poliklinik für Mund und Kiefer-Gesichtschirurgie Westfälische Wilhelms-Universität Münster, 48149 Münster, Germany.* *[2]Zentrum für Zahn-, Mund- und Kieferheilkunde, Poliklinik für Zahnerhaltung, Universitätsklinikum Tübingen, Tübingen, Germany.*

Tu 12 **12:25 – 12:45**	***In-vitro* Model of Apatitic Biomineralization Processes.** Plate, U., Mentrup, C., Wiesmann, H.P. *Department of Cranio-Maxillofacial Surgery, Biomineralization Research Unit, University of Münster, D-48149 Münster, Germany.*
Tu 13 **12:45 – 12:50**	**Possibility of Mineralization Promotion in Dentin by Mineral Trioxide Aggregate (MTA).** Mishima, H.[1], Ookubo, A.[2], Oono, Y.[1], Naishi, Y.[1], Nomura, K.[1], Kozawa, Y.[2] *[1]Dept. of Health Sciences, Kochi Gakuen College, 292-26 Asahitenjincho, Kochi, Kochi 780-0955, Japan.* *[2]Dept. of Anatomy 2, Nihon University School of Dentistry at Matsudo, 2-870-1 Sakaechonishi, Matsudo, Chiba 271-8587, Japan.*
Tu 14 **12:50 – 12:55**	**Characteristic Distribution of Inorganic Materials in Enamels of Recent and Fossil Mammalian Species.** Kobayashi, I.[1], Kamiya, H.[2], Sasagawa, I.[3] *[1]Niigata University, 3-4-15, Matsumigaoka, Niigata 950-2075, Japan.* *[2]Department of Geology and Mineralogy, Graduate School of Science, Kyoto University, Sakyo-ku, Kyoto 606-8502, Japan.* *[3]The Nippon Dental University, School of Dentistry at Niigata, Department of Anatomy, 1-8, Hamaura-cho, Niigata 951-8580, Japan.*
Tu 15 **12:55 – 13:00**	**Changes in Biological Apatite Formation During the Evolution of Hard Tissues.** Kakei, M.[1], Sakae, T.[2], Mishima, H.[3] *[1]Dept. of Oral Anatomy, Maikai University School of Dentistry, 1-1 Keyakidai, Sakado, Saitama 350-0283, Japan* *[2]Dept. of Histology, Cytology and Developmental Anatomy, Nihon University School of Dentistry at Matsudo, Sakaecho-nishi, Matsudo, Chiba 271-8587, Japan* *[3]Dept. of Health Sciences, Kochi Gakuen College, 292-26 Asahitenjincho, Kochi, Kochi 780-0955, Japan.*
	Vertebrate Mineralization III (Chairperson: Ph. Dubois)
Tu 16 **14:30 – 14:50**	**Evidence for the Implication of Chicken Eggshell Matrix Proteins in the Process of Shell Mineralization.** Gautron, J.[1], Rodríguez-Navarro, A.[2], Hernández-Hernández, M.A.[2], Gómez-Morales, J.[2], García-Ruíz, J.M.[2], Nys, Y.[1] *[1]Station de Recherches avicoles, INRA, 37380 Nouzilly, France.* *[2]CSIC, Instituto Andaluz de Ciencias de la Tierra, University of Granada, 18002, Spain.*
Tu 17 **14:50 – 15:10**	**A Quantitative Model of Eggshell Growth.** Arias, J.L., Jeraldo, P., Lund, F., Maeckelberghe, S., Walgraef, D. *Centro para la Investigación Interdisciplinaria Avanzada en Ciencias de Materiales (CIMAT), Universidad de Chile, Av. Blanco Encalada 2008 piso zócalo, Santiago, Chile.*
Tu 18 **15:10 – 15:30**	**Crystal Structure of Ovocleidin-17, a Major Protein of the Calcified *Gallus gallus* Eggshell.** Reyes-Grajeda, J.P.[1], Moreno, A.[2], Romero, A.[3] *[1]Instituto de Fisiología Celular, Universidad Nacional Autónoma de México (UNAM) Circuito Exterior, C.U. México D.F. 04510, México.* *[2]Instituto de Química, Universidad Nacional Autónoma de México (UNAM) Circuito Exterior, C.U. México D.F. 04510, México.* *[3]Departamento de Estructura y Función de Proteínas, Centro de Investigaciones Biológicas, Consejo Superior de Investigaciones Científicas, Ramiro de Maeztu 9, 28040 Madrid, Spain.*

Tu 19 **15:30 – 15:50**	**Remodeling of Silica Matrices by Encapsulated Diatoms.** Gautier, C., Coradin, T., Livage, J. , Lopez, P. J. *Ecole Normale Superieure, 46 rue d'Ulm, 75005, Paris, France.*
Tu 20 **15:50 – 15:55**	**Effect of Exposure to PCBs and Heavy Metals on Bone Chemistry** Rodríguez-Navarro, A.[1], Romanek, C.S. [2], Alvarez-Lloret, P.[1], Gaines, K.F.[2] [1]*Dpto. Mineralogía y Petrología, Universidad de Granada, 18002 Granada, Spain.* [2]*Savannah River Ecology Laboratory, University of Georgia, Drawer E., Aiken, SC 29802, USA.*
Tu 21 **15:55 – 16:00**	**Enamel Texture of the Elephant Molars in Relation to their Morphological Change.** Kamiya, H. *Department of Geology and Mineralogy, Graduate School of Science, Kyoto University Sakyo-ku, Kyoto 606-8502, Japan.*
	Bacterial Mineralization (Chairperson: M. Cusack)
Tu 22 **16:15 – 16:35**	**Arsenic Precipitation in Bacteria from an Underground Gold Mine.** Keim, C.N., Lins, U. *Instituto de Microbiología Prof. Paulo de Góes, CCS, Universidade Federal do Rio de Janeiro, Cidade Universitaria, 21941-590, Rio de Janeiro, RJ, Brazil.*
Tu 23 **16:35 – 16:55**	**Novel Genes Involved in Bacterial Magnetite Biomineralization Identified by Transposon Mutagenesis.** Nash, C.Z., Komeili, A., Newman, D.K., Kirschvink, J.L. *Department of Geological and Planetary Sciences, California Institute of Technology, MC 170-25, Pasadena, CA 91125, USA.*
Tu 24 **16:55 – 17:15**	**Latest Trends in *in situ* Bioleaching.** Murthy, Ch.S.N., Khare, S. *Department of Mining Engineering, National Institute of Technology Karnataka, Surathkal, P.O. Srinivasnagar-575 025, DK District, Mangalore, Karnataka State, India.*
Tu 25 **17:15 – 17:35**	**Diversity of Magnetotactic Bacteria in Aquatic Environments of Rio de Janeiro State, Brazil.** Martins, J.L.[1], Silveira, T.S.[1], Abreu, A.E.[1], Prast, A.S.[2], Rosado, A.S.[1], Lins, U.[1] [1]*Instituto de Microbiología Prof. Paulo de Góes, Universidade Federal do Rio de Janeiro, CCS, Bloco 1, Cidade Universitária, 21941-590, Rio de Janeiro, RJ, Brazil.* [2]*Instituto de Biología, Universidade Federal do Rio de Janeiro, RJ, Brazil.*
Tu 26 **17:35 – 17:55**	**Cytochemical Characterization of the Magnetosome Membrane in Uncultured Magnetotactic Bacteria.** Abreu, F.[1], Marques, R.[1], Farina, M.[2], Lins, U.[1] [1]*Instituto de Microbiología Prof. Paulo de Góes, Universidade Federal do Rio de Janeiro, CCS, Bloco 1, Cidade Universitária, 21941-590, Rio de Janeiro, RJ, Brazil.* [2]*Departamento de Histología, ICB, UFRJ, Rio de Janeiro, RJ, Brazil.*

Tu 27 **17:55 – 18:00**	**Structural Changes in Eggshell of the Wild and Captive Tortoise *Geochelone carbonaria.*** Matias, C.A.R.[1], Bruno, S.F.[1], Campos, J.B.[2], Granjeiro, J.M.[3], Cruz, R.[3] *[1]Departamento de Patología e Clinica Veterinaria, Universidade Federal Fluminenaw (UFF), Rio de Janeiro, Brazil.* *[2]Divisão de Porcessamento e Caracterização de Materiais, Instituto Nacional de Tecnología (INT), Rio de Janeiro, Brazil.* *[3]Instituto de Biología e Pós-Graduação em Patología, HUAP, Universidade Federal Fluminense (UFF), Rio de Janeiro, Brazil.*
Tu 28 **18:00 – 18:05**	**Avian Eggshell Magnesium Content and Crystallography** Dalbeck, P., Cusack, M., England, J. *Department of Geographical & Earth Sciences, Gregory Building, University of Glasgow. Glasgow, G12 8QQ. Scotland. UK..*
Tu 29 **18:05 – 18:10**	**The Presence of Living Microbialites at Torres del Paine National Park, Southernmost Chile.** Solari, M., Hervé, F. *Departamento de Geología, Universidad de Chile, Plaza Ercilla 803, Santiago Centro, Santiago, Chile.*
Tu 30 **18:10 – 18:15**	**Role of Sulfated Molecules in Urinary Stone Formation.** Escobar, C., Neira-Carrillo, A., Fernández, M.S., Arias, J.L. *Dept.Animal Biology, Faculty of Veterinary and Animal Sciences, University of Chile, and CIMAT, Santiago, Chile.*
Tu 31 **18:15 – 18:20**	**Hydroxyapatite Mineralization of Derivatized Chitosan Films in Double Diffusion Bioreactor.** Arias, J.I.[1], Neira-Carrillo, A.[1], Retuert, J.[2], Arias, J.L.[1] *[1] Dept.Animal Biology, Faculty of Veterinary and Animal Sciences, University of Chile, and CIMAT, Santiago, Chile.* *[2] Dept. Materials Sciences, Faculty of Physics and Mathematics, University of Chile, and CIMAT, Santiago, Chile.*
Tu 32 **18:20 – 18:25**	**Study of Non Classical Cristalization with Alanin Model Systems** Ma, Y., Cölfen, H. *Max-Planck-Institute of Colloids and Interfaces, Colloid Chemistry, Research Campus Golm, Am Mühlenberg, D-14424 Potsdam,Germany.*
Tu 33 **18:30 – 19:00**	**Crystal Habits and Magnetic Microstructures of Magnetosomes in Coccoid Magnetotactic Bacteria.** Lins, U.[1], Farina, M.[2], McCartney, M.R.[3], Buseck, P.R.[4], Frankel, R.B.[5] *[1]Instituto de Microbiologia Professor Paulo de Goes, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.* *[2]Instituto de Ciencias Biomedicas, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.* *[3]Center for Solid State Science, Arizona State University, Tempe, Arizona, USA.* *[4]Departments of Geology and Chemistry/Biochemistry, Arizona State University, Tempe, Arizona, USA.* *[5]Department of Physics, California Polytechnic State University, San Luis Obispo, California, USA.*

	WEDNESDAY 7
	Invertebrate Mineralization I (Chairperson: M. Farina)
We 01 **08:30 – 09:00**	**Biomineralisation of Iron in the Radula Teeth of Chitons and Limpets: a Review** Webb, J.[1] , Macey, D. J.[2] *[1]Engineering Science, Division of Science and Engineeing, Murdoch University, Murdoch, Perth, Western Australia, Australia 6150.* *[2] Biological Sciences and Biotechnology, Division of Science and Engineeing, Murdoch University, Murdoch, Perth, Western Australia, Australia 6150.*
We 02 **09:00 – 09:20**	**Biomineralization in the Limpet Radula: Structure of the Organic Matrix and Morphology of the Developing Goethite Crystals.** Sone, E.D., Weiner, S., Addadi, L. *Department of Structural Biology, Weizmann Institute of Science, Rehovot 76100, Israel.*
We 03 **09:20 – 09:40**	**Matrix Structure and Biomineralisation in the Radula Teeth of Chitons.** Brooker, L.R.[1], Lee, A.P.[2], Macey, D.J.[3], Wealthal, R.[4], Griffin, B.R.[4], Webb, J.[3], van Bronswijk, W.[2] *[1]Faculty of Science, Health and Education, Unbiversity of the Sunshine Coast, Maroochydore DC, Queensland, Australia, 4558.* *[2]Department of Applied Chemistry, Curtin University, GPO Box U1987, Perth, Western Australia 6845.* *[3]Biological Sciences and Biotechnology, Murdoch University, South St. Nurdoch, Perth, Western Australia 6150.* *[4]Centre for Microscopy and Microanalysis, The University of Western Australia, 35 Stirling Hwy, Crawley, Western Australia, 6009.*
We 04 **09:40 – 10:00**	**A Comparative Analysis of the Teeth and Epithelial Tissue in Natural and Iron Starved Specimens of the Chiton *Acanthopleura hirtosa* (Mollusca: Polyplacophora).** Shaw, J.A.[1], Macey, D.J.[1], Brooker, L.R.[2], Lee, A.P.[3], Clode P.L.[4], Stockdale, E.J.[1] *[1]Biological Sciences and Biotechnology, Murdoch University, South St. Murdoch, Perth, Western Australia, 6150.* *[2]Faculty of Science, Health and Education, University of the Sunshine Coast, Mareoochydore DC, Queensland, Australia 4558.* *[3]Department of Applied Chemistry, Curtin University, GPO Box U1987, Perth, Western Australia, 6845.* *[4]Centre for Microscopy and Microanalysis, The University of Western Australia, 35 Stirling Hwy, Crawley, Western Australia, 6009.*
We 05 **10:00 – 10:20**	**Hard Tissue Formation and Mineralization in Larval and Juvenile Chiton *Acantopleura hirtosa* (Mollusca: Polyplacophora).** Okoshi, K.[1,2], Shaw, J.[2], Stockdale, E.[2], Lee, A.P,[3], Macey, D.[2], Webb, J.[2] *[1]Department of Biotechnology, Ishinomaki Senshu University, Miyagi 986-8580, Japan.* *[2]Division of Science and Engineering, Murdoch University WA 6150, Australia.* *[3]Department of Applied Chemistry, Curtin University of Technology, WA 6845, Australia.*
We 06 **10:20 – 10:25**	**Identification of the Genes Involved in Biomineralization in the Chiton Radula.** Brooker, L.R.[1], Gardner, L.[2], Elizur, A.[1] *[1]Faculty of Science, Health and Education, Unbiversity of the Sunshine Coast, Maroochydore DC, Queensland, Australia, 4558.* *[2]Queensland University of Technology, Brisbane, Queensland, Australia.*

We 07 **10:25 – 10:30**	**The Stylus Canal: A Conduit for the Delivery of Ions to the Mineralizing Tooth Cusps of Chitons (Mollusca: Polyplacophora)?.** Shaw, J.A.[1], Macey, D.J.[1], Brooker, L.R.[2], Clode P.L.[3], Stockdale, E.J.[1] *[1]Biological Sciences and Biotechnology, Murdoch University, South St. Murdoch, Perth, Western Australia, 6150.* *[2]Faculty of Science, Health and Education, University of the Sunshine Coast, Mareoochydore DC, Queensland, Australia 4558.* *[3]Centre for Microscopy and Microanalysis, The University of Western Australia, 35 Stirling Hwy, Crawley, Western Australia, 6009.*
	Biomineralization and Environment (Chairperson: H. Kamiya)
We 08 **10:45 – 11:05**	**Biomineralization of $CaCO_3$ in the Oceans: A Major Negative Feedback Mechanism to Atmospheric CO_2 Increase.** Erez, J., Schneider,K., Silverman, J.,Braun, A.,Grinstein, S.B.M., Lazar, B. *Institute of Earth Sciences, The Hebrew University of Jerusalem, Jerusalem 91904, Israel.*
We 09 **11:05 – 11:25**	**Echinoderm Skeletons Record Sea Temperatures.** Ranner, H.[1], Ladriére, O.[1], Navez, J.[2], André, L.[2], Gillikin, D.[3], Keppens, E.[3], Dubois, Ph..[1] *[1]Université Libre de Bruxelles, Marine Biology Laboratory CP 160/15, av. Roosevelt, 50, B-1050 Bruxelles, Belgium.* *[2]Royal Museum for Central Africa (KMMA/MRAC), Section of Mineralogy, Petrography and Geochemistry.* *[3]Vrije Universiteit Brussel (VUB), Analytical Chemistry (ANCH) and Isotope Geochemistry (GISO), Belgium.*
We 10 **11:25 – 11:45**	**Organo-Mineral Patterns at the Nanometer-scale in Mollusc and Coral Skeletons: Implications of the Layered Growth Mode for Mineralization Process and Environment Recording.** Cuif, J.-P.[1], Dauphin, Y.[1], Meibom, A.[2], Guzman, N.[3] *[1]CNRS-IDES, Bat. 504, Paris-Sud University, 91405-Orsay, France* *[2]MNHN-LEME, 57 Rue Cuvier, 75005-Paris, France* *[3]IRD-UR Plaeotropique, 32 Av. Henri Varagnat, 93143-Bondy, France*
We 11 **11:45 – 12:05**	**Coral Environmental Proxies in Crystallographic Context** England, J.[1], Cusack, M.[1], Tudhope, S.[2], Fallick, A.[3], Allison, N.[4] *[1]Department of Geographical and Earth Sciences, Gregory Building, Lilybank Gardens, University of Glasgow, Glasgow, G12 8QQ, UK.* *[2]School of Geosciences, The Grant Institute, The University of Edinburgh, The King's Buildings, West Mains Rd, Edinburgh, EH9 3JW, UK.* *[3]S.U.E.R.C, Scottish Enterprise Technology Park, Rankine Avenue, East Kilbride, Glasgow, G75 0QF, UK.* *[4]School of Geography & Geosciences, Irvine Building, University of St Andrews, St Andrews, Fife, KY16 9AL,UK*
We 12 **12:05 – 12:25**	**Phenomenon of Interspace Mineralization in the Calicoblastic Epithelium of Deep-Sea Bamboo Coral (Anthozoa: Gorgonacea: Isididae).** Ehrlich, H.[1], Etnoyer, P.[2], Meissner, H.[3], Hanke, T.[1], Göbel, C.[4], Born, R.[1], Rühl, R.[1], Worch, H.[1] *[1]Max Bergmann Center of Biomaterials, Institute of Material Science, Technical University Dresden, Budapester Str. 27, 01069 Dresden, Germany.* *[2]Aquanautix Corp., Los Angeles, USA.* *[3]University Hospital Kart-Gustav Carus, Dresden, Germany* *[4]MPI of Solid Physics, Dresden, Germany.*

We 13 **12:25 – 12:45**	**Biomineralization Induced by *Myxococcus xanthus*: Application to the Protection and Consolidation of Ornamental Stone.** González-Muñoz, M.T.[1], Jiménez-López, C.[1], Rodríguez-Navarro, A.[2], Rodríguez-Gallego, M.[2] *[1]Dpto. Microbiología, Universidad de Granada, Spain.* *[2]Dpto. Mineralogía y Petrología, Universidad de Granada, Fuentenueva s/n 18071 Granada, Spain.*
We 14 **12:45 – 12:50**	**Exploring the Mineralization Process in Cestode Platyhelminths** Chalar, C., Señorale, M., Martínez, C., Ehrlich, R., Marín, M. *Sección Bioquímica, Facultad de Ciencias, Universidad de la República, Uruguay.*
We 15 **12:50 – 12:55**	**Molecular Cloning and Localization of a PMCA P-type Calcium ATPase from the Coral *Stylophora pistillata.*** Zoccola, D.[1], Tambutté, E.[1], Kulbanek, E.[1], Puverel, S.[1], Scimeca, J.C.[2], Allemand, D.[1], Tambutté, S.[1] *[1]Centre scientifique de Monaco, Avenue Saint Martin, MC-980000, Monaco* *[2]UMR 6549, CNRS/UNAS, Faculté de Médecine, F-06107, Nice Cedex 02, France.*
We16 **12:55 – 13:00**	**Presence of Low Molecular Weight Peptides in the Organic Matrix of Corals.** Allemand, D.[1], Houlbrèque, F.[1], Payan, P.[2], Puverel, P.[1], Tambutté, E.[1], Tambutté, S.[1], Zoccola, D.1 *[1]Centre scientifique de Monaco, Avenue Saint Martin, MC-98000, Monaco.* *[2]UMR 1112 INRA/UNAS, Faculté des Sciences, BP 71, F-06108, Nice Cedex 02, France.*
We 17 **21:30 – 22:00**	**Molecular Biomimetics: Genetically Engineered Polypeptides for Functional Materials Assembly.** Sarikaya, M. *Materials Science and Engineering, and Chemical Engineering, University of Washington, Seattle, WA 98195, USA.*
	THURSDAY 8
	Invertebrate Mineralization II (Chairperson: E. DiMasi)
Th 01 **08:30 – 09:00**	**From Algae to Bio-inspired Materials.....and Back.** Coradin, T. *Laboratoire de Chimie de la Matière Condensée, CNRES.UMR 7574, Université Pierre et Marie Curie, 4 place Jussieu, 75252 Paris cedex 05, France.*
Th 02 **09:00 – 09:20**	**Self Healing in a Bionanocomposite: a Sequential Characterization and Comparison of Newly Deposited Shell Material in Molluscs.** Hinkley, K.M.[1], Fong, H.[1], Michel, E.[2], Sarikaya, M.[1] *[1]University of Washington, Dept. of Materials Science and Engineering, 302 Roberts Hall, Seattle, WA 98195, USA.* *[2]Museum of Natural History, Dept. of Zoology Museum of Natural History, Cromwell Rd. London, SW7 5BD – 020 7942 5000, England*
Th 03 **09:20 – 09:40**	***Amiantis purpurata* and *Eurhomalea lenticularis*: Two Case Studies of Oriented Mineralization and its Influence on Clam Shells Strenght.** Bolmaro, R.E. *Instituto de Física Rosario, Facultad de Ciencias Exactas, Ingeniería y Agrimensura, CONICET-UNR, Bv. 27 de febrero 210 bis, 2000, Rosario, Argentina.*

Th 04 **09:40 – 10:00**	**Structure Characterization and *in vitro* Simulation of Nacre.** Feng, Q. *Dept.of Materials Science and Engineering, Laboratory of Advanced Materials Science, Tsinghua University, Beijing 100084, China P.R..*
Th 05 **10:00 – 10:20**	**The Dynamics of Nacre and Pearl Growth.** Cartwright, J.[1], Checa, A.G.[2] *[1]Laboratorio de Estudios Cristalográficos, CSIC-Universidad de Granada, Facultad de Ciencias, Campus Fuentenueva, E-18071 Granada, Spain.* *[2]Dpto. de Estratigrafía y Paleontología, Facultad de Ciencias, Universidad de Granada, Avenida Fuentenueva s/n, E-18071 Granada, Spain.*
Th 06 **10:20 – 10:25**	**Different Roles of the N- and C-Terminal Regions of Calcification-Associated Peptide-1 from the Crayfish.** Inoue, H.[1], Ohira, T.[2], Nagasawa, H.[1] *[1]Graduate School of Agricultural and Life Sciences, The University of Tokyo, Tokyo 111-8657, Japan.* *[2]Japan International Research Center of Agricultural Sciences, Ibaraki 305-8686, Japan.*
Th 07 **10:25 – 10:30**	**Study on Biomineralization in Mantle Tissue Culture of Pearl Oyster *Pinctata fucata.*** Dharmaraj, S., Suja, C.P. *Central Marine Fisheries Research Institute, Tuticorin Ressearch Center, Tuticorin, India.*
	Invertebrate Mineralization III (Chairperson: U. Plate)
Th 08 **10:45 – 11:05**	**Study on Biomineralization in Mantle Tissue Culture of Abalone *Haliotis varia* Linnaeus.** Suja, C.P., Dharmaraj, S. *Central Marine Fisheries Research Institute, Tuticorin Ressearch Center, Tuticorin, India*
Th 09 **11:05 – 11:25**	**Precipitation of Aragonite by Calcitic Bivalves in Mg-Enriched Marine Waters.** Jiménez-López, C.[1], Checa, A.G.[2], Rodríguez-Navarro, A.[3], Machado, J.[4] *[1]Dpto.Microbiología, Facultad de Ciencias, Universidad de Granada, Spain.* *[2]Dpto. Estratigrafía y Paleontología, Facultad de Ciencias, Universidad de Granada, Spain.* *[3]Dpto.de Mineralogía y Petrología, Facultad de Ciencias, Universidad de Granada, Spain.* *[4]Laboratorio de Fisiología Aplicada, Instituto de Ciencias Biomédicas, Universidad de Porto, Largo Profesor Abel Salazar 2, 4099-003 Porto, Portugal.*
Th 10 **11:25 – 11:45**	**Nano-Composite Structure of Nacre Biocrystal.** Bourrat, X.[1], Rousseau, M.[2], Lopez, E.[2], Couté, A.[3], Mascarel, G.[3], Smith, D.C.[4], Stempflé, P.[5] *[1]University of Orleans, Institut des Sciences de la Terre d'Orleans, 1[A] rue de la Ferollerie, 45071 Orleans cedex 2, France.* *[2]Muséum National d'Histoire Naturelle, Département des Milieux et Peuplements aquatiques UMR CNRS 5178 »Biologie des Organismes Marins et Ecosystèmes » 7, rue Cuvier 75231 Paris cedex 05, France.* *[3]Muséum National d'Histoire Naturelle,Département Régulations Devéloppement et Diversité Moléculaire, USM 505 Ecosystèmes et Interactions toxiques, 12 rue Buffon 75231 Paris Cedex 05, France.* *[4] Muséum National d'Histoire Naturelle, Département de l`Histoire de la Terre, Bâtiment de Minéralogie, 61, rue Buffon 75231 Paris Cedex 05, France.* *[5]Ecole Nationale d`Ingénieurs de Tarbes, Laboratoire Génie de Production, Groupe Tribologie, 47, Avenue d`Azeriex BP 1629, 65016 Trabes Cedex, France.*

Th 11 **11:45 – 12:05**	**Voronoi Growth Model of Sheet Nacre.** Rousseau, M.[1], Lopez, E.[1], Couté, A.[2], Mascarel, G.[2], Smith, D.C.[3], Bourrat, X.[4] *[1]Muséum National d'Histoire Naturelle, Département des Milieux et Peuplements aquatiques UMR CNRS 5178 »Biologie des Organismes Marins et Ecosystèmes » 7, rue Cuvier 75231 Paris cedex 05, France.* *[2]Muséum National d'Histoire Naturelle,Département Régulations Devéloppement et Diversité Moléculaire, USM 505 Ecosystèmes et Interactions toxiques, 12 rue Buffon 75231 Paris Cedex 05, France.* *[3]Muséum National d'Histoire Naturelle, Département de l`Histoire de la Terre, Bâtiment de Minéralogie, 61, rue Buffon 75231 Paris Cedex 05, France.* *[4]University of Orleans, Institut des Sciences de la Terre d'Orleans, ISTO, 1[A] rue de la Ferollerie, 45071 Orleans cedex 2, France.*
Th 12 **12:05 – 12:25**	**Crystallographic Structure of the Folliated Calcitic Microstructure of Bivalve Shells.** Checa, A.G.[1], Esteban-Delgado, F.J.[1], Rodríguez-Navarro, A.B.[2] *[1]Departamento de Estratigrafía y Paleontología, Facultad de Ciencias, Universidad de Granada, Avenida Fuentenueva s/n, 18071 Granada, Spain.* *[2]Departamento de Mineralogía y Petrología, Facultad de Ciencias, Universidad de Granada, Avenida Fuentenueva s/n, 18071 Granada, Spain.*
Th 13 **12:25 – 12:45**	**Microstructure and Composition of Multilayered Shells of *Haliotis* (Mollusca, Gastropoda).** Dauphin, Y.[1], Williams, C.T.[2], Salomé, M.[3], Susini, J.[3], Cuif, J.-P.[1] *[1]UMR IDES Bât 504, Université Paris XI-Orsay, F-91405 Orsay cedex, France.* *[2]Department of Mineralogy, Natural History Museum, Cromwell Road, London SW7 5BD, UK.* *[3]European Synchrotron Radiation Facility (ESRF), X-ray Microscopy Beamline ID21, BP 220, F-38043 Grenoble Cedex, France.*
Th 14 **12:45 – 12:50**	**Development of Order in Bivalve Shell Microstructures.** Rodríguez-Navarro, A.B.[1], Checa, A.G.[2], Esteban-Delgado, F.J.[2] *[1]Departamento de Mineralogía y Petrología, Facultad de Ciencias, Universidad de Granada, Avenida Fuentenueva s/n, 18071 Granada, Spain.* *[2]Departamento de Estratigrafía y Paleontología, Facultad de Ciencias, Universidad de Granada, Avenida Fuentenueva s/n, 18071 Granada, Spain.*
Th 15 **12:50 – 12:55**	**Calcification in the Shell of the Freshwater Bivalve *Unio pictorum.*** Marie, M., Guichard, N., Luquet, G., Marin, F. *UMR CNRS 5561 Biogéosciences, University of Burgundy, 6 Bd. Gabriel, F-21000 Dijon, France*
Th 16 **12:55 – 13:00**	**Caspartin: Thermal Stability and Occurrence on Mollusc Calcified Tissues.** Marin, F.[1], Morin, V.[1], Knap, F.[1], Guichard, N.[1], Marie, B.[1], Luquet, G.[1], Westbroek, P.[2] *[1]UMR CNRS 5561 Biogéosciences, University of Burgundy, 6 Bd. Gabriel, F-21000 Dijon, France.* *[2]Gorleaus Laboratories, Leiden University, Einsteinweg 55, P.O. Box 9502, 23000 RA Leiden, The Netherlands.*

Th 17 **14:30 – 14:50**	**Electron Back Scatter Diffraction (EBSD) Study of *Terebratalia transversa*.** Cusack, M., England, J., Dalbeck, P., Parkinson, D. *Department of Geographical & Earth Sciences, Gregory Building, University of Glasgow. Glasgow, G12 8QQ. Scotland. UK.*
Th 18 **14:50 – 15:10**	**Brachiopod Protuberances as Self-Defense Against Boring Invaders.** Gaspard, D. *Université de Paris-Sud, Département des Sciences de la Terre, Bât. 509, F-91405 Orsay Cedex, France.*
Th 19 **15:10 – 15:30**	**Carbonate Apatites from Recent and Fossil Brachiopods of the Subphylum Linguliformea.** Whyte, M.A.[1], Hewitt, R.A.[2] *[1]Department of Geography, University of Sheffield, Sheffield, S11 9SH, United Kingdom.* *[2]12, Fairfield Road, Eastwood, Leigh-on-Sea, Essex, SS9 5SB, United Kingdom.*
Th 20 **15:30 – 15:50**	**Functional Mapping of the Organic Matrix of the Mollusk Shell.** Nudelman, E., Weiner, S., Addadi, L. *Department of Structural Biology, Weizmann Institute of Science, Rehovot 76100, Israel*
Th 21 **15:50 – 15:55**	**Crystal Crossroads-the Calcite/Aragonite Polymorph Switch in *Mytilus edulis*** England, J., Cusack, M., Dalbeck, P., Lee, M. *Department of Geographical and Earth Sciences, Gregory Building, Lilybank Gardens, University of Glasgow, Glasgow, G12 8QQ, UK..*
Th 22 **15:55 – 16:00**	**Obtainment of Bioimplantable Materials from Polysiloxane-Chitosan Composites by Using Hydroxyapatite Crystalization.** Neira-Carrillo, A., Fernández, M.S., Arias, J.I., Retuert, J., Arias, J.L. *Center for Advanced Interdisciplinary Research in Materials (CIMAT), Universidad de Chile, Santiago, Chile*
	Invertebrate Mineralization IV (Chairperson: A. Rodríguez-Navarro)
Th 23 **16:15 – 16:35**	**cDNA Cloning and Expression Analysis of a Novel Protein Involved in Coccolith Biomineralization in Coccolithophorid Alga *Pleurochrysis carterae*.** Sakurai, T., Hwang, S.-H., Tohse, H., Nagasawa, H. *Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo,Bunkyo, Tokyo 113-8657, Japan.*
Th 24 **16:35 – 16:55**	**Complementary Approaches to Study Coral Organic Matrix.** Allemand, D.[1], Houlbrèque, F.[1], Payan, P.[2], Pereira-Mouriès, L.[1], Puverel, P.[1], Tambutté, E.[1], Tambutté, S.[1], Zoccola, D.[1] *[1]Centre scientifique de Monaco, Avenue Saint Martin, MC-98000, Monaco.* *[2]UMR 1112 INRA/UNAS, Faculté des Sciences, BP 71, F-06108, Nice Cedex 02, France.*
Th 25 **16:55 – 17:15**	**Characterization of Matrix Proteins in the Coralline Demosponge *Astrosclera willeyana*.** Wörheide, G., Macis, L., Reitner, J. *Geoscience Centre Göttingen, Dept.of Geobiology, Goldschmidtstr. 3, D-37077, Göttigen, Germany.*

Th 26 **17:15 – 17:35**	**Biochemical Characterization of the Soluble Organic Matrix of Gastroliths from Decapods.** Luquet, G.[1], Fernandez, M.S.[2], Arias, J.L.[2], Guichard, N.[1], Marie, B.[1], Marin, F.[1] *[1]UMR CNRS 5561 Biogéosciences, University of Burgundy, 6 Bd. Gabriel, F-21000 Dijon, France.* *[2]Faculty of Veterinary and Animal Sciences and Center for Advanced Interdisciplinary Research in Materials (CIMAT), University of Chile, Santiago, Chile.*
Th 27 **17:35 – 17:55**	**The Influence of Experimental Parameters on the Structural Variation of Calcium Carbonate Grown in the Presence of Mono-L-Glutamic and Mono-L-Aspartic Acid.** Winter, K., van Riessen, A., Kirby, N. Curtin University, Materials Research Group, Dept. Applied Physics, Perth , Australia.
Th 28 **17:55 – 18:15**	**cDNA Cloning and Characterization of a Novel Calmodulin-Like Protein from Pearl Oyster *Pinctata fucata.*** Li, S.[1], Xie, L.-P.[1,2], Ma, Z.[1], Zhang, R.-Q.[1,2] *[1]Institute of Marine Biotechnology, Department of Biological Scienes and Biotechnology, Tsinghua University, Beijing, 100084, China P.R.* *[2]Protein Science Laboratory of the Ministry of Education, Tsinghua University, Beijing,100084, China P.R.*
Th 29 **18:15 – 18:20**	**Influence of Chitosan-Polyacrylamide Mixtures on the Growth of $CaCO_3$ Crystals.** Díaz-Dosque, M.[1,5], Yazdani-Pedram, M.[2,5], Retuert, J.[3,5], Arias, J.L.[4,5] *[1]Faculty of Odontology, University of Chile, Santiago, Chile.* *[2]Faculty of Chemistry and Pharmaceutical Sciences, University of Chile, Santiago, Chile.* *[3]Faculty of Physical and Mathematical Sciences, University of Chile, Santiago, Chile.* *[4]Faculty of Veterinary and Animal Sciences, University of Chile, Santiago, Chile.* *[5]Center for Advanced Interdisciplinary Research in Materials (CIMAT), University of Chile, Santiago, Chile.*
Th 30 **17:50– 17:55**	**In-Situ X-ray Reflectivity and Grazing Incidence Diffraction Studies of Calcium Carbonate Mineralisation at Fatty Acid Monolayers** Guha, A. [1] , Kirby, N. [1], van Riessen, A. [1], Winter, K. [1], DiMasi, E. [2] [1] *Curtin University, Materials Research Group, Dept. Applied Physics, Perth , Australia .* [2] *Brookhaven National Laboratory, National Synchrotron Light Source, Upton , NY 11973-5000 , USA*
Th 31 **17:55 – 18:00**	**Immunolocalization of Glycosaminoglycans and Proteoglycans in Human Enamel** Oyarzún, A., Eltit, F. *Faculty of Odontology. University Finis Terrae, Santiago-Chile*
Th 32 **18:00 – 18:05**	**Dynamics of Subcutaneous Tissue Response to the Implantation of Tetracycline-Treated or Untreated Membrane of Demineralized Bovine Cortical Bone in Rats.** Oliveira, R.C.[1]; Carneiro, E.[1]; Cestari, T.C.[1]; Taga, R.[1]; Cruz, R.[2]; Granjeiro, J.M.[2] [1] *Faculdade de Odontologia de Bauru, Universidade de São Paulo, Bauru, Brasil.* [2] *Instituto de Biologia, Depto de Biologia Celular e Molecular, Universidade Federal Fluminense, Rio de Janeiro Brasil.*

	FRIDAY 9
	Invertebrate Mineralization V (Chairperson:J.P. Reyes-Grajeda)
Fr 01 **08:30 – 08:50**	**Cloning and Characteriztion of Alkaline Phosphatase Gene from Pearl Oyster, *Pinctata fucata.*** Xie, L.-P.[1,2], Dai, Y.-P.[1], Xiong, X.[1], Wu, Y.-T.[1], Zhang, J.[1], Zhang, R.-Q.[1,2] *[1]Institute of Marine Biotechnology, Department of Biological Sciences and Biotechnology, Tsinghua University, Beijing, 100084, China P.R.* *[2]Protein Science Laboratory of the Ministry of Education, Tsinghua University, Beijing,100084, China P.R.*
Fr 02 **08:50 – 09:10**	**Functional and Structural Analyses of Prismalin-14 from the Prismatic Layer of the Japanese Pearl Oyster (*Pinctata fucata*).** Suzuki, M.[1], Inoue, H.[1], Kogure, T.[2], Sakuda, S.[1], Nagasawa, H.[1] *[1] Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo,Bunkyo, Tokyo 113-8657, Japan.* *[2]Department of Earth and Planetary Science, Graduate School of Science, The University of Tokyo, Hongo 7-3-1, Bunkyo, Tokyo 113-0033, Japan.*
Fr 03 **09:10 – 09:30**	**Biochemical Characteristics of the Shell Soluble Organic Matrix of Some Recent Terebratulid Brachiopods.** Gaspard, D.[1], Marie, B.[2], Marin, F.[2], Luquet, G.[2] *[1]Université de Paris-Sud, Département des Sciences de la Terre, Bât. 509, F-91405 Orasy Cedex, France.* *[2]UMR CNRS 5561 Biogéosciences, Université de Bourgogne, 6 Bd. Gabriel, F-21000 Dijon, France.*
Fr 04 **09:30 – 09:50**	**Role of Low Molecular Weight Molecules of the Organic Matrix of *Pinctata margaritifera* Mother of Pearl in Biomineralization Control.** Bedouet, L.[1], Rusconi, F.[2], Dubost, L.[2], Rousseau, M.[1], Duplat, D.[1], Le Ny, K.[1], Berland, S.[1], Borzeix, S.[1], Milet, C.[1], Lopez, E.[1] *[1]Muséum National d'Histoire Naturelle, Département des Milieux et Peuplement aquatiques USM 401, UMR CNRS 5178 BOME, ERT « Valorisation des molécules bioactives d'origine marine », 7 rue Cuvier 05, CP 32, 75231, Paris Cedex 05, France.* *[2]Muséum National d'Histoire Naturelle, Département Régulations, Développement et Diversité Moléculaire, Plateforme de Spectrométrie de Masse et de Protéomique, 57, rue Cuvier, CP 26, 75231, Paris Cedex 05, France.*
Fr 05 **09:50 – 10 :10**	**Amorphous Calcium Carbonate Binding Protein (ACCBP): A Novel Protein Involved in *Pinctada fucata* Shell Biomineralization.** Ma, Z.-J.[1], Xie, L.-P.[1,2], Zhang, C.[1], Li, S.[1], Zhang, X.-Y.[1], Zhang, R.-Q.[1,2] *[1]Institute of Marine Biotechnology, Department of Biological Scienes and Biotechnology, Tsinghua University, Beijing, 100084, China P.R.* *[2]Protein Science Laboratory of the Ministry of Education, Tsinghua University, Beijing,100084, China P.R.*
Fr 06 **10:10 – 10:30**	**Biochemical Relationships Associated with Shell Reduction and Loss in Opisthobranchia (Mollusca: Gastropoda).** Furuhashi, T.[1], Brooker, L.R.[1], Brooks, P.R.[1], Duncan, P.F.[1], Willan, R.C.[2] *[1]Faculty of Science, Health and Education, University of the Sunshine Coast, Mareoochydore DC, Queensland, Australia 4558.* *[2]Museum and Art Gallery of the Northern Territory, GPO Box 4646, Darwin, NT, Australia, 0801.*

	Biomimetic Mineralization I (Chairperson: Y. Dauphin)
Fr 07 **10:45 – 11:05**	**Histology and Elemental Composition of the Meculiar Enamel Found in the Enamel Pearl of Human Molar.** Takahashi, M.[1] , Goto, S.[2], Kobayashi, K.[3] [1] *Department of Dental Hygiene, The Nippon Dental University College at Niigata, 1-8, Hamaura-cho, Niigata 951-8580, Japan.* [2] *Department of Dental Material Science, The Nippon Dental University School of Dentistry at Niigata, 1-8, Hamaura-cho, Niigata 951-8580, Japan.* [3] *Department of Anatomy, The Nippon Dental University School of Dentistry at Niigata, 1-8, Hamaura-cho, Niigata 951-8580, Japan.*
Fr 08 **11:05 – 11:25**	**Mineralization of Calcium Carbonate and Calcium Phosphate in the Presence of Proteins: An Exploration with Small Angle Neutron Scattering.** Schwahn, D. *Forschungszentrum Jülich GmbH, Institut für Festkörperforschung, Jülich, Germany.*
Fr 09 **11:25 – 11:45**	**Biomimetic Mineralization and Scanning Force Modulation Microscopy Studies of Self-Assembled Protein Fibers.** Subburaman, K.[1], Perdonet, N.[1], Kwak, S.-Y.[2], DiMasi, E.[2], Ge, S.[1], Yang, N.L.[3], Rafaidovich, M.[1] [1]*Materials Science & Engineering, Stony Brook University, Stony Brook NY 11794, USA* [2]*Brookhaven National Laboratory, Upton NY 11973, USA* [3]*Dept. of Chemistry, City University of New York, Staten Island, NY 10304, US*
Fr 10 **11:45 – 12:05**	**Biomineral Single-Crystals : Composite Nano-Cluster Structure and Polyanion-Mediated Growth Model.** Sethmann, I. *Institut für Mineralogie, Universität Münster, Correnst. 24, D-48149 Münster, Germany.*
Fr 11 **12:05 – 12:25**	**Postcards from the Proteome: Analysis of Proteins Associated with Calcium Oxalate Crystals in Plants.** Webb, M.A.[1], Klanrit, P.[1], Stitsworth, A.[1], Wyman, A.[2] [1] *Botany and Plant Pathology Department, Purdue University, West Lafayette, IN 47906,USA.* [2] *Department of Chemistry, Wabash College, Crawfordsville, IN 47933,USA.*
Fr 12 **12:25 – 12:45**	**Self-Assembled Templates for the Nucleation of $CaCO_3$: The Importance of Adaptability and the Role of the Amorphous Phase.** Sommerdijk, Nico A.J.M. *Laboratory of Macromolecular and Organic Chemistry, Eindhoven University of Technology, Eindhoven, The Netherlans.*
Fr 13 **12:45 – 13:05**	**Calcium-Based Biominerals: An Evolutionary Way to Keep Soft Tissues Alive.** Arias, J.L. *Dept.Animal Biology, Faculty of Veterinary and Animal Sciences, University of Chile, and CIMAT, Santiago, Chile.*

	Biomimetic Mineralization II (Chairperson: A. Neira-Carrillo)
Fr 14 **14:30 – 14:50**	**Electric Dipole Fields: Origin for Hierarchical Patterns-Development in a Biomimetic Nanocomposite of Fluorapatite with Gelatine?. A model System for General Principles of Biomineralisation.** Simons, P.[1], Zahn, D.[1], Lichte, H.[2], Kniep, R.[1] *[1]Max-Plack-Institute für Chemische Physik fester Stoffe, Nöthnitzer Str. 40, 01187, Dresden, Germany.* *[2]Institut für Strukturphysik, Triebenberg Laboratory, Technische Universität Dresden, Zum Triebenberg 50, 01328 Dresden, Germany.*
Fr 15 **14:50 – 15:10**	**Image Analytical Studies of Ion Milled Cross Sections of Mineralized and Biomineralized Materials Using HR-SEM, Static Imaging SIMS and Imaging FTIR.** Boon, J.J.[1], Keune, K.[1], de Mooij, T.[2], Ashana, S.[3] *[1]FOM Institute AMOLF, Kruislaan 407, 1098 SJ Amsterdam, The Netherlands.* *[2]JEOL Europe, Amsterdam, The Netherlans.* *[3]JEOL Application Centre, Tokyo, Japan.*
Fr 16 **15:10 – 15:30**	**Influence of Ca^{2+}-Ion Impregnation of Gelatine-Gels on the Morphogenesis of Fluorapatite-Gelatine-Composites: Suppression of a Fractal Growth Mechanism.** Tlatlik, H., Kniep, R. *Max-Planck-Institut für Chemische Physik fester Stoffe, Nöthnitzer Str. 40, 01187, Dresden; Germany.*
Fr 17 **15:30 – 15:50**	**Understanding Basic Principles of Biomineralization from Computer Simulations? Atomistic Simulation Approaches for the Investigation of the Mechanisms of Crystal and Composite Formation: First Steps and Future Perspectives for the Study of Fluorapatite-Gelatine Nanocomposites.** Zahn, D.[1], Kawska, A.[2], Hochrein, O.[1], Schepers, T.[2], Brickmann, J.[2], Kniep, R.[1] *[1] Max-Planck-Institut für Chemische Physik fester Stoffe, Nöthnitzer Str. 40, 01187, Dresden; Germany.* *[2]Eduard-Zintl-Institut für Anorganische und Physikalische Chemie, Technische Universität Darmstadt, Petersenstraße 20, 64287 Darmstadt, Germany.*
	Biomimetic Mineralization III (Chairperson: R. Bolmaro)
Fr 18 **16:15 – 16:35**	**Scanning SAXS/WAXS: Shining Light on Biomineralization Problems.** Gourrier, A., Stachewicz, U., Wagermaier, W., Gupta, H., Paris, O., Fratzl, P. *Max Planck Institute of Colloids and Interfaces, MPIKG, D-14424 Potsdam, Germany.*
Fr 19 **16:35 – 16:55**	**Nucleation of $CaCO_3$ Crystals on Evaporated Fatty Acid Thin Films.** Imaeda, K., Kubo, T., Hondoh, H., Nakada, T. *Department of Physical Scienbces, Faculty of Science and Engineering, Riutsumeikan University, 1-1-1 Noji-Higashi, Kusatsu, Shiga 525-8577, Japan.*
Fr 20	**Studies of Calcium Oxalate Biomineralization in Bean Seed Coat.**

16:55 – 17:15	Jáuregui-Zúñiga, D., Moreno, A. *Departamento de Bioquímica, Instituto de Química, UNAM, Circuito exterior s/n Ciudad Universitaria, México D.F. 04510, México.*
Fr 21 **17:15 – 17:35**	**Plant Cell Proliferation Inside a Silica Matrix.** Perullini, M.[1], Jobbágy, M.[1], Rivero-Pérez, M.M.[2], Bilmes, S.A.[1], Mentaberry, A.N.[2] *[1]INQUIMAE-DQIAQF, Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, Ciudad Universitaria Pab. II, C1428EHA Buenos Aires, Argentina.* *[2]Lab. de Agrobiotecnología, Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, Ciudad Universitaria Pab. II, C1428EHA Buenos Aires, Argentina.*
Fr 22 **17:35 – 17:55**	**On the Structure of Mollusc-Made Aragonite and Calcite.** Pokroy, B.[1], Fitch, N.A.[2], Lee, P.L.[3], Caspi, E.N.[4], Marin, F.[5], Zolotoyabko, E.[1] *[1]Department of Materials Engineering, Technion-Israel Institute of Technology, Haifa 32000, Israel.* *[2]European Synchrotron Radiation Facility, BP 220, 38043, Grenoble Cedex, France.* *[3]X-ray Operation and Research, Advanced Photon Source, Argonne National Laboratory, 9700 South Cass Avenue, Argonne, IL, 60439, USA.* *[4]Physics Department, Nuclear Research Centre-Negev, P.O.Box 9001, Beer-Sheva 84190, Israel.* *[5]Laboratoire de Biogéosciences, UMR 5561, Université de Bourgogne, 6, Bd. Gabriel 21000 Dijon, France.*
Fr 23 **17:55 – 18:15**	***In Vitro* Model Investigations on the Influence of Collagen, Osteocalcin and Fetuin on Calcium Phosphate Precipitation.** Rühl, R., Lenhard, S., Pompe, W., Gelinsky, M. *Technical University Dresden, Max Bergman Center of Biomaterials, Budapesterstr. 27, 01097 Dresden, Germany.*
Fr 24 **18:30 – 19:00**	**Non Classical Crystallization.** Cölfen, H. *Max-Planck-Institute of Colloids and Interfaces, Colloid Chemistry, Research Campus Golm, Am Mühlenberg, D-14424 Potsdam,Germany.*