

UNIVERSITÀ DEGLI STUDI DI MILANO

Procedura di selezione per la chiamata a professore di I fascia da ricoprire ai sensi dell'art. 18, comma 1, della Legge n. 240/2010 per il settore concorsuale 03/B1,

(settore scientifico-disciplinare CHIM/03)

presso il Dipartimento di Chimica,

(avviso bando pubblicato sulla G.U. n. 59 del 26/07/2022) - Codice concorso 5025

Anna Maria Coclite

CURRICULUM VITAE

(N.B. IL CURRICULUM NON DEVE ECCEDERE LE 30 PAGINE E DEVE CONTENERE GLI ELEMENTI CHE IL CANDIDATO RITIENE UTILI AI FINI DELLA VALUTAZIONE.

LE VOCI INSERITE NEL FACSIMILE SONO A TITOLO PURAMENTE ESEMPLIFICATIVO E POSSONO ESSERE SOSTITUITE, MODIFICATE O INTEGRATE)

INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)

COGNOME	COCLITE
NOME	ANNA MARIA
DATA DI NASCITA	[28, Gennaio, 1983]

TITOLI

TITOLO DI STUDIO

(indicare la Laurea conseguita inserendo titolo, Ateneo, data di conseguimento, ecc.)

Laurea magistrale in “Scienze e tecnologie chimiche”, Università degli studi di Bari, 10.2006, Voto: 110/110 con lode
Laurea triennale in “Chimica”, Università degli studi di Bari, 10.2004, Voto: 110/110 con lode

TITOLO DI DOTTORE DI RICERCA O EQUIVALENTI, OVVERO, PER I SETTORI INTERESSATI, DEL DIPLOMA DI SPECIALIZZAZIONE MEDICA O EQUIVALENTE, CONSEGUITO IN ITALIA O ALL'ESTERO

(inserire titolo, ente, data di conseguimento, ecc.)

Dottore di Ricerca in “Scienze Chimiche”, Università degli studi di Bari, Aprile 2010

ALTRI TITOLI CONSEGUITI

(inserire titolo, ente, data di conseguimento, ecc.)

Academic Appointments

- Associate Professor, March 2018 - present, Graz university of technology (TUGraz), Institute of Solid State Physics
- Assistant Professor, 2016- 2018, Graz university of technology (TUGraz), Institute of Solid State Physics

- Marie Curie Fellow, 2014- 2016, Graz university of technology (TUGraz), Institute of Solid State Physics
- Post-doctoral Associate in Prof. Karen K. Gleason's group, June 2010- 2013, Massachusetts Institute of technology (M.I.T.), Department of Chemical Engineering
- Post-doctoral associate, February - May 2010, Italian National Research Council (CNR) Sezione Nanotec, Bari

ATTIVITÀ DIDATTICA

INSEGNAMENTI E MODULI

(inserire periodo [gg/mm/aa inizio e fine], anno accademico, corso laurea, numero di ore frontali, eventuale CFU)

Per il corso di laurea triennale in Fisica

- Molecular and Solid State Physics Exercises, anno accademico 2013/14, 2 CFU
- X-ray diffraction Laboratory, anno accademico 2013/14, 2 CFU
- Thin Film Deposition Laboratory, dall'anno accademico 2014/15, 2 CFU

Per il Corso di laurea magistrale in Fisica e Advanced Material Science

- Surface Polymerization Laboratory, dall'anno accademico 2014/15, 2 CFU
- Surface and Thin Films Physics, dall'anno accademico 2014/15, 2 CFU
- Thin Film Science and Processing, dall'anno accademico 2014/15, 2 CFU

ATTIVITÀ DI DIDATTICA INTEGRATIVA E DI SERVIZIO AGLI STUDENTI

ATTIVITÀ DI RELATORE DI ELABORATI DI LAUREA, DI TESI DI LAUREA MAGISTRALE, DI TESI DI DOTTORATO E DI TESI DI SPECIALIZZAZIONE

(inserire numero, anno accademico, ateneo, corso laurea, ecc.)

- Relatore di 15 elaborati di laurea dall'anno accademico 2013/14, corso di laurea in Fisica, Graz University of Technology.
- Relatore di 24 tesi di laurea magistrale, a partire dall'anno accademico 2013/14, per i corsi di laurea in Fisica e Scienza dei materiali avanzati, Graz University of Technology
- Relatore di 14 tesi di dottorato (5 terminate e 9 in progress) a partire dall'anno accademico 2017/2018 per le scuole di dottorato in Chimica e Fisica.

ATTIVITÀ DI TUTORATO DEGLI STUDENTI DI CORSI DI LAUREA E DI LAUREA MAGISTRALE E DI TUTORATO DI DOTTORANDI DI RICERCA

(inserire anno accademico, corso laurea, ecc.)

Tutoraggio per gli studenti del corso di laurea magistrale in Fisica a partire dall'anno accademico 2018

Tutoraggio per gli studenti del corso di dottorato in Fisica a partire dall'anno accademico 2020

SEMINARI

(inserire titolo del seminario, luogo, data, ecc.)

1. "Hydrogel Thin Films for actuators and on-skin sensors", Webinar on "initiated Chemical vapor Deposition of organic functional thin films" organized by Thomas Strunskus, Uni Kiel, Materials (MDPI) Webinar series, 5.10.2021
2. "Functional and responsive thin films for device fabrication" U Mass Amherst, USA, November 20th, 2020.

3. "Functional and responsive thin films for device fabrication" *Georgia Tech*, USA, October 22nd, 2020
4. "Designing Surface Modifications for functional and responsive thin films" *University of Graz*, Department of Chemistry, Graz, Austria, March 13th 2020.
5. "Functional thin polymer films deposited from the vapor phase and their application as sensors and drug delivery devices" *LETI Commissariat a l'Energie Atomique (CEA)*, Grenoble, France, November 14th, 2019
6. "Functional thin polymer films deposited from the vapor phase and their application as sensors and drug delivery devices" *Kiel University*, Germany, August 15th, 2019
7. "Engineering Functional and Responsive Surfaces by Chemical Vapor Deposition for Biotechnology" *Austrian Institute of Technology*, Tulln, Austria, March 14th 2019.
8. "initiated-CVD of thin polymer films for engineered material properties", Institute for Functional Interfaces, *Karlsruhe Institute of Technology (KIT)*, Germany, May 29th 2017.
9. "iCVD di polimeri dalle proprietà dei materiali alla fabbricazione di dispositivi", *University of Bari*, Italy, Dec 21st 2016
10. "CVD of polymers: on the way from material properties to biodevice fabrication", Grupo de Ingeniería de Materiales (GEMAT), *IQS School of Engineering*, Barcelona, Dec 13th 2016.
11. "Solvent-free polymerization by initiated Chemical Vapor Deposition", Institut de Science et d'Ingénierie Supramoléculaires (ISIS), *University of Strasbourg*, France, May 30th 2013.
12. "CVD Polymers: A new paradigm for surface modification and device fabrication" Summer Solid State Seminar series, Institute of Solid State Physics, *University of Graz*, Austria, July 1st 2013.
13. "Engineering surface modifications by Chemical Vapor Deposition", *Joanneum Research Center*, Weiz, Austria, 9th May 2014
14. "Engineering surface modifications by Chemical Vapor Deposition", *Montana University Leoben*, Austria, 30th Oct 2014
15. "Designing Surface Modification of Real Substrates for Technological Applications", *University of Groningen*, The Netherlands, 12th July 2012

ATTIVITÀ DI RICERCA SCIENTIFICA

PUBBLICAZIONI SCIENTIFICHE

(per ciascuna pubblicazione indicare: nomi degli autori, titolo completo, casa editrice, data e luogo di pubblicazione, codice ISBN, ISSN, DOI o altro equivalente)

1. S. Cesnik, A. Perrotta, A. Cian, M. Tormen, A. Bergmann, **A. M. Coclite**, *Humidity responsive reflection grating made by ultrafast nanoimprinting of a hydrogel thin film*, accepted, *Macromolecular Rapid Communications*, 2022, 2200150, 1-5, DOI: 10.1002/marc.202200150
2. T. Abu Ali, P. Schäffner, M. Beleggratis, G. Schider, B. Stadlober, **A. M. Coclite**, *Smart Core-Shell Nanostructures for Force, Humidity and Temperature Multi-Stimuli Responsiveness*, *Advanced Materials Technologies*, 7, 2200246, 2022 DOI: 10.1002/admt.202200246. with Cover image
3. M. Kräuter, A. J. Cruz, T. Stassin, S. Rodriguez-Hermida, R. Ameloot, R. Resel, **A. M. Coclite**, *Influence of Precursor Density and Conversion Time on the Orientation of Vapor-Deposited ZIF-8, Crystals*, DOI: 10.3390/cryst12020217
4. E. Vakalopoulou, T. Rath, M. Kräuter, A. Torvisco, R. C. Fischer, B. Kunert, R. Resel, H. Schröttner, **A. M. Coclite**, H. Amenitsch, G. Trimmel, *Metal Sulfide Thin Films with Tunable Nanoporosity for Photocatalytic Applications*, *ACS Applied Nano Materials*, 2022, DOI: 10.1021/acsanm.1c04206
5. A. Kavcic, M. Garvas, M. Marincic, **A. M. Coclite**, B. Majaron, M. Humar, *Deep tissue imaging and sensing based on optical microcavity probes*, *Nature Communications*, 2022 DOI: 10.1038/s41467-022-28904-6
6. K. Unger, F. Greco, **A. M. Coclite**, *Temporary Tattoo pH Sensor with pH Responsive Hydrogel via Initiated Chemical Vapor Deposition*, *Adv. Mater. Technol.* 2021, 2100717, DOI: 10.1002/admt.202100717
7. R. Berger, M. Seiler, C. Holzer, A. Perrotta, **A. M. Coclite** *Study on porosity in zinc oxide obtained from three-step MLD Zn-hybrid polymers*, *Materials*, 2021, 14(6), 1418, DOI: 10.3390/ma14061418.
8. A. Dallinger, P. Kindlhofer, F. Greco, **A. M. Coclite**, *Multiresponsive Soft Actuators based on Thermoresponsive Hydrogel and embedded Laser-Induced Graphene*, *ACS Applied Polymer Materials*, 2021, 3, 4, 1809-1818, DOI: 10.1021/acsapm.0c01385

9. F. Muralter, **A. M. Coclite**, K. Lau, *Oxidative Chemical Vapor Deposition of Conducting Polymer Films on Nanostructured Surfaces for Piezoresistive Sensor Applications*, *Advanced Electronic Materials* 2020, 7, 2000871, DOI: 10.1002/aelm.202000871.
10. K. Unger, **A. M. Coclite**, *Conformal coating of powder by initiated chemical vapor deposition on vibrating substrate*, *Pharmaceutics*, 2020, 9, DOI: 10.3390/pharmaceutics12090904. Citation: 0
11. T. Abu Ali, J. Pilz, P. Schöffner, M. Kratzer, C. Teichert, B. Stadlober, **A. M. Coclite** "Piezoelectric properties of zinc oxide thin films grown by plasma-enhanced atomic layer deposition" *Phys Status Solidi A*, 2020, 217, 2000319, DOI: 10.1002/pssa.202000319.
12. M. Kräuter, M. Tazreiter, A. Perrotta, **A. M. Coclite** "Deposition of Ion Conductive Membranes from Ionic Liquids via Initiated Chemical Vapor Deposition" *Macromolecules*, 2020, 53, 18, 7962-7969, DOI: 10.1021/acs.macromol.0c01258.
13. Pilz, J.; **Coclite**, A. M.; Losego M. D. "Vapor Phase Infiltration of ZnO into Thin Films of Cis-Polyisoprene (Natural Rubber)." *Materials Advances*, 2020, 1, 1695-1704, DOI: 10.1039/D0MA00304B.
14. T. Abu Ali, J. Groten, J. Clade, D. Collin, P. Schöffner, M. Zirkl, **A.M. Coclite**, G. Domann, B. Stadlober, "Screen-printed ferroelectric P(VDF-TrFE)-co-PbTiO₃ and P(VDF-TrFE)-co-NaBiTi₂O₆ nanocomposites for selective temperature and pressure sensing" *ACS Appl. Mat. Interfaces*, 2020, 12, 34, 38614-38625, DOI: 10.1021/acsami.0c08469.
15. A. Perrotta, J. Pilz, R. Resel, O. Werzer, **A.M.Coclite**, "Initial growth and crystallization onset of plasma enhanced-atomic layer deposited ZnO" *Crystals*, 2020, 10(4):291, DOI: 10.3390/cryst10040291.
16. G. Decandia, F. Palumbo, A. Treglia, V. Armenise, P. Favia, F. Baruzzi, K. Unger, A. Perrotta, **A.M. Coclite** "Initiated chemical vapor deposition of gentamicin containing coatings for drug delivery" *Pharmaceutics*, 2020, 12(3): 213, DOI: 10.3390/pharmaceutics12030213.
17. R. Mansournejad, L. Ghasemi-Mobarakeh, **A. M. Coclite**, M. Hossein Beigi, O. Werzer, R. Gharibi, M.-H. Nasr Esfahani, *Fabrication, characterization and cytocompatibility assessment of gelatin nanofibers coated with a polymer thin film by initiated chemical vapor deposition*, *Materials Science & Engineering C*, 2020, 110, 1-14, DOI: 10.1016/j.msec.2019.110623.
18. F. Muralter, F. Greco., **A. M. Coclite**, "Applicability of Vapor-deposited Thermo-responsive Hydrogel Thin Films in Ultrafast Humidity Sensors/Actuators", *ACS Applied Polymer Materials*, 2020, 2, 3, 1160-1168, DOI: 10.1021/acsapm.9b00957. This paper was selected as Editor Choice and was in the journal Cover Front image.
19. T. Stassin, I. Stassen, N. Wauteraerts, A. J. Cruz, M. Kräuter, **A. M. Coclite**, D. De Vos, R. Ameloot, "Solvent-Free Powder Synthesis and Thin Film Chemical Vapor Deposition of a Zinc Bipyridyl-Triazolate Framework" *European Journal of Inorganic Chemistry*, 2020, 71-74 DOI: 10.1002/ejic.201901051 (nominated as VIP paper).
20. J. Pilz, M. Tazreiter, **A. M. Coclite** "Universal software for the real-time control of sequential processing techniques" *Journal of Vacuum Science and Technology A*, 2019, 37, 063201, DOI: 10.1116/1.5125052. This paper was awarded with the AVS Shop Note award.
21. F. Muralter, **A. M. Coclite**, O. Werzer "Wrinkling of enteric coatings induced by vapor-deposited stimuli-responsive hydrogel thin films" accepted, *The Journal of Physical Chemistry C*, 2019, 123, 24165-24171, DOI: 10.1021/acs.jpcc.9b07340.
22. A. Perrotta, R. Berger, F. Muralter, **A. M. Coclite** "Mesoporous ZnO thin films obtained from molecular layer deposited "zincones"" *Dalton Transaction* 2019, 48, 14178, DOI: 10.1039/C9DT02824B.
23. F. Muralter, A. Perrotta, O. Werzer, **A. M. Coclite** "Interlink between Tunable Material Properties and Thermo-responsiveness of poly(N-vinylcaprolactam) Thin Films deposited by initiated Chemical Vapor Deposition" *Macromolecules*, 2019, DOI: 10.1021/acs.macromol.9b01364.
24. J. Pilz, A. Perrotta, G. Leising, **A. M. Coclite**, ZnO thin films grown by plasma-enhanced atomic layer deposition: material properties within and outside the "ALD window", *Physica Status Solidi A*, 2019, accepted, DOI: 10.1002/pssa.201900256.
25. L. Ghasemi-Mobarakeh, O. Werzer, R. Keimel, D. Kolahreze, P. Hadley, **A. M. Coclite**, "Manipulating drug release from tridimensional porous substrates coated by initiated chemical vapor deposition", *Journal of Applied Polymer Science*, 2019, 136, 47858 (1-7), DOI: 10.1002/APP.47858.
26. A. Perrotta, J. Pilz, A. Milella, **A.M. Coclite** "Opto-chemical control through thermal treatment of plasma enhanced atomic layer deposited ZnO: an in situ study" *Applied Surface Science*, 2019, 483, 10-18, DOI: 10.1016/j.apsusc.2019.03.122.
27. A. Perrotta, J. Pilz, S. Pachmajer, A. Milella, **A.M. Coclite**, "On the transformation of "zincone"-like into porous ZnO thin films from sub-saturated plasma enhanced atomic layer deposition" *Beilstein Journal of Nanotechnology*, 2019, 10, 746-759, DOI: 10.3762/bjnano.10.74.

28. A. Buchberger, S. Peterka, **A. M. Coclite**, A. Bergmann, *Fast Optical Humidity Sensor Based on Hydrogel Thin Film Expansion for Harsh Environment*, *Sensors*, 2019, 19(5), 999, DOI: 10.3390/s19050999.
29. O. Werzer, S. Tumphart, P. Christian, C. Heimel, **A. M. Coclite**, *Drug Release from Thin Films Encapsulated by a temperature -responsive Hydrogel*, *Soft Matter*, 2019, 15, 1853 - 1859, DOI: 10.1039/C8SM02529K.
30. F. Muralter, A. Perrotta, **A.M. Coclite**, *"Thickness-dependent Swelling Behavior of Vapor-deposited Smart Polymer Thin Films"*, *Macromolecules* 2018, 51, 9692–9699, DOI: 10.1021/acs.macromol.8b02120.
31. A. Perrotta, P. Christian, A. O. F. Jones, F. T. Muralter, **A. M. Coclite**, *"Growth regimes of poly-perfluorodecylacrylate thin films by initiated chemical vapor deposition"*, *Macromolecules*, 2018, 51, 5694-5703, DOI: 10.1021/acs.macromol.8b00904.
32. P. Salzmann, A. Perrotta, **A.M. Coclite**, *"Different Response Kinetics to temperature and water vapor of acrylamide polymers obtained by initiated Chemical Vapor Deposition"*, *ACS Applied Materials and Interfaces*, 2018, 10, 6636-6645, DOI: 10.1021/acsami.7b18878.
33. P. Christian, S. Tumphart, H. M. A. Ehmann, H. Riegler, **A. M. Coclite**, O. Werzer, *Controlling Indomethacin Release through Vapor-Phase Deposited Hydrogel Films by Adjusting the Cross-linker Density*, *Scientific Reports*, 2018, 8, 7134, DOI: 10.1038/s41598-018-24238-w.
34. J. Pilz, A. Perrotta, P. Christian, M. Tazreiter, R. Resel, G. Leising, T. Griesser, **A. M. Coclite**, *Tuning of material properties of ZnO thin films grown by plasma-enhanced atomic layer deposition at room temperature*, *Journal of Vacuum Science and Technology A*, 2018, 36, 01A109, DOI: 10.1116/1.5003334.
35. S. Weber, T. Rath, J. Mangalam, B. Kunert, **A. M. Coclite**, M. Bauch, T. Dimopoulos, G. Trimmel *Investigation of NiOx-Hole Transport Layers in Triple Cation Perovskite Solar Cells*, *Journal of Materials Science: Materials in Electronics*, 2018, 29, 3, p. 1847-1855, DOI: 10.1007/s10854-017-8094-9.
36. A. Perrotta, O. Werzer, **A. M. Coclite**, *Strategies for drug encapsulation and controlled delivery based on vapor-phase deposited thin films*, *Advanced Engineering Materials*, 2017, 20, 1700639, DOI: 10.1002/adem.201700639.
37. M. Tazreiter, P. Christian, T. Griesser, R. Schennach, **A. M. Coclite** *Simple method for the quantitative analysis of thin copolymer films on substrates by infrared spectroscopy using direct calibration*, *Analytical Methods*, 2017, 9, 5266 - 5273, DOI: 10.1039/C7AY01748K.
38. K. Unger, P. Salzman, C. Masciullo, M. Cecchini, G. Koller, **A. M. Coclite** *Novel light-responsive biocompatible hydrogels produced by initiated Chemical Vapor Deposition*, *ACS Applied Materials and Interfaces*, 2017, 9, 17408-17416, DOI: 10.1021/acsami.7b01527.
39. P. Christian, **A.M. Coclite**, *Vapor-Phase Synthesized Fluoroacrylate Polymer Thin Films: Thermal Stability and Structural Properties*, *Beilstein Journal of Nanotechnology*, 2017, 8, 933-942, DOI: 10.3762/bjnano.8.95.
40. **A.M. Coclite**, *Progresses on Structure and Functionality of Vapor-Deposited Polymers as Thin Films and in Multilayers*, invited review paper, *Advanced Materials Letter*, 2017, 8, 578-586, DOI: 10.5185/amlett.2017.1484.
41. P. Christian, **A.M. Coclite**, *Thermal Studies of Proton Conductive p(PFDA-co-MAA) Thin Films Synthesized by initiated Chemical Vapor Deposition*, *Thin Solid Films*, 2017, 635, 3-8, DOI: 10.1016/j.tsf.2017.01.023.
42. P. Christian, H. M. A. Ehmann, O. Werzer, **A. M. Coclite**, *Wrinkle Formation in a Polymeric Drug Coating deposited via initiated Chemical Vapor Deposition*, *Soft Matter*, 2016, 12, 9501–9508, DOI: 10.1039/C6SM01919F.
43. P. Christian, H. M. A. Ehmann, **A. M. Coclite**, O. Werzer, *"Polymer Encapsulation of an Amorphous Pharmaceutical by initiated Chemical Vapor Deposition for Enhanced Stability"*, *ACS Applied Materials and Interfaces*, 2016, 8 (33), pp 21177-21184, DOI: 10.1021/acsami.6b06015.
44. K. Unger, R. Resel, **A.M. Coclite**, *"Dynamic studies on the response to humidity of poly 2-hydroxyethyl methacrylate hydrogels produced by initiated Chemical Vapor Deposition"* *Macromolecular Chemistry and Physics*, 2016, 217, 2372-2379, DOI: 10.1002/macp.201600271.
45. M. Truger, A. O. F. Jones, **A. M. Coclite**, S. Pachmajer, D. Kriegner, C. Röthel, J. Simbrunner, I. Salzmann, R. Resel *"Crystallization of Tyrian Purple (6,6'-Dibromoindigo) Thin Films: The Impact of Substrate Surface Modifications"*, 2016, *Journal of Crystal Growth*, 447, 73-79, DOI: 10.1016/j.jcrysgro.2016.05.001.
46. M. Truger, O. M. Roscioni, C. Röthel, D. Kriegner, C. Simbrunner, R. Ahmed, E. D. Głowacki, J. Simbrunner, I. Salzmann, **A. M. Coclite**, A. O. F. Jones, R. Resel *"Surface-Induced Phase of Tyrian Purple (6,6'-Dibromoindigo): Thin Film Formation and Stability"*, 2016, *Crystal Growth & Design*, 16, 3647-3655, DOI: 10.1021/acs.cgd.6b00104.

47. G. Urstöger, G. Koller, R. Resel, **A.M. Coclite**, “Deposition Kinetic and Characterization of Stable Ionomers from Methacrylic Acid and Hexamethyldisiloxane by Plasma Enhanced Chemical Vapor Deposition”, *Journal of Applied Physics*, 2016, 119 (13), 135307, DOI: 10.1063/1.4945578.
48. C. Ranacher, R. Resel, P. Moni, B. Cermenek, V. Hacker, **A. M. Coclite**, “Layered Nanostructures in Proton Conductive Polymers obtained by initiated Chemical Vapor Deposition”, *Macromolecules*, 2015, 48 (17), pp 6177-6185, DOI: 10.1021/acs.macromol.5b01145.
49. **A.M. Coclite**, Y.J. Shi, K. K. Gleason, “Super-Hydrophobic and Oleophobic Crystalline Coatings by Initiated Chemical Vapor Deposition” *Physics Procedia*, 2013, 46, 56-61.
50. **A. M. Coclite**, R. M. Howden, D. Borrelli, C. D. Petruczok, R. Yang, J. L. Yaguë, A. Ugur, N. Chen, S. Lee, W. J. Jo, A. Liu, X. Wang, K. K Gleason “25th anniversary: CVD Polymers: A new paradigm for surface modification and device fabrication”, invited review paper, *Advanced Materials*, 2013, 25, 5392-5423, DOI: 10.1002/adma.201301878.
51. **A. M. Coclite**, “Smart surfaces by initiated Chemical Vapor Deposition”, invited review paper, *Surface Innovations*, 2013, 1, 6-14, DOI: 10.1680/si.12.00019.
52. J. Yague, **A. M. Coclite**, C. Petruczok, K. K. Gleason “Chemical Vapor Deposition (CVD) for Solvent-Free Modifications at Surfaces”, invited trend paper, *Macromolecular Chemistry and Physics*, 2013, 214, 302-313. with the cover front image
53. **A. M. Coclite**, P. Lund, R. Di Mundo, F. Palumbo “Novel hybrid fluoro-carboxylated copolymers deposited by initiated Chemical Vapor Deposition as protonic membranes”, *Polymer*, 2013, 54, 24-30.
54. **A. M. Coclite**, F. De Luca, K. K. Gleason “Mechanically robust silica-like coatings deposited by microwave plasmas for barrier application”, *J. Vac. Sci. and Technol. A*, 2012, 30, 061502-1-9.
55. **A. M. Coclite**, Y. J. Shi, K. K. Gleason “Grafted Crystalline Poly-perfluoroacrylate Structures for Superhydrophobic and Oleophobic Functional Coatings”, *Advanced Materials*, 2012, 24, 4534-4539.
56. **A. M. Coclite**, K. K. Gleason “Global and Local Planarization of Surface Roughness by CVD Organosilicon Polymer for Barrier Applications”, *Journal of Applied Physics*, 2012, 111, 073516.
57. **A. M. Coclite**, Y. J. Shi, K. K. Gleason “Controlling the degree and preferred orientation of crystallinity in poly-perfluorodecylacrylate thin films by initiated Chemical Vapor Deposition”, *Advanced Functional Materials*, 2012, 22, 2167-2176.
58. **A. M. Coclite**, K. K. Gleason “Initiated PECVD of organosilicon coatings: a new strategy to enhance monomer structure retention”, *Plasma Processes and Polymer*, 2012, 9, 425-434.
59. G. Ozyaydin-Ince, **A.M. Coclite**, K. K. Gleason “CVD of polymeric thin films: Applications in sensors, biotechnology, microelectronics/organic electronics, micro-fluidics, MEMS, composites, and membranes”, invited review in *Report of Progress in Physics*, 2012, Vol. 75, 016501.
60. **A. M. Coclite**, A. Milella, F. Palumbo, F. Fracassi, R. d’Agostino “Chemical and morphological characterization of low-k dielectrics films plasma deposited from Hexamethyldisiloxane and Ethylene”, *Plasma Processes and Polymer*, 2010, Vol. 7, pp. 1022 - 1029.
61. **A. M. Coclite**, A. Milella, C. Le Pen, F. Palumbo, R. d’Agostino “Plasma Deposited Multistacks for High-Performance Low-Carbon Steel Protection” *Plasma Processes and Polymers*, 2010, Vol. 7, pp. 802-812.
62. **A. M. Coclite**, A. Milella, F. Palumbo, R. d’Agostino “On the relationship between the structure and the barrier performance of plasma deposited silicon dioxide-like films”, *Surface Coatings and Technology*, 2010, Vol. 204, pp. 4012-4017.
63. **A. M. Coclite**, G. Ozyaydin-Ince, F. Palumbo, A. Milella, K. K. Gleason “Single-chamber deposition of multilayer barriers by Plasma Enhanced and initiated Chemical Vapor Deposition of organosilicones”, *Plasma Processes and Polymers*, 2010, Vol. 7, pp. 561-570.
64. **A. M. Coclite**, G. Ozyaydin-Ince, R. d’Agostino, K. K. Gleason “Flexible Cross-linked Organosilicon Thin Films by Initiated Chemical Vapor Deposition” *Macromolecules*, 2009, Vol. 42, pp. 8138-8145
65. **A. M. Coclite**, A. Milella, F. Palumbo, F. Fracassi, R. d’Agostino “A Chemical Study of Plasma-Deposited Organosilicon thin films as low-k dielectrics” *Plasma Processes and Polymer*, 2009, Vol. 6 (8), pp. 512-520.

Book chapters

66. **A. M. Coclite**, Chapter 14: “CVD Polymer Surfaces for Biotechnology and Biomedicine” of the Book: “CVD Polymers: Fabrication of Organic Surfaces and Devices”, Editor Karen K. Gleason, Publisher Wiley, 2015, 301-322, DOI: 10.1002/9783527690275.ch14.
67. **A. M. Coclite**, Chapter 8: “Dry polymerization of functional thin films and multilayers by chemical vapor deposition” in the Book: “Organic & Hybrid Photonic Crystals”, Editor Davide Comoretto, Publisher Springer, 2015, pages 167-186, DOI: 10.1007/978-3-319-16580-6_8.

ORGANIZZAZIONE, DIREZIONE E COORDINAMENTO DI CENTRI O GRUPPI DI RICERCA NAZIONALI E INTERNAZIONALI O PARTECIPAZIONE AGLI STESSI

(per ciascuna voce inserire anno, ruolo, gruppo di ricerca, ecc.)

2013-presente: direttrice del gruppo di ricerca su CVD/ALD nell'Istituto di Fisica dello Stato Solido a Graz University of Technology.

FFG Funds on Energy research

1.10.2021-30.9.2024

Project budget: 348 k€. Share: 12 k€. Role: Research Partner

Project "Ionic Liquids In Redox Flow Battery Membranes " (acronym: IonFlow). The project will address synthesis of novel membranes for redox batteries based on the polymerization of ionic liquids by initiated chemical vapor deposition.

International Training Network (H2020-MSCA-ITN-2020)

1.1.2021-31.12.2024

Project budget: 3.5 M€. Share: 264 k€. Role: WP leader.

Project "Smart surface design for efficient ice protection and control" (acronym: SURFICE, number: 956703). The group of AMC will work on the objective of achieving a rational design for anti-icing materials and coatings based on a novel concept of discontinuity-enhanced icephobicity

FET Open: Advancing and Emerging Technologies (H2020)

1.9.2020 - 31.8.2023

Project budget: 3.5 M€. Share: 283 k€ Role: WP leader.

Project "Functional & Dynamic 3D Nano- MicroDevices by Direct Multi-Photon Lithography" (acronym: 5D Nanoprinting, number: 899349). AMC and her group will work on the sensing material and achieve local piezoelectric transduction with ZnO deposited by area-selective atomic layer deposition (ALD). Normally, vapor-based deposition techniques enable the deposition over the entire substrate area. In this case, though, the possibility of obtaining high-resolution ZnO patterns (1-40 μm feature sizes) will be explored by creating areas with differential ZnO growth rate.

COMET Project "Thermocrystals"

Aug 2019-December 2021

Project budget: 525 k€. Share: 130 k€. Role= WP Leader.

AMC and her group will work on the deposition of such superlattices via plasma enhanced atomic layer deposition. In collaboration with the Material Center Leoben.

Lead Project (TU Graz) "Materials@Work": 2nd call

Oct 2018-March 2022

Project budget: 1.5 M€. Share: 109 k€. Role = key researcher

AMC is co-leading two subprojects, one regarding the development of ultrafast humidity sensors, in collaboration with Prof. Bergmann and another one to develop MOF from the vapor phase in collaboration with Prof. Resel. Two PhD students are shared with the above-mentioned collaborators for the two subprojects.

ERC Starting grant

Dec 2016-Dec 2022

Project budget: 1.5 M€. Share: 1.1 M€. Role = PI - Coordinator.

Project "Smart Core/shell nanorods arrays for artificial skin" (Acronym: Smart Core, Number: 715403). The goal of this project is to integrate temperature and humidity together with pressure sensing in a single novel hybrid material in site-specific geometrical layouts in order to achieve sensing with spatial resolution down to 1mm and lower. For this purpose an array of stimuli-responsive nanorods will be created on a surface to fabricate an efficient device for artificial skin applications. The nanorods will have a core-shell structure comprised of a multi-stimuli-responsive smart material and a piezoelectric ZnO shell. The stimuli coming from the environment, such as light, humidity or temperature changes, will be sensed by the smart material, inducing changes in size and shape. The changes in shape and size of the core will be detected by the ZnO shell and transformed in measurable voltage pulses, thanks to the piezoelectric properties of the ZnO.

FWF- Austrian Science Fund- Stand Alone Project

November 2014-February 2018

Project budget = 249 k€. Role = PI.

The project “Proton conductive polymers deposited by initiated-CVD” (Acronym: Pro-CVD, Number : P 26993-N19) was funded by the Austrian Science Foundation.

International Incoming fellowship (Marie Curie Action-FP7-PEOPLE-2013-IIF)

Project budget = 179 k€. Role = Fellow.

May 2014-April 2016

The project “Smart Stimuli-responsive Supports for cell growth” (Three-S, 626889) has been funded by the European Community. The IIF fellowship funds top-class researchers from non-European Countries to perform high-quality research in Europe. The project consists in the development of a material that respond to several external stimuli such as humidity, light and temperature. The multi-stimuli responsive material will be obtained by initiated Chemical Vapor Deposition (iCVD), a method, invented at MIT, that allows obtaining thin films with high versatility. The envisioned outcome will be that the water uptake of the material changes with the afore-mentioned stimuli, resulting in stiffness change.

ATTIVITÀ QUALI LA DIREZIONE O LA PARTECIPAZIONE A COMITATI EDITORIALI DI RIVISTE SCIENTIFICHE
(per ciascuna voce inserire anno, ruolo, rivista scientifica, ecc.)

Guest editor for the following journals:

- Nanoscience and Nanotechnology Letters (IF = 1.44). She has edited a Special Section, in the January 2015 issue, on Nanostructured Polymers (1 review + 10 communications)
- Thin Solid Films (IF = 1.86). HWCVD Conference Proceedings of HWCVD8 (2015), HWCVD9 (2017), HWCVD10 (2019)
- **Topic editor** in the “Nanobiotechnology” section in Frontiers in Bioengineering and Biotechnology (IF=5.2) in 2020
- Polymers. Special Issue named “Polymer surfaces and Interfaces” (2022)

TITOLARITÀ DI BREVETTI

(per ciascun brevetto, inserire autori, titolo, tipologia, numero brevetto, ecc.)

1. T. Abu Ali, B. Stadlober, A. M. Coclite “Method for producing multi-stimuli sensor device” European patent application EP21200440.2, 01.10.2021
2. A.M. Coclite, K. K. Gleason “Methods of coating surfaces using initiated plasma-enhanced chemical vapor deposition”, Patent Number(s): WO2013025480-A1, Patent Assignee: MASSACHUSETTS INST TECHNOLOGY
3. A.M. Coclite, Y.J. Shi, K. K. Gleason “Superhydrophobic and oleophobic functional coatings comprised of grafted crystalline polymers comprising perfluoroalkyl moieties”, Patent Number(s): WO2013158224-A1, Patent Assignee: MASSACHUSETTS INST TECHNOLOGY
4. A.M. Coclite, C. K. Colton, A. R. DiIenno, K. K. Gleason “Articles and methods for stem cell differentiation” Patent Number(s): WO2014201431-A1 Patent Assignee: MASSACHUSETTS INST TECHNOLOGY
5. J. Thery, D. Boutry, P. Capron, F. Palumbo, A.M. Coclite, R. d’Agostino, “Proton conductive membrane deposited by hot wire CVD technique” Patent Number(s): WO2014111743-A1, Patent Assignee: UNIV BARI ALDO MORO

PREMI E RICONOSCIMENTI NAZIONALI E INTERNAZIONALI PER ATTIVITÀ DI RICERCA

(inserire premio, data, ente organizzatore, ecc.)

1. **ERC Starting Grant - 2016**
2. **Marie Slodowska Curie Individual fellowship - 2014**
3. **AVS Shop Note Price 2019:** the Vacuum Technology Division of the American Vacuum Society (AVS), awarded the paper, *Universal software for the real-time control of sequential processing techniques*,

published on J. Vac. Sci. Technol. A 37(6), Nov/Dec 2019, with the AVS Shop Notes prize for 2019. Each year, the executive committee of the AVS Vacuum Technology Division awards this prize to the authors who published the best Shop Note in the Journals (A or B) of Vacuum Science & Technology.

4. **Start-up Idea Award 2018:** The [Science Park Graz](#) awarded Anna Maria Coclite with a 1000 € in the Startup Idea Competition. Anna's idea was to create artificial skin that has similar temperature, pressure, and humidity perception as real skin. Together with the cash prize, she also got the opportunity to attend the Science Park Academy: a series of workshops to coach scientists in being entrepreneurs.
5. **IAAM Scientist Medal - 2016:** The *International Association of Advanced Materials* has awarded her "notable and outstanding research in the Advanced Materials Science and Technology" (as written in the certificate). The selection was made among the participant to the European Advanced Material Congress.
6. **Scholarship for the Lindau Nobel Laureate meeting 2015:** *the scientific review panel of the Lindau Nobel Laureate Meetings* has selected her as young scientist participant among the first 650 young scientists from 89 countries. The selection was made among excellent students, PhD candidates, and post-docs aged up to 35 with their research focus in the fields of medicine, physics, or chemistry. http://www.lindau-nobel.org/General_Information_Young_Researchers.AxCMS?ActiveID=1269
7. **Excellence PhD award from Puglia region 2008:** ranked 1st over 47 graduated in the Competitive Examination established for a scholarship to a research period in a Foreign Institution, with funds given by Puglia Region. The research period was carried out in the Massachusetts Institute of Technology in Boston (USA).

PARTECIPAZIONE IN QUALITÀ DI RELATORE A CONGRESSI E CONVEGNI DI INTERESSE INTERNAZIONALE (inserire titolo congresso/convegno, data, ecc.)

Invited Oral Presentations in International Conferences

1. *"From functional polymers to functional devices based on Nanofilms"* MRS Fall meeting, Boston, USA, December 2021
2. *"Development of devices based on stimuli-responsive thin films deposited by iCVD"*, MRS Fall meeting, Boston, USA, December 2019
3. *"Functional thin polymer films deposited from the vapor phase and their application for drug delivery and stimuli recognition"* IVC 21, Malmö, Sweden, July 2019
4. *"Functional polymer nanofilms deposited from the vapor phase and their application for drug delivery and stimuli recognition"* ICMAT 2019, Singapore, June 2019
5. *"CVD of Thin Polymer Films for Engineered Material Properties"* AVS International Symposium, Long Beach, USA, 23/11/2018
6. *"Functional Thin Polymer Films Deposited from the Vapor Phase: from Proton Conductivity and Stimuli-Recognition to Electronic Devices"*, Bioelectrochemistry and more Workshop, Wiener Neustadt, Austrian, May 28th, 2018
7. *"A sensor matrix for artificial skins"*, Cell Culture Days 2017 Graz, Austria, June 1st, 2017
8. *"Layered Nanostructures in Proton Conductive Polymers Obtained by Initiated Chemical Vapor Deposition"*, 66th Meeting of the Austrian Physic Society (ÖPG), Wien, Austria, Sept 26-29, 2016
9. *"Layered Nanostructures in Proton Conductive Polymers Obtained by Initiated Chemical Vapor Deposition"*, HWCVD 9, Philadelphia, USA, Sept 6-9, 2016
10. *"Functional thin films: advanced growth techniques and applications"* 7th Summer School on Organic Electronics, Como, Italy, September 14th, 2015
11. *"Initiated PECVD: a new strategy to enhance monomer structure retention"*, XXII Meeting of the Italian Vacuum Society (AIV), Genua, Italy, May 20th 2015
12. *"Proton conductive polymers deposited by iCVD"*, HWCVD 8, Braunschweig, Germany, Oct 16th 2014
13. *"CVD polymers for smart surface modification and device fabrication"* 16th International Conference on Thin Films, October 14, 2014, Dubrovnik, Croatia
14. *"Chemical Vapor Deposition of Polymer thin films"*, VI workshop surface induced phases, Rouen, France, May 12th 2014

15. *“Engineering Functional and Responsive Surfaces by Chemical Vapor Deposition for Biotechnology”*, II International Symposium on Surface Science Aspects of Pharmaceutical Science, Pharmacology, Cosmetics and Biotechnology, November 7, 2012, Mid Hudson Valley, NY, USA
16. *“Deposition of polymers: plasma, filaments and initiators”*, Plasma Processes: Past, Present and Perspectives, Workshop in honor of Prof. Riccardo d’Agostino, Bari, Italy, June 23rd, 2012

Contributed presentations:

1. P. Salzmänn, A. Perrotta, **A.M. Coclite**, *“Kinetics of swelling and deswelling in thermoresponsive polymers deposited by initiated Chemical Vapor Depositions”*, AVS International Symposium, Tampa, USA, 3/11/2017
2. **A. M. Coclite**, *“Novel light-responsive biocompatible hydrogels produced by initiated Chemical Vapor Deposition”* eMRS Spring meeting: European Material Research Society Conference, Strasbourg, France, 24/5/2017
3. **A. M. Coclite**, *“Layered Nanostructures in Proton Conductive Polymers Obtained by Initiated Chemical Vapor Deposition”*, European Advanced Materials Congress (EAMC), Stockholm, Sweden, August 24th, 2016
4. K. Unger, **A. M. Coclite**, *“Novel Multi-Stimuli Responsive Hydrogels by initiated Chemical Vapor Deposition”* eMRS Spring meeting: European Material Research Society Conference, Lille, France, May 3rd, 2016
5. **A. M. Coclite**, C. Ranacher, *“Proton Conductive Crystalline Coatings by Initiated Chemical vapor Deposition”*, 61st American Vacuum Society (AVS) Conference, Baltimore, USA November 10th, 2014
6. **A. M. Coclite**, Y. J. Shi, K. K. Gleason *“Super-hydrophobic and oleophobic crystalline coating by initiated Chemical Vapor Deposition”* EuroCVD19, Varna, Bulgaria, Sept 2nd 2013
7. **A. M. Coclite**, Y. J. Shi, K. K. Gleason *“Super-hydrophobic and oleophobic crystalline coating by initiated Chemical Vapor Deposition”* eMRS Spring meeting: European Material Research Society Conference, Strasbourg, France, May 31st, 2013
8. **A. M. Coclite**, F. De Luca, K. K. Gleason, *“Multilayer barrier coatings for organic photovoltaics”*, 59th American Vacuum Society (AVS) Conference, Tampa, FL, Oct 31st 2012
9. **A. M. Coclite**, F. De Luca, K. K. Gleason, *“Multilayer barrier coatings for organic photovoltaics”*, 55th 2012 Society of Vacuum Coaters Technical Conference (SVC), Santa Clara, CA, May 3rd, 2012

ATTIVITÀ GESTIONALI, ORGANIZZATIVE E DI SERVIZIO

INCARICHI DI GESTIONE E AD IMPEGNI ASSUNTI IN ORGANI COLLEGIALI E COMMISSIONI, PRESSO RILEVANTI ENTI PUBBLICI E PRIVATI E ORGANIZZAZIONI SCIENTIFICHE E CULTURALI, OVVERO PRESSO L’ATENE O ALTRI ATENEI

(inserire incarico/impegno, ente, data, ecc.)

Activity in Committees

Head of the committee for the section procedure of a tenure track position within the Field of Expertise, 2020, TU Graz.

External committee member for the selection procedure of a tenure track position for the University of Leuven, Belgium, 2019 and for assessing tenure promotion for University of Waterloo, Canada, 2019 and University of Groningen, 2022.

Internal examiner in Master exam committees since 2014 and in PhD committees since 2018.

External member in PhD committees:

- Doctoral degree (XXIX ciclo, 2017 + XXXI ciclo, 2019) in “Molecular and Chemical Science” of the University of Bari
- David Spirito (University of Luxemburg, LIST) April 2018

External referee for the PhD theses:

- Vito Rizzi (University of Bari, PhD school in Chemistry of Innovative Materials) 2015
- Piera Bozzo (University of Bari, PhD school in Chemistry of Innovative Materials) 2015
- Marta Garzia Trulli (University of Bari, PhD school in Chemistry of Innovative Materials) 2017
- Paola Semeraro (University of Bari, PhD school in Chemical and Molecular Science) 2017

Institutional Responsibilities

Leader of the Field of Expertise Advanced Material Science, TU Graz, since 2020.

Faculty member, TU Graz, since 2013.

Mentor for new Professors, since 2021. Profile at

https://tu4u.tugraz.at/fileadmin/user_upload/redaktion/Information/Meine_Karriere/Mentoring/Mentoring_Profil_Anna_Maria_Coclite.pdf

Mentor for Science Park Graz for the Start-up Renewgery, since 2022. Profile at:

<https://www.sciencepark.at/mentors/>

ORGANIZZAZIONE DI CONGRESSI E CONVEGNI DI INTERESSE INTERNAZIONALE

(Co)organizer of the following conferences/symposia/workshop/schools:

- Symposium at the European Material Research Society Spring Meeting 2018 on " Polymer and hybrid thin films from innovative deposition techniques to functional devices"
- Symposium at the Euromat conference 2021 on "Synthesis and Applications of Functional Materials"
- Symposium at the European Material Research Society Spring Meeting 2022 on "Polymer and hybrid thin films deposited from the vapor phase for functional (bio-)devices"

PRESS RELEASES/OUTREACH ACTIVITIES

- Broadcasting on TV (PULS 4) <https://www.puls4.com/tv/4lifechangers/staffel-6671231/4lifechangers-vom-09082022/hautnah-an-der-zukunft> - August 2022
- Article on "Electronic skin: Physicist at the TU Graz develops Multisensory Hybrid material" <https://www.tugraz.at/en/tu-graz/services/news-stories/media-service/singleview/article/elektronische-haut-physikerin-der-tu-graz-entwickelt-multisensorisches-hybridmaterial0/> on the **University Media service**, **local newspapers** (Kleine Zeitung, ORF Steiermark: <https://steiermark.orf.at/stories/3156628/>, Austria Press Agency (APA) Science: <https://t.co/UclvYRvrG>), **International press** (Science Daily, <http://bit.ly/3Nnuw35>) - June 2022
- Group Twitter account @CVDGraz
- Article on " Starting signal for FET Open projects: Visionary research on biocatalysts, nanostructures and ultrafast information processing" on the University Media service and local newspapers (My Science, der Standard) - 2020
- Insertion in the journal "Botenstoff" issue 01/2020
- Publication of bio within "Frauen an der TUGraz" - 2019
- Article "Sensoren für die künstliche Haut" (Sensors for artificial skin) published in "Der Standard" - 2019 <https://www.derstandard.at/story/2000111859032/sensoren-fuer-die-kuenstliche-haut>
- Lange nacht der Forschung, 2014 and 2018_(Night of Research) We have organized stations with videos and posters about our research. The university was open to general public and the event was advertised in radios and TV.
- Talk at the Rotary Club Schlossberg: "Künstliche Haut" Graz, 02/02/2017
- TEDxGraz Talk: "Artificially re-create everyday experiences" Graz, 25/11/2016
- Article on "Smart artificial Skin: ERC grant for researcher at the TU Graz" on the University Media service and local newspapers (Kleine Zeitung, die Presse, Kronen Zeitung, ÖRF) - 2016
- University press. Paper on the biannual journal **TU Graz Research**, Nr. 10 published in October 2013, "Chemical Vapor Deposition for Technological Application" http://portal.tugraz.at/portal/page/portal/Files/BDR/Oeffentlichkeit/Zeitschriften/research_10_2013.pdf

Data

17/08/2022

Luogo

Graz, Austria