

CURRICULUM VITAE

EUROPEAN FORMAT

PERSONAL INFORMATION

Name, Surname	Barbara, Sacchi
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Website	www.ispc.cnr.it
Nationality	Italian
Place and Date of birth	

WORK EXPERIENCE

Se dipendente CNR indicare:	N. MATRICOLA	10613
	QUALIFICA	RESEARCHER
	LIVELLO	III

Dates (from – to)

December 2007-Today

Name and address of employer	Institute of Heritage Science CNR-ISPC, via Madonna del Piano 10, Sesto Fiorentino (FI)
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Type of business or sector	Research in Cultural Heritage Field
Occupation or position held	3 rd level Researcher

Main activities and responsibilities	Characterization, experimentation and study of organic biopolymeric treatments for the conservation (protection) of stone materials. Experimentation and study of inorganic treatments for the conservation (consolidation and protection) of stone materials. Study of new materials for the conservation, of the definition, optimization and validation of protective methodologies, of the determination of colour, brightness and relative alterations.
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April 2007-November 2007

Name and address of employer	Institute for the Conservation and Promotion of Cultural Heritage
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Type of business or sector	Research in Cultural Heritage Field
Occupation or position held	Research contract

Main activities and responsibilities	Experimentation and study of inorganic treatments for the conservation (consolidation and protection) of stone materials. Conservation (consolidation) of fossil finds and mural paintings.
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January 2005- May 2007

Name and address of employer	Institute for the Conservation and Promotion of Cultural Heritage
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Type of business or sector	Research in Cultural Heritage Field
Occupation or position held	Research contract

Main activities and responsibilities

Study of causes and mechanisms of degradation of stone materials.
Synthesis, experimentation and study of organic and inorganic treatments for the conservation (consolidation and protection) of stone material.

EDUCATION AND TRAINING

Dates (from – to)

2004

Name and type of organisation
providing education and training

PhD degree in Science for the Conservation of Cultural Heritage

Principal subjects occupational skills
covered

Conservation of Cultural Heritage, especially stone materials, by means of individuation, synthesis and experimentation of protective and/or consolidant products, both organic and inorganic.
Tuning up and choice of the best protocols of application of products as consolidant on different lithotypes.
Characterization and application of commercial products, evaluation of performance of applied products and monitoring of the performance during time.

Title of qualification awarded

PhD

1998

Name and type of organisation
providing education and training

Degree in Chemistry

Title of qualification awarded

University Degree

RESEARCH ACTIVITIES

Research sectors

- Individuation and experimentation of protective and/or consolidant products, organic and inorganic: study of causes of degradation of stone materials and relative conservative treatments, characterisation and application of commercial products, evaluation of performance of applied products.
- Synthesis of new products, especially organic (bio)polimeric ones.
- Experimentation of new treatments on different stone materials.
- Study of conservation issues on other materials from stones, such as fossil finds, mural painting and biologic organisms (lichens).
- Study of the state of conservation, aimed at restoration operations of historical manufacts.
- Study of chemistry of laser ablation processes in cleaning lapideous materials from consolidant or protective treatments.

Recent Scientific Activities.

- Torre di San Prospero (Reggio Emilia) – Investigations for a conservative intervention.
- Diagnostic investigations on the masonries of “San Francesco ai Ferri Curch” (Pisa) and on the columns of the adjacent cloister.
- Chemical-petrographical characterisation of lapideous materials of 3 fountains in Pisa.
- Characterisation of samples from painted plaster of the Façade of “Istituto Statale d’Arte Passaglia” in Piazza Grande, Lucca.
- Diagnostic investigations on samples of frescos and stuccos from the dome of Santa Caterina Church in Livorno.
- Mineralogical, petrographical and chemical investigations on samples from mural vestments of sant’Agata Chapel (Pisa).
- Characterisation of materials of crests of IT IS Façade (Pisa).
- Chemical and mineralogical-petrographical characterisation of mosaic covering and of the floor of Palazzo Fagnoni (Campi Bisenzio).
- Laboratory investigations on samples of plaster collected in the field of the project “Extraordinary maintenance of roof and facades of Villa Mimbelli (Livorno)”.
- Diagnostic investigations for the restoring of Cathedral of Matera.

- Rescic S., Fratini F., Cuzman O.A., Sacchi B., *Historical Use of Travertine in the Tuscan Architecture (Italy)*, Heritage, 2024, 7, 338-365, <https://doi.org/10.3390/heritage7010017>.
- Bracci S., Sacchi B., *In situ Assessment of Conservation Treatments and Monitoring of Their Effectiveness*, in *Conserving Stone Heritage – Traditional and Innovative Materials and Techniques*, editors Francesca Gherardi, Pagona Noni Maravelaki, P.N. (eds) Conserving Stone Heritage. Cultural Heritage Science. Springer, Cham, 2022, 231-274, ISBN: 978-3-030-82941-4.
- Bartolozzi G., Bracci S., Sacchi B., Realini M., Mazzei B., *Mural paintings of the cubicle “dei fornai” in Domitilla catacombs in Rome: a study via non-invasive techniques*, Archaeological and Antropological Sciences, 2021, 13:185, DOI 10.1007/s12520-021-01447-5.
- Fratini F., Cantisani E., Pecchione E., Rescic S., Sacchi B., Vettori S., *Geologia, tempo e abito urbano (Imago urbis)*, in *Memories on John Ruskin. Unto this last*, a cura di Susanna Caccia Gherardini e Marco Pretelli, Special Issue di Restauro Archeologico, Firenze University Press, Firenze, 2019, 78-85, ISSN 1724-9686.
- Sacchi B., Vettori S., Andreotti A., Rampazzi L., Colombini M.P., Tiano P., *Assessment of Water Repellent Treatments for the Stone of the Matera Cathedral Facade (Italy)*, International Journal of Architectural Heritage, 2020, 365-373, DOI 10.1080/15583058.2020.1782532.
- Rampazzi L., Andreotti A., Bressan M., Colombini M.P., Corti C., Cuzman O., d'Alessandro N., Liberatore L., Palombi L., Raimondi V., **Sacchi B.**, Tiano P., Tonucci L., Vettori S., Zanardini E., Ranalli G., *An interdisciplinary approach to a knowledge-based restoration: The dark alteration on Matera Cathedral (Italy)*, Applied surface science, 2018, 458, 529-539, DOI 10.1016/j.apsusc.2018.07.101.
- Vettori S., Bracci S., Cantisani E., Riminesi C., **Sacchi B.**, D'Andria F., *A multi-analytical approach to investigate the state of conservation of the wall paintings of Insula 104 in Hierapolis (Turkey)*, Microchemical journal, 2016, 128, 279-287, DOI 10.1016/j.microc.2016.05.006.
- Cantisani E., Vettori S., Bracci S., Riminesi C., **Sacchi B.**, *Multidisciplinary analytical approach for the knowledge, conservation and monitoring of an archaeological site*, in *Ancient quarries and building sites in Asia Minor. Research on Hierapolis in Phrygia and other cities in south-western Anatolia: archaeology, archaeometry, conservation*, a cura di Giuseppe Scardozzi e Tommaso Ismaelli, Edipuglia, Bari, 2016, ISBN: 978-88-7228-819-1.
- Vettori S., Riminesi C., Cantisani E., Bracci S., **Sacchi B.**, *Marble from Hierapolis: decay, conservation, monitoring of surfaces and environment*, in *Ancient quarries and building sites in Asia Minor. Research on Hierapolis in Phrygia and other cities in south-western Anatolia: archaeology, archaeometry, conservation*, a cura di Giuseppe Scardozzi e Tommaso Ismaelli, Edipuglia, Bari, 2016, ISBN: 978-88-7228-819-1.
- Cantisani E., Vettori S., Bracci S., Riminesi C., **Sacchi B.**, *Hierapolis di Frigia, Pamukkale- Turchia. Conoscenza materica e conservazione*, in *Scavare, documentare, conoscere. Viaggio nella ricerca archeologica del CNR*, a cura di Alessandra Caravale, CNR Edizioni, Roma, 2016, ISBN: 978-88-8080-195-5.
- Vettori S., Bracci S., Caggia M.P., Cantisani E., Cuzman O.A., Ismaelli T., Riminesi C., **Sacchi B.**, Scardozzi G., D'Andria F., *Decay phenomena of marbles in the archaeological site of Hierapolis of Phrygiae (Denizli, Turkey)*, in 13th International Congress on the Deterioration and Conservation of Stone, Paisley (Scotland), 6-10 September 2016, 2016, 165-172, ISBN: 978-1-903978-57-3.
- Aguiar J., Bracci S., **Sacchi B.**, Salvadori B., *Analysis, testing and development of safe cleaning methods of rusted stone material*, in 13th International Congress on the Deterioration and Conservation of Stone, Paisley (Scotland), 6-10 September 2016, 2016, 653-661, ISBN: 978-1-903978-58-0.
- Bracci S., Cagnini A., Driussi G., Galeotti M., Morabito Z.M., Pinna D., Porcinai S., **Sacchi B.**, Santagostino A., *Indagini preliminari all'intervento di restauro*, in *Il restauro dei portali di San Petronio a Bologna. Studi e approfondimenti*, a cura di Maria Cristina Improta, Edifir, Firenze, 2016, 185-191, ISBN: 978-88-7970-744-2
- Giuntoli G., Rosi L., Frediani M., **Sacchi B.**, Salvadori B., Porcinai S., Frediani P., *Novel coatings from renewable sources for the protection of bronzes*, Progress in Organic Coatings, 2014, 77(4), 892-903, DOI 10.1016/j.porgcoat.2014.01.021.

- Undri A., **Sacchi B.**, Cantisani E., Toccafondi N., Rosi L., Frediani M., Frediani P., *Carbon from microwave assisted pyrolysis of waste tires*, Journal of analytical and Applied Pyrolysis, 2013, 104, 396-404, DOI 10.1016/j.jaap.2013.06.006.
- **Sacchi B.**, Giannini L., Frediani M., Rosi L., Frediani P., *Methyl acrylate polymers as suitable materials for the conservation of stone: performance improvement through Atom Transfer Radical Polymerization*, Journal of Coatings Technology and Research, 2013, 10(5), 649-657, DOI 10.1007/s11998-013-9495-1.
- Cuzman O.A., Faraloni C., Pinna D., Riminesi C., **Sacchi B.**, Tiano P. and Torzillo G., *Evaluation of treatments efficiency against lichens growing on monumental stones by electrical conductivity*, International Biodeterioration and Biodegradation, 2013, 84, 314-321, DOI 10.1016/j.biod.2012.05.032.
- **Sacchi B.**, Malesci I., Rosi L., Frediani M., Giuntoli G., Pedna A., Frediani P., *Deterioration and protection of historic and artistic stone: the role of synthetic polymers*, in Cultural Heritage: protection, developments and international perspectives, a cura di Piero Frediani, Marco Frediani e Luca Rosi, Nova Science Pub Inc, New York, 2013, 41-70, ISBN: 978-1-62808-812-0.
- **Sacchi B.**, *Polimeri acrilici parzialmente fluorurati per la protezione di materiali lapidei dalla elevata porosità*, Arkos, 2013, 30-33, 69-72, ISSN: 1974-7950 Giuntoli G., Frediani M., Rosi L., Frediani P., Pedna A., **Sacchi B.**, Cantisani E., *Polimeri a base di PLA: sintesi, caratterizzazione e sperimentazione quali protettivi di materiali lapidei naturali*, Arkos, 2012, 28, 5-13, ISSN: 1974-7950.
- Giuntoli G., Rosi L., Frediani M., **Sacchi B.**, Frediani P., *Fluoro-functionalized PLA-polymers as potential water-repellent coating materials for protection of stone*, Journal of Applied Polymer Science, 2012, 125, 3125-3133.
- Pinna D., Bracci S., Driussi G., Galeotti M., Morabito Z., Realini M., **Sacchi B.**, Santagostino A., *Combining non destructive techniques and microsamples analyses to study a stone giant: the case of Nectuno in Piazza della Signoria (Firenze, Italy)*, Art'11: 10th International Conference on non destructive investigation and microanalysis for the diagnostic and conservation of cultural and environmental heritage, Florence, 13-15 Aprile 2011, 2011, contributo E8 (Atti su CD).
- Cuzman O.A., Camaiti M., **Sacchi B.**, Tiano P., *Natural antibiofouling agents as new control method for phototrophic biofilms dwelling on monumental stone surfaces*, International Journal of Conservation Science, 2011, 2, 3-16.
- Frediani P., Camaiti M., **Sacchi B.**, Comucci A., Salvestrini N., Rosi L., Frediani M., Malesci I., Mazzola M., *Protettivi sintetici per la protezione e conservazione del Patrimonio Culturale*, Arkos, in press.
- Frediani P., Camaiti M., Rosi L., Frediani M., **Sacchi B.**, Comucci A., Salvestrini N., Malesci I., *Tecnologie chimiche e materiali per la conservazione: "i protettivi"*, Scuola Nazionale di Chimica dell'Ambiente e dei Beni Culturali, Torino, 21-25 Settembre 2009, Centro Stampa De Vittoria Srl, Roma, 2010, 317-374, ISBN: 978-88-86208-63-5.
- Frediani P., Camaiti M., Rosi L., Frediani M., **Sacchi B.**, Comucci A., Salvestrini N., Mazzola M., *Polimeri sintetici per la protezione e conservazione del patrimonio culturale*, XXVIII Congresso Interregionale TUMA 2009, Tirrenia (PI), 20-22 Settembre 2009.
- Frediani P., Camaiti M., **Sacchi B.**, Comucci A., Salvestrini N., Rosi L., Frediani M., *Protettivi sintetici per la protezione e conservazione del Patrimonio Culturale*, in Convegno "Il progetto di restauro", Genova, 17-18 Luglio 2009.
- Camaiti M., Frediani P., **Sacchi B.**, *Fluorinated polymers for conservation and restoration of stone artifacts*, Workshop and Technology Transfer Day: TECHA 2008 - Technologies exploitation for the cultural heritage advancement, Roma, 10-11 Marzo 2008, Gangemi Editore, Roma, 2009, 258-259, ISBN: 978-88-492-1699-8.
- Bracci S., Matteini M., **Sacchi B.**, *Barium hydroxide as stone consolidant: preliminary results on Gioia Marble*, 11th International Congress on Deterioration and conservation on Stone, Toruń, 15-20 September 2008, Publishing Editor Mirosława Buczyńska, Toruń, 2008, 819-826.
- Bracci S., Delgado J., Matteini M., Pinna D., Ferreira Pinto A., Porcinai S., **Sacchi B.**, Salvadori B., *Development and evaluation of new treatments for the conservation of outdoor stone monuments*, 11th International Congress on Deterioration and conservation on Stone, Toruń, 15-20 September 2008, Publishing Editor Mirosława Buczyńska, Toruń, 2008, 811-818

OTHER INFORMATION

Member of UNI-Normal – Working Group GL3 “Valutazione di metodi e prodotti utilizzati negli interventi di conservazione” from 2011; member of European Group CEN \ TC346 \ WG3 (Technical Committee – Conservation of Cultural Heritage – Evaluation of methods and products for conservation works on porous inorganic materials constituting cultural heritage) from 2017; Member of UNI-Normal - Working Group GL5 “Metodi di trasporto e imballaggio” from 2019.