


PERSONAL INFORMATION

Tevfik Onur Mentès

 Nanospectroscopy Beamline, Elettra - Sincrotrone Trieste



 www.elettra.eu/elettra-beamlines/nanospectroscopy.html



Date of birth | Nationality

WORK EXPERIENCE

October 2009 – Present

Beamline Scientist

Nanospectroscopy Beamline, Elettra - Sincrotrone Trieste, Italy

January 2005 – October 2009

Postdoctoral Researcher

Nanospectroscopy Beamline, Elettra - Sincrotrone Trieste, Italy

April 2004 – January 2005

Postdoctoral Researcher

BACH Beamline, TASC-INFM, Italy

EDUCATION

October 2003

Ph.D. in Physics

State University of New York at Stony Brook

"Imaging Magnetic Domains using Resonant X-ray Scattering"

Advisor Chi-Chang Kao.

May 1998

M.S. in Physics

State University of New York at Stony Brook

"The Isolated Diphoton Cross Section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8\text{TeV}$ "

Advisor Roderich Engelmann.

May 1996

B.S. in Electrical Engineering

Bogaziçi University, Istanbul

"Pattern Recognition using Elliptic Fourier Descriptors"

Advisor Işıl Bozma.

May 1996

B.S. in Physics (Double Major)

Bogaziçi University, Istanbul

Advisor Alpar Sevgen.

RESEARCH INTERESTS

Microscopy methods

applications of and developments in low-energy electron microscopy; x-ray photoemission microscopy; coherent x-ray diffraction microscopy.

Self-organization

spontaneous pattern formation on crystalline surfaces; order-disorder transitions; elastic effects on surface restructuring.

Surface magnetism

effect of low-dimensionality on magnetic properties; adsorbate-induced magnetic transitions.

Two-dimensional materials

Growth, structure and magnetic properties.

TEACHING ACTIVITY

- ▷ Co-supervisor; Master Thesis of Carlo Alberto Brondin, "The influence of graphene on the magnetism of ultrathin cobalt"; Cà Foscari Università di Venezia and Elettra Sincrotrone Trieste; October 2020.
- ▷ Co-supervisor; PhD Thesis of Carlo Alberto Brondin, "Interlayer magnetic coupling mediated by two-dimensional materials"; Cà Foscari Università di Venezia and Elettra Sincrotrone Trieste; in progress.
- ▷ Mentorship; Master Thesis work of Jacopo Ardini ("Determination of surface structure of pseudomorphic and close-packed Ni/W(110)", 2011) and Giovanni Zamborlini ("Spectro-microscopic characterization of the Graphene/Ir(100) interface irradiated with Ar ions", 2013).
- ▷ Lecture at the Synchrotron School SILS; "Dichroism and Magnetic Dynamics"; 2019.
- ▷ Lecture series at the Univerza v Ljubljani (Fakulteta za matematiko in fiziko); "X-ray Microscopy applied to surface science and magnetism", 2020-2022.

PROJECTS

- ▷ Co-proponent of the MAG-ALCHEMI project "Magnetic Anisotropy Grafting by means of Atomic Level CHEMical engineering at film Interfaces"; sponsored by CERIC-ERIC; 0.5 M€; 2017-2020.
- ▷ Principal Investigator of DOLINA project "Dual Operation Lensless-Imaging and electron NAnoscope"; Elettra Sincrotrone Trieste; 90 k€; 2016-2020.

ACTIVITIES, MEMBERSHIPS AND HONORS

- ▷ Referee for several scientific journals (Phys. Rev. Lett., Phys. Rev. B, Carbon, Ultramicroscopy, Scientific Reports, Surface Science, and others).
- ▷ ALBA Synchrotron proposal evaluation committee member, since 2018.
- ▷ Selection committee member for the CEI Research Fellowship Programme CERES, 2009-2012.
- ▷ Honoured as the first in the 1996 double major class in Bogazici University, Istanbul.
- ▷ Participated in the 1992 International Mathematical Olympiads (Moscow) as a member of the Turkish national team.

PUBLICATIONS

- ▷ Heisig T., Lange K., Gutsche A., Goss K. T., Hambsch S., Locatelli A., Mentès T. O., Genuzio F., Menzel S., Dittmann R., "Chemical Structure of Conductive Filaments in Tantalum Oxide Memristive Devices and Its Implications for the Formation Mechanism", *Advanced Electronic Materials*, Vol. 2100936, pp. 1-10 (2022).
- ▷ Bondino Federica, Duman Songul, Nappini Silvia, D'Olimpio Gianluca, Ghica Corneliu, Mentès Tevfik Onur, Mazzola Federico, Istrate Marian Cosmin, Jugovac Matteo, Vorokhta Mykhailo, Santoro Sergio, Gurbulak Bekir, Locatelli Andrea, Boukhvalov Danil W., Politano Antonio, "Improving the Efficiency of Gallium Telluride for Photocatalysis, Electrocatalysis, and Chemical Sensing through Defects Engineering and Interfacing with its Native Oxide", *Advanced Functional Materials*, Vol. n/a, p. 2205923 (2022).
- ▷ Hamer M.J., Giampietri A., Kandyba V., Genuzio F., Mentès T.O., Locatelli A., Gorbachev R.V., Barinov A., Mucha-Kruczynski M., "Moiré Superlattice Effects and Band Structure Evolution in Near-30-Degree Twisted Bilayer Graphene", *ACS Nano*, Vol. 16 - 2, pp. 1954-1962 (2022).
- ▷ Hamouda W., Mehmood F., Mikolajick T., Schroeder U., Mentès T. O., Locatelli A., Barrett N., "Oxygen vacancy concentration as a function of cycling and polarization state in TiN/Hf_{0.5}Zr_{0.5}O₂/TiN ferroelectric capacitors studied by x-ray photoemission electron microscopy", *Applied Physics Letters*, Vol. 120 - 20, p. 202902 (2022).
- ▷ Sala A., Zou Z., Carnevali V., Panighel M., Genuzio F., Mentès T.O., Locatelli A., Cepek C., Peressi M., Comelli G., Africh C., "Quantum Confinement in Aligned Zigzag "Pseudo-Ribbons" Embedded in Graphene on Ni(100)", *Advanced Functional Materials*, Vol. 32 - 10, pp. 2105844-1-2105844-8 (2022).
- ▷ Jugovac M., Donkor E.D., Moras P., Cojocariu I., Genuzio F., Zamborlini G., Di Santo G., Petaccia L., Stojic N., Feyer V., Schneider C.M., Locatelli A., Mentès T.O., "Spin-polarized hybrid states in epitaxially-aligned and rotated graphene on cobalt", *Carbon*, Vol. 198, pp. 188-194 (2022).
- ▷ Genuzio F., Giela T., Lucian M., Mentès T.O., Brondin C.A., Cautero G., Mazalski P., Bonetti S., Korecki J., Locatelli A., "A UHV MOKE magnetometer complementing XMCD-PEEM at the Elettra Synchrotron", *Journal of Synchrotron Radiation*, Vol. 28 - 3, pp. 995-1005 (2021).
- ▷ Slezak M., Nayyef H., Drozd P., Janus W., Koziol-Rachwal A., Szpytma M., Zajac M., Mentès T.O., Genuzio F., Locatelli A., Slezak T., "Controllable magnetic anisotropy and spin orientation of a prototypical easy-plane antiferromagnet on a ferromagnetic support", *Physical Review B*, Vol. 104 - 13, p. 134434 (2021).
- ▷ Homann M., von Boehn B., Prieto M., Gottlob D M., Tanase L.C., Schmidt T., Genuzio F., Mentès T.O., Locatelli A., Imbühl R., "Coupling of morphological instability and kinetic instability: Chemical waves in hydrogen oxidation on a bimetallic Ni/Rh(111) surface", *Physical Review Materials*, Vol. 5 - 4, p. 045002 (2021).
- ▷ Moras P., Mentès T.O., Schiller F., Ferrari L., Topwal D., Locatelli A., Sheverdyeva P.M., Carbone C., "Reference plane for the electronic states in thin films on stepped surfaces", *Physical Review B*, Vol. 103 - 16, p. 165426 (2021).
- ▷ Boukhvalov D.W., Nappini S., Vorokhta M., Mentès T.O., Piliat L., Panahi M., Genuzio F., De Santis J., Kuo C.-N., Lue C.S., Paolucci V., Locatelli A., Bondino F., Politano A., "Revisiting the Chemical Stability of Germanium Selenide (GeSe) and the Origin of its Photocatalytic Efficiency", *Advanced Functional Materials*, Vol. 31 - 50, p. 2106228 (2021).
- ▷ Camosi L., Pena Garcia J.A., Fruchart O., Pizzini S., Locatelli A., Mentès T.O., Genuzio F., Shaw J., Nembach H., Vogel J., "Self-organised stripe domains and elliptical skyrmion bubbles in ultra-thin epitaxial Au_{0.67}Pt_{0.33}/Co/W(110) films", *New Journal of Physics*, Vol. 23 - 1, p. 013020 (2021).

- ▷ Jugovac M., Mentès T.O., Genuzio F., Lachnitt Jan, Lachnitt Jan, Feyer V., Flege J.I., Locatelli A., "Sensitivity to crystal stacking in low-energy electron microscopy", *Applied Surface Science*, Vol. 566, p. 150656 (2021).
- ▷ Ewert M., Buss L., Braud N., Kundu A.K., Sheverdyaeva P.M., Moras P., Genuzio F., Mentès T.O., Locatelli A., Falta J., Flege J.I., "The Transition From MoS₂ Single-Layer to Bilayer Growth on the Au(111) Surface", *Frontiers in Physics*, Vol. 9, p. 244 (2021).
- ▷ Leidinger P., Kraus J., kratky T., Zeller P., Mentès T.O., Genuzio F., Locatelli A., Gunther S., "Towards the perfect membrane material for environmental X-ray photoelectron spectroscopy", *Journal of Physics D: Applied Physics*, Vol. 54 - 23, p. 234001 (2021).
- ▷ Heisig T., Kler J., Du H., Baeumer C., Hensling F., Gloss M., Moors M., Locatelli A., Mentès T.O., Genuzio F., Mayer J., De Souza R.A., Dittmann R., "Antiphase Boundaries Constitute Fast Cation Diffusion Paths in SrTiO₃ Memristive Devices", *Advanced Functional Materials*, Vol. 30 - 48, 2004118 (2020).
- ▷ Gunther S., Mentès T.O., Reichelt R., Miniussi E., Santos B., Baraldi A., Locatelli A., "Au intercalation under epitaxial graphene on Ru(0001): The role of graphene edges", *Carbon*, Vol. 162, pp. 292-299 (2020).
- ▷ D'Olimpio G., Genuzio F., Mentès T.O., Paolucci V., Kuo C.-N., Al Taleb A., Lue C.S., Torelli P., Farias D., Locatelli A., Boukhvalov D.W., Cantalini C., Politano A., "Charge Redistribution Mechanisms in SnSe₂ Surfaces Exposed to Oxidative and Humid Environments and Their Related Influence on Chemical Sensing", *Journal of Physical Chemistry Letters*, pp. 9003-9011 (2020).
- ▷ Genuzio F., Mentès T.O., Freindl K., Spiridis N., Korecki J., Locatelli A., "Chemistry-dependent magnetic properties at the FeNi oxide-metal interface", *Journal of Materials Chemistry C*, Vol. 8 - 17, pp. 5777-5785 (2020).
- ▷ Mentès T.O., Genuzio F., Schanilec V., Sadilek J., Rougemaille N., Locatelli A., "Coherent x-ray scattering in an XPEEM setup", *Ultramicroscopy*, Vol. 216, p. 113035 (2020).
- ▷ D'Olimpio G., Nappini S., Vorokhta M., Lozzi L., Genuzio F., Mentès T.O., Paolucci V., Gurbulak B., Duman S., Ottaviano L., Locatelli A., Bondino F., Boukhvalov D.W., Politano A., "Enhanced Electrocatalytic Activity in GaSe and InSe Nanosheets: The Role of Surface Oxides", *Advanced Functional Materials*, Vol. 30 - 43, p. 2005466 (2020).
- ▷ Slezak M., Drozd P., Janus W., Nayyef H., Koziol-Rachwal A., Szpytma M., Zajac M., Mentès T.O., Genuzio F., Locatelli A., Slezak T., "Fine tuning of ferromagnet/antiferromagnet interface magnetic anisotropy for field-free switching of antiferromagnetic spins", *Nanoscale*, Vol. 12 - 35, pp. 18091-18095 (2020).
- ▷ Purbawati A., Coraux J., Vogel J., Hadj-Azzem A., Wu N., Bendiab N., Jegouso D., Renard J., Marty L., Bouchiat V., Sulpice A., Aballe L., Foerster M., Genuzio F., Locatelli A., Mentès T.O., Han H., Sun X., Nunez-Regueiro M., Rougemaille N., "In-Plane Magnetic Domains and Néel-like Domain Walls in Thin Flakes of the Room Temperature CrTe₂ Van der Waals Ferromagnet", *ACS Applied Materials and Interfaces*, Vol. 12 - 27, pp. 30702-30710 (2020).
- ▷ Fortin-Deschenes M., Zschiesche H., Mentès T.O., Locatelli A., Jacobberger R.M., Genuzio F., Lagos M.J., Biswas D., Jozwiak C., Miwa J.A., Ulstrup S., Bostwick A., Rotenberg E., Arnold M.S., Botton G.A., Moutanabbir O., "Pnictogens Allotropy and Phase Transformation during van der Waals Growth", *Nano Letters*, Vol. 20 - 11, pp. 8258-8266 (2020).
- ▷ Kowalczyk Pawel J., Brown Simon A., Maerkl T., Lu Q., Chiu C.-K., Liu Y., Yang S.A., Wang X., Zasada I., Genuzio F., Mentès T.O., Locatelli A., Chiang T.-C., Bian G., "Realization of Symmetry-Enforced Two-Dimensional Dirac Fermions in Nonsymmorphic alpha-Bismuthene", *ACS Nano*, Vol. 14 - 2, pp. 1888-1894 (2020).

- ▷ Wartelle A., Trapp B., Stano M., Thirion C., Bochmann S., Bachmann J., Foerster M., Aballe L., Mentès T.O., Locatelli A., Sala A., Cagnon L., Toussaint J.-C., Fruchart O., "Bloch-point-mediated topological transformations of magnetic domain walls in cylindrical nanowires", *Physical Review B*, **99**, 024433 (2019).
- ▷ Juge R., Je S.-G., de Souza Chaves D., Buda-Prejbeanu L.D., Pena-Garcia J., Nath J., Miron I.M., Rana K.G., Aballe L., Foerster M., Genuzio F., Mentès T.O., Locatelli A., Maccherozzi F., Dhesi S.S., Belmeguenai M., Roussigne Y., Auffret S., Pizzini S., Gaudin G., Vogel J., Boule O., "Current-Driven Skyrmion Dynamics and Drive-Dependent Skyrmion Hall Effect in an Ultrathin Film", *Physical Review Applied*, **12**, 044007 (2019).
- ▷ Schobitz M., De Riz A., Martin S., Bochmann S., Thirion C., Vogel J., Foerster M., Aballe L., Mentès T.O., Locatelli A., Genuzio F., Le-Denmat S., Cagnon L., Toussaint J.C., Gusakova D., Bachmann J., Fruchart O., "Fast Domain Wall Motion Governed by Topology and $\mathbb{C}\mathbb{P}^1$ Fields in Cylindrical Magnetic Nanowires", *Physical Review Letters*, Vol. 123 - 21, 217201 (2019).
- ▷ Baeumer C., Funck C., Locatelli A., Mentès T.O., Genuzio F., Heisig T., Hensling F., Raab N., Schneider C.M., Menzel S., Waser R., Dittmann R., "In-Gap States and Band-Like Transport in Memristive Devices", *Nano Letters*, Vol. 19 - 1, pp. 54-60 (2019).
- ▷ Aristov V. Yu., Chaika A.N., Molodtsova O.V., Babenkov S.V., Locatelli A., Mentès T.O., Sala A., Potorochin D., Marchenko D., Murphy B., Walls B., Zhussupbekov K., Shvets I.V., "Layer-by-Layer Graphene Growth on beta-SiC/Si(001)", *ACS Nano*, Vol. 13 - 1, pp. 526-535 (2019).
- ▷ Genuzio F., Mentès T.O., Locatelli A., "Magnetization Reversal and Domain Nucleation in Ultra-Thin Co/Re(0001) Capped by Graphitic C", *IEEE Transactions on Magnetism*, Vol. 55 - 2, pp. 1-4 (2019).
- ▷ Amati M., Bonanni V., Braglia L., Genuzio F., Gregoratti L., Kiskinova M., Kolmakov A., Locatelli A., Magnano E., Matruglio A.A., Mentès T.O., Nappini S., Torelli P., Zeller P., "Operando photoelectron emission spectroscopy and microscopy at Elettra soft X-ray beamlines: from model to real functional systems", *Journal of Electron Spectroscopy and Related Phenomena*, Vol. 257, p. 146902 (2019).
- ▷ Aballe L., Foerster M., Cabrejo M., Prat J., Pittana P., Sergio R., Lucian M., Barnaba M., Mentès T.O., Locatelli A., "Pulse picking in synchrotron-based XPEEM", *Ultramicroscopy*, Vol. 202, pp. 10-17 (2019).
- ▷ Jugovac M., Genuzio F., Gonzalez Lazo E., Stojic N., Zamborlini G., Feyer V., Mentès T.O., Locatelli A., Schneider C.M., "Role of carbon dissolution and recondensation in graphene epitaxial alignment on cobalt", *Carbon*, Vol. 152, pp. 489-496 (2019).
- ▷ Hajiri T., Baldrati L., Lebrun R., Filianina M., Ross A., Tanahashi N., Kuroda M., Gan W.L., Mentès T.O., Genuzio F., Locatelli A., Asano H., Klau M., "Spin structure and spin Hall magnetoresistance of epitaxial thin films of the insulating non-collinear antiferromagnet Sm-FeO_3 ", *Journal of Physics Condensed Matter*, Vol. 31 - 44, p. 445804 (2019).
- ▷ Genuzio F., Genoni P., Mentès T.O., Santos B., Sala A., Lenardi C., Locatelli A., "Stimulated CO Dissociation and Surface Graphitization by Microfocused X-ray and Electron Beams", *Journal of Physical Chemistry C*, Vol. 123 - 13, pp. 8360-8369 (2019).
- ▷ Stano M., Schaefer S., Wartelle A., Rioult M., Belkhou R., Sala A., Mentès T.O., Locatelli A., Cagnon L., Trapp B., Bochmann S., Martin S., Gautier E., Toussaint J.-C., Ensinger W., Fruchart O., "Flux-closure domains in high aspect ratio electroless-deposited CoNiB nanotubes", *SciPost Physics*, 5 - 4, 038 (2018).
- ▷ Wyrwich R., Jones T.E., Gunther S., Moritz W., Ehrensperger M., Bocklein S., Zeller P., Lunser A., Locatelli A., Mentès T.O., Nino M.A., Knop-Gericke A., Schlögl R., Piccinin S., Winterlin J., "LEED-I(V) Structure Analysis of the $(7 \times \sqrt{3})$ rect SO_4 Phase on Ag(111): Precursor to the Active Species of the Ag-Catalyzed Ethylene Epoxidation", *Journal of Physical Chemistry C*, **122** - 47, 26998-27004 (2018).

- ▷ P. Genoni, F. Genuzio, T. O. Mentes, B. Santos, A. Sala, C. Lenardi, A. Locatelli, "Magnetic patterning by electron beam assisted carbon lithography", *ACS Applied Materials and Interfaces*, DOI:10.1021/acsami.8b07485 (2018).
- ▷ B. von Boehn, T. O. Mentes, A. Locatelli, A. Sala, and R. Imbihl, "Reactive Phase Separation during Methanol Oxidation on a V-Oxide-Promoted Rh(110) Surface", *J. Phys. Chem. C* **122**, 10482 (2018).
- ▷ T. E. Jones, R. Wyrwich, S. Böcklein, E.A. Carbonio, M.T. Greiner, A. Yu. Klyushin, W. Moritz, A. Locatelli, T. O. Mentes, Niño, A. Knop-Gericke, R. Schlögl, S. Günther, J. Wintterlin, and S. Piccinin, "The Selective Species in Ethylene Epoxidation on Silver", *ACS Catal.* **8**, 3844 (2018).
- ▷ I. Piš, S. Nappini, F. Bondino, T. O. Mentes, A. Sala, A. Locatelli, E. Magnano, "Fe intercalation under graphene and hexagonal boron nitride in-plane heterostructure on Pt(111)", *Carbon* **134**, 274 (2018).
- ▷ S. Agnoli, A. Ambrosetti, T. O. Mentes, A. Sala, A. Locatelli, P. Silvestrelli, M. Cattelan, S. Eichfeld, D. Deng, J. Robinson, A. Joshua, J. Avila, C. Chen, M. Asensio, "Unravelling the Structural and Electronic Properties at the WSe₂-Graphene Interface for a Rational Design of Van der Waals Heterostructures", *ACS Appl. Nano Mater.* **1**, 1131 (2018).
- ▷ R. Juge, S.-G. Je, D. de Souza Chaves, S. Pizzini, L.D. Buda-Prejbeanu, L. Aballe, M. Foerster, A. Locatelli, T. O. Mentes, A. Sala, F. Maccherozzi, S.S. Dhesi, S. Auffret, G. Gaudin, J. Vogel, O. Boulle, "Magnetic skyrmions in confined geometries: Effect of the magnetic field and the disorder", *Journal of Magnetism and Magnetic Materials* **455**, 3 (2018).
- ▷ M. Amati, A. Barinov, V. Feyer, L. Gregoratti, M. Al-Hada, A. Locatelli, T.O. Mentes, H. Sezen, C.M. Schneider, M. Kiskinova, "Photoelectron Microscopy at Elettra: Recent Advances and Perspectives", *J. El. Spec. Rel. Phenomena*, **224**, 59-67 (2018).
- ▷ S. K. Mahatha, P. Moras, P. M. Sheverdyayeva, T. O. Mentes, V. Bellini, A. Locatelli, R. Flammini, K. Horn and C. Carbone, "Combined effects of vertical and lateral confinement on the magnetic properties of MnAs micro and nano-ribbons", *J. El. Spec. Rel. Phenomena* **19**, 2 (2017).
- ▷ M. Fortin-Deschenes, O. Waller, T. O. Mentes, A. Locatelli, S. Mukherjee, F. Genuzio, P. Levesque, A. Hebert, R. Martel, and O. Moutanabbir, "Synthesis of Antimonene on Germanium", *Nano Lett.* **17**, 4970 (2017).
- ▷ C. Bäumer, R. Valenta, C. Schmitz, A. Locatelli, T. O. Mentes, S. P. Rogers, A. Sala, N. Raab, Sl. Nemsak, M. Shim, C. M. Schneider, S. Menzel, R. Waser, and R. Dittmann, "Subfilamentary Networks Cause Cycle-to-Cycle Variability in Memristive Devices", *ACS Nano* **11**, 6921 (2017).
- ▷ B. von Boehn, T. O. Mentes, A. Locatelli and R. Imbihl, "Growth of Vanadium and Vanadium Oxide on a Rh(110) Surface", *J. Phys. Chem. C* **121** (36), 19774 (2017).
- ▷ S. Forti, A. Rossi, H. Büch, T. Cavallucci, F. Bisio, A. Sala, T. O. Mentes, A. Locatelli, M. Magnozzi, M. Canepa, K. Müller, S. Link, U. Starke, V. Tozzini and C. Coletti, "Electronic properties of single-layer tungsten disulfide on epitaxial graphene on silicon carbide", *Nanoscale* **9**, 16412 (2017).
- ▷ Th. Schmidt, M. Speckmann, J. I. Flege, K. Müller-Caspary, I. Heidmann, A. Kubelka-Lange, T. O. Mentes, M. Á. Niño, A. Locatelli, A. Rosenauer, J. Falta, "Mazes and meso-islands: Impact of Ag preadsorption on Ge growth on Si (111)", *Phys. Rev. B* **94**, 235410 (2016).
- ▷ M. Hesse, S. Günther, A. Locatelli, T. O. Mentes, B. Santos, R. Imbihl, "Revisiting the Origin of Low Work Function Areas in Pattern Forming Reaction Systems: Electropositive Contaminants or Subsurface Oxygen?", *J. Phys. Chem. C* **120**, 26864 (2016).
- ▷ L. B. Steren, M. Tortarolo, F. Fernandez Baldis, M. Sirena, M. Sacchi, V. H. Etgens, M. Eddrief, B. Santos, T. O. Mentes, A. Locatelli, "Combined effects of vertical and lateral confinement on the magnetic properties of MnAs micro and nano-ribbons", *J. Appl. Phys.* **120**, 093905 (2016).
- ▷ T. O. Mentes, N. Stojić, E. Vescovo, J. M. Ablett, M. A. Niño, A. Locatelli, "Vacancy-mediated fcc/bcc phase separation in Fe_{1-x}Ni_x ultrathin films", *Phys. Rev. B* **94**, 085402 (2016).

- ▷ D.C. Grinter, C. Muryn, A. Sala, C.-M. Yim, C.L. Pang, T. O. Montes, A. Locatelli, and G. Thornton; "Spillover Reoxidation of Ceria Nanoparticles"; *J. Phys. Chem. C* **120**, 11037-11044 (2016).
- ▷ J.I. Flege, J. Höcker, B. Kaemena, T. O. Montes, A. Sala, A. Locatelli, S. Gangopadhyay, J.T. Sadowski, S.D. Senanayake and J. Falta; "Growth and Characterization of Epitaxially Stabilized Ceria(001) Nanostructures on Ru(0001)"; *Nanoscale* **8**, 10849-10856 (2016).
- ▷ B. Canals, I.A. Chioar, V.-D. Nguyen, M. Hehn, D.Lacour, F. Montaigne, A. Locatelli, T. O. Montes, B. Santos Burgos and N. Rougemaille; "Fragmentation of magnetism in artificial kagome dipolar spin ice"; *Nat. Comm.* **7**, 11446 (2016).
- ▷ C. Africh, C. Cepek, L.L. Patera, G. Zamborlini, P. Genoni, T. O. Montes, A. Sala, A. Locatelli and G.Comelli; "Switchable graphene-substrate coupling through formation/dissolution of an intercalated Ni-carbide layer"; *Scientific Reports* **6**, 19734 (2016).
- ▷ O. Boulle, J. Vogel, H. Yang, S. Pizzini, D. de Souza Chaves, A. Locatelli, T. O. Montes, A. Sala, L.D. Buda-Prejbeanu, O.Klein, M. Belmeguenai, Y. Roussigné, A. Stashkevich, S.M.Chérif, L. Aballe, M. Foerster, M. Chshiev, S. Auffret, I.M. Miron and G. Gaudin; "Room-temperature chiral magnetic skyrmions in ultrathin magnetic nanostructures"; *Nat. Nanotech.* **11**, 449–454 (2016).
- ▷ S. Nappini, I. Piš, T. O. Montes, A. Sala, M. Cattelan, S. Agnoli, F. Bondino and E. Magnano; "Formation of a Quasi-Free-Standing Single Layer of Graphene and Hexagonal Boron Nitride on Pt(111) by a Single Molecular Precursor"; *Adv. Funct. Mater.* **26**, 1120 (2016).
- ▷ J. Höcker, T. O. Montes, A. Sala, A. Locatelli, Th. Schmidt, J. Falta, S.D. Senanayake and J.I. Flege, "Unraveling the Dynamic Nanoscale Reducibility (Ce⁴⁺ / Ce³⁺) of CeO_x-Ru in Hydrogen Activation", *Adv. Mater. Interfaces* **2**, 1500314 (2015).
- ▷ A. Sala, G. Zamborlini, T. O. Montes, A. Locatelli, "Fabrication of a 2D heterojunction in graphene via low energy N₂⁺ irradiation", *Small* **11**, 5927–5931 (2015).
- ▷ W. Jin, P.-C. Yeh, N. Zaki, D. Chenet, G. Arefe, Y. Hao, A. Sala, T. O. Montes, J.I. Dadap, A. Locatelli, J. Hone, and R.M. Osgood, Jr., "Tuning the electronic structure of monolayer graphene/MoS₂ van der Waals heterostructures via interlayer twist", *Phys. Rev. B* **92**, 201409(R) (2015).
- ▷ S. Jamet, S. Da Col, N. Rougemaille, A. Wartelle, A. Locatelli, T. O. Montes, B. Santos Burgos, R. Afid, L. Cagnon, S. Bochmann, J. Bachmann, O. Fruchart, and J. C. Toussaint, "Quantitative analysis of shadow x-ray magnetic circular dichroism photoemission electron microscopy", *Phys. Rev. B* **92**, 144428 (2015).
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- ▷ T. O. Menteş, C. Sánchez-Hanke and C. C. Kao, "Reconstruction of Magnetization Density in Two-Dimensional Samples from Soft X-ray Speckle Patterns Using the Multiple-Wavelength Anomalous Diffraction Method", *J.Synchrotron Rad.* **9**, 90 (2002).

OTHER PUBLICATIONS

- ▷ C. Mathieu, T. O. Menteş, E. Pallecchi, A. Locatelli, G. Patriarche, R. Belkhou and A. Ouerghi, "Laterally Inhomogeneous Au Intercalation in Epitaxial Graphene on SiC(0001): A Multi-method Electron Microscopy Study", in "Recent Advances in Graphene Research", INTECH Ed. 2016, ISBN 978-953-51-2639-3; doi: 10.5772/64076.
- ▷ A. Locatelli and T. O. Menteş, "Chemical and Magnetic Imaging with X-Ray Photoemission Electron Microscopy" in *Synchrotron Radiation*, S. Mobilio et al. (eds.); Springer-Verlag Berlin Heidelberg, 2014.
- ▷ R. Magri, S. Heun, G. Biasiol, A. Locatelli, T. O. Menteş, and L. Sorba, "Surface compositional profiles of self-assembled InAs/GaAs quantum rings", *AIP Conf. Proc.* **1199**, 3-4 (2010).
- ▷ T. O. Menteş, N. Stojić, N. Binggeli, M. A. Niño, A. Locatelli, L. Aballe, M. Kiskinova, E. Bauer, "Surface stress determination using low-energy electron diffraction", *Elettra Highlights* (2007/2008), p. 46-47.
- ▷ T. O. Menteş, A. Locatelli, L. Aballe, E. Bauer, "Order-disorder transition at the mesoscopic scale: Pd stripes on W(110)", *Elettra Highlights* (2007/2008), p. 48-49.
- ▷ L. Aballe, A. Barinov, M. Bertolo, L. Gregoratti, B. Kaulich, A. Locatelli, T. O. Menteş, L. Quaroni, S. La Rosa, and M. Kiskinova, "Recent Advances in Imaging with Spectroscopic Analysis at ELETTRA", in *Brilliant Light in Life and Material Science*, Springer, Series B: Physics and Biophysics, 2007 (eds V. Tsakanov and H. Wiedermann), p. 301-316.
- ▷ J. Egdemir, J. D. Hobbs, T. O. Menteş, W. Taylor, "A study of computational algorithms for track fitting in the DØ Silicon Track Trigger", *DØ Note* 3743, Fermilab.
- ▷ T. O. Menteş, R. Engelmann, "The isolated di-photon cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV", *DØ Note* 3737, Fermilab.

ORAL PRESENTATIONS

- ▷ "Complementing XPEEM with Coherent X-Ray Scattering", ALC'22, Okinawa, Japan, October 2022 (invited).
- ▷ "Oxidation of FeNi alloys: chemistry and magnetic coupling at the oxide-metal interface", Surface Science Discussions, Poznan, Poland, January 2022 (invited).
- ▷ "Synchrotron Based Cathode Lens Microscopy: Application to Ultrathin Film Magnetism", ICNAS, Erzurum, Turkey, September 2021 (invited).
- ▷ "Synchrotron Based Cathode Lens Microscopy", LEEM-PEEM11.5, Spain, 2020 (tutorial).
- ▷ "A synchrotron based stereo microscope: XPEEM and CDI", ITACAN, Trieste, 2019 (invited).
- ▷ "Ultra-thin Co films: structure and magnetism, x-ray microscopy, long-range pattern formation, magnetism-structure duality", ESI, Vienna, 2019 (invited).
- ▷ "X-ray photoemission electron microscopy studies in ultrathin film magnetism", NanoInnovation, Rome, Italy, September 11-14, 2018 (invited).
- ▷ "Experimental Perspectives for Elettra 2.0", Photons at the Next Generation Synchrotron Facilities: from Production to Delivery (PHANGS), ICTP, Trieste, Italy, December 4-5, 2017 (invited).
- ▷ "Adsorbate effects in ultrathin film magnetism", 13th Nanoscience and Nanotechnology Conference (NanoTR-13), Antalya, Turkey, October 22-25, 2017 (invited).
- ▷ "Phase Separation in FeNi thin films on W(110)", Krakow, Poland, May 7, 2017.
- ▷ "Beam-induced CO dissociation for magnetic patterning in ultrathin Co films", Hi-resolution Spectroscopy for Applied Research (Hi-SPEAR), Paris, France, January 19-20, 2016.
- ▷ "Structure and phase separation in ultrathin bimetallic alloys", The European Conference on Surface Crystallography and Dynamics (ECSCD-12), Trieste, Italy, October 18-21, 2015 (invited).
- ▷ "Low-dimensional bimetallic alloys: structure and magnetism at the nanoscale", The 7th International Symposium on Surface Science (ISSS-7), Matsue, Shimane, Japan, November 2-6, 2014 (invited).
- ▷ "Graphene under the eyepiece: Spectromicroscopy studies on epitaxial and exfoliated graphene @ Elettra", New Challenges for Research on Graphene (REGINA), Trieste, December 3-4, 2013.
- ▷ "Structure, chemistry and magnetism at the nanoscale: combining XPEEM and LEEM", Recent Advances in Spectromicroscopy: Experimental and Theoretical Tools, Mons, Belgium, September 3-6, 2013 (invited).
- ▷ "Structural and magnetic studies on self-organized metal films", LEEM-PEEM8, Hong Kong, November 11-15, 2012.
- ▷ "XMCD-PEEM studies of magnetic nanostructures", 3rd European Workshop on Self-Organized Nanomagnets, Madrid, Spain, April 16-20, 2012 (invited).
- ▷ "Spectromicroscopy with Low-Energy Electrons: LEEM-XPEEM Studies at the Nanoscale", NSS6, Kobe, Japan, Oct 28, 2010 (invited).
- ▷ "Surface stress determination using low-energy electron diffraction", Ecoss26, Parma, Italy, Sept 2, 2009.

- ▷ “Stress induced mesoscopic patterns on a single crystal surface: Adsorbate stripes on W(110)”, Elettra, Trieste, May 13, 2009.
- ▷ “Stress-induced Pd stripes on W(110)”, LEEM-PEEM6, Trieste, Italy, September 7 - 11, 2008.
- ▷ “Striped Adsorbate Patterns on Metal Surfaces”, ICSFS-14, Dublin, Ireland, June 29 - July 4, 2008 (invited).
- ▷ “One-dimensional Au on TiO_2 ”, ECOSS 24, Paris, France, September 3-8, 2006.
- ▷ “Imaging Magnetic Domains Using Resonant X-Ray Scattering”, Laboratorio TASC-INFM, Trieste, Italy, October 21st, 2004.
- ▷ “Imaging Magnetic Domains Using Resonant Scattering and Soft X-ray Speckles”, Annual APS March Meeting 2003, Austin TX.
- ▷ “Reconstruction of Magnetization Density in Two-Dimensional Samples from Soft X-ray Speckle Patterns Using the Multiple-Wavelength Anomalous Diffraction Method”, Annual APS March Meeting 2002, Indianapolis IN.
- ▷ “Direct Photon Measurements in $\bar{p}p$ Collisions at $DØ$ ”, APS Centennial Meeting, Atlanta GA, March 23rd, 1999.

LANGUAGES

Turkish, English, Italian, Croatian (basic).