

Elena Badea (née Rădulescu)

Personal information



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Date of birth: 15/10/1967

Nationality: Romanian

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<https://www.brainmap.ro/elena-badea>

WORK EXPERIENCE

- Since 2025 **Visiting Professor**
The Research Institute of the University of Bucharest
Research coordination of the program: Next-generation analytical tools for Heritage Science (Mar 2025-Feb 2026); Collaborative Analytical Ecosystems for Resilient Cultural Heritage (Mar 2026 – Feb 2027)
- 2013-2024 **Founder and coordinator of the Advanced Research for Cultural Heritage Laboratory (ARCH Lab)** <https://eertis.eu/erlb-2400-001b-1180>.
National Research & Development Institute for Textiles and Leather (INCDTP), Leather & Footwear Research Branch (ICPI), Bucharest, RO
ARCH Lab was accredited in May 2013 (ANCS order no.312/29.05.2013). ARCH Lab is part of the Romanian hub of the ERIC Research Infrastructure E-RIHS.
- 2012-2024 **Project Director (Cod COR 122313) and Scientific Researcher 1st degree**
National Research & Development Institute for Textiles and Leather (INCDTP), Leather & Footwear Research Branch (ICPI), Bucharest, RO
Strategic planning & leadership, project management, resource allocation, communication, team development & supervision, funding & reporting, conference organizer, innovation & knowledge transfer.
- Since 2018 **Senior Lecturer**
Department of Chemistry, Faculty of Sciences, University of Craiova, Romania
Teaching activity: Chemical thermodynamics, Colloidal chemistry, Materials Chemistry for engineers, Science Communication, Thesis coordination (10 bachelor's and master's theses)
- 2006-2015 **Invited Researcher,**
Department of Chemistry, University of Turin, IT
Conduct collaborative research, deliver lectures, seminars and workshops, publish and disseminate results, mentor and train early-research career students (11 MSc, 5 PhD students and 4 postdocs), leverage fundin, network and build partnerships
- 2002-2006 **Postdoctoral research fellow**
Department of Chemistry, University of Turin, IT,
Research within the EC-funded Project Improved Damage Assessment of Parchments (IDAP) FP5-EVK4-CT-2001-00061
- Since 1993 **Research Assistant (tenured position since 1994), then Lecturer (2000)**
Department of Chemistry, Faculty of Sciences, University of Craiova, RO;
2002 – 2015: Not-paid leave for research and teaching activity at the University of Turin, following the Romanian teaching staff law no 128/1997, replaced by law no. 1/2011; 2016 – 2017: Sabbatical leave
Teaching activity: Enzymology and Biochemistry; research and professional development

EDUCATION AND QUALIFICATIONS

- 2014 **Scientific researcher 1st degree in Engineering Chemistry**
Ministry order no. 199/08.06.2014
- Jun 2010 **Granted short stage: Spectroscopic techniques for cultural heritage**
FP7 Project CHARISMA, Microchemistry and Microscopy Art Diagnostic Laboratory (M2ADL), Ravenna, IT
- Feb 2004 **Research stage: Thermal mechanical analysis of parchments**
Coord. Dr Marianne Odlyha, Birkbeck College, University of London, UK
- Nov 2003 **Research stage: DSC applied to studying proteins**
Coord. Prof. Alberto Schiraldi, University of Milan, IT
- Mar 2001 **Research stage: Isothermal calorimetry applied to the study of biopolymers,**
Coord. Prof. Attilio Cesàro, University of Trieste, IT

Nov 2001- Mar 2002	University of Turin Fellowship: Thermodynamic study of small model compounds by solution microcalorimetry Coord. Prof. Giuseppe Della Gatta, University of Turin, IT
Oct 2000- Mar 2001	NATO Outreach Fellowship: Study of solute-solvent interactions in biochemical compounds by isothermal microcalorimetry Awarded by the Italian Research Council (CNR), Rome, Italy
2001	PhD in Chemical Engineering with Great Distinction (<i>Cum laude</i>) University "Dunărea de Jos", RO Dissertation title: <i>Comparative study on the behaviour of plant peroxidases in extreme environmental conditions (hypo- and hyper-gravitation, modified geomagnetic fields)</i>
Oct 2000	Granted short stage: Pharmaceutical applications of isothermal microcalorimetry Coord. Prof. Anthony E. Beezer, University of Greenwich, UK
1992	MSc Degree with Honours in Food Chemistry and Engineering University "Dunărea de Jos", RO
1983-1987	Colegiul National Carol I (ex. Nicolae Bălcescu), Craiova Mathematics & Physics Section

PERSONAL SKILLS

Mother tongue(s)	Romanian
Other languages	Italian, English
Communication skills	Experienced in high-impact science communication across European and global networks. Organiser of international congresses and workshops; editorial board roles in leading journals; community outreach in scientific and cultural contexts.
Organisational / managerial skills	Led international research consortia and multidisciplinary teams. Founded and chaired scientific societies and conferences. Managed budgets across Horizon Europe, COST, Erasmus+, and private foundation projects at national and international level. and innovation programs at national and international levels.
Job-related skills	Expertise in materials chemistry, heritage science, and biopolymer analysis. Proficient in microcalorimetry (microDSC), thermal microscopy, FTIR, unilateral NMR-MOUSE, SEM, and GC-MS. Track record in eco-friendly consolidant development and damage assessment of collagen-based heritage objects.
Computer skills	Proficient in Origin, Matlab, and SigmaPlot for data analysis; Microsoft 365; digital heritage platforms and project reporting systems.
Other skills	Leadership skills through roles as chair and founder of scientific societies and committees; teaching expertise gained from lecturing and supervising students across multiple universities and disciplines; recognized project evaluation skills as an expert evaluator for European and national research programs; cultural management proficiency from certified training and founding cultural associations; and creative skills demonstrated by science-art collaborations, invited media contributions, and editorial work in scientific publishing. Tireless reader, gourmet cook, keen gardener.
Activity in academic societies, National/International Boards	2022–2025 Chair of the Working Party on Chemistry for Cultural Heritage, European Chemistry Society EUChemS 2022–2025 Member (by competitive procedure) of the Consultative College for Research, Development and Innovation of the Romanian Ministry of Education and Research 2021 Expert, National Panel for establishing the challenges of the 2021-2027 Romanian Strategic Research Agenda, Ministry of Research, Innovation & Digitization 2021 Expert, National Panel for Evaluation of Research Infrastructures for the 2021 Romanian roadmap, Romanian Committee for Research Infrastructures, Panel: Eco-nanotechnologies & advanced materials 2019-2023 Member of the Scientific Council, National Research Development Institute for Textiles and Leather 2018-2022 Secretary (2018-2022) of the Working Party on Chemistry for Cultural Heritage (WP CCH), European Chemistry Society (EuChemS) Since 2017 Founder and President of the Working Group/Division Chemistry for Cultural Heritage of the Romanian Chemical Society (SChR) 2017 Rapporteur, National Panel for Evaluation of Research Infrastructures for the 2021 Romanian roadmap, Romanian Committee for Research Infrastructures, Panel: Culture and society Since 2012 Founder and President, Association of Science and Cultural Heritage in Conexion (i-CON)
Professional membership	Since 2011– Romanian Chemistry Society (SChR) Since 2007 – Commission of Thermal Analysis and Calorimetry, Romanian Academy of Science Since 2004 – Member, Italian Group of the International Institute for Conservation (IGIIC) Since 2000 – Member, Italian Association for Calorimetry and Thermal Analysis (AICAT)

Vocational certificates

2020 - Certificate in Innovation Management (Cod COR 242106), granted by the Ministry of Labour and National Justice and the Ministry of National Education (M.00159762/19.07.2020).

2020 - Expert for accessing European Structural and Cohesion Funds (COR Code 242213), Ministry of Labour and National Justice, and the Ministry of National Education (N.00376139/27.09.2020)

2020 Cultural Manager Certification, granted by the National Institute for Cultural Research and Training, Bucharest (D.0770/27.11.2020).

2004 – Certificate in Italian Language. University of Turin, IT.

Expert evaluator

Expert evaluator for the European Commission (ERIC E-RIHS, H2020-MSCA-IF, Eureka Network, Eureka-Eurostars, M-Eranet); Italian MIUR PRIN programme; Slovenian Research and Innovation Agency (ARIS); University of Florence and University of Turin postdoctoral grants; and Romanian UEFISCDI.

Honours and awards

2015 - Article Biodegradable Alginate Derivatives Obtained by Eco-Friendly Ultrasound Technology for More Sustainable Leather Tanning, <https://doi.org/10.1039/D4GC06571A>, awarded with the *Front cover of the Green Chem.*, 2025,27, 10567-10581.

2023 - *Gold medal and Diploma* for the project *Ultrasounds assisted synthesis of alginate-based tannin and PLA-based coating with antimicrobial properties: a step forward biodegradable and functional leather*, 15th edition of EUROINVENT - European Exhibition of Creativity and Innovation, 11-13 May 2023, Iasi, Romania

2023 - *Silver medal and Diploma* for the project *Green oxidation and derivatization of sodium alginate for industrial application*, 15th edition of EUROINVENT - European Exhibition of Creativity and Innovation, 11-13 May 2023, Iasi, Romania

2022 - *The award of the International Union of Leather Technologists and Chemists Societies (IULTCS) for Basic Leather Research 2022*, as Scientific Supervisor of the Young Researcher Ilaria Quaratesi, for the project: *Non-toxic and biodegradable supramolecular additive with flame retardant and antimicrobial properties for the tanning industry*.

2020 - *Gold Medal and Diploma* for the patent *Composition with anti-fungal and antibacterial effect for curative and preventive conservation of collagen-based heritage objects*, 24th Edition of the International Exhibition of Inventions and Innovations, 29- 31 July 2020, Iasi, Romania

Gold Medal and Diploma for patent *Modern parchment for creative industry and preparation method thereof*, Salonul 2020 - Internațional de Invenții și Inovații TRAIAN VUIA, Ediția a VI-a, 13-15 October 2020, Timișoara, Romania

2019 - *Petru Poni Medal and Honour Diploma* of the Romanian Chemistry Society in 2019 for achievements in advancing chemistry for cultural heritage

2018 - *The Excellence Diploma of the Romanian Academy Library* for the outstanding contribution to the study and preservation of manuscripts and rare book collections, awarded at the 150th Anniversary of the establishment of the Romanian Academy Library, 2018.

Organisation of international conferences

2024 Co-Convenor, Scientific theme “Education, History, Cultural Heritage, and Ethics in Chemistry”, 9th EuChemS Chemistry Congress (ECC-9), Dublin, Ireland, 7 – 11 Jul 2024

Since 2014 Member, International Board of the International Congress “Chemistry for Cultural Heritage” ChemCH, held in Vienna (2014), Brussels (2016), Bucharest (2018), Ravenna (2022), Bratislava (2024) and Bled (2026).
Chair of the 5th edition held in Bucharest (2018) (average no of participants: 150).

Since 2012 Founder and Chair, International Seminar and Workshop “Emerging Technology and Innovation in Conservation of Cultural Heritage” (ETICCH), editions 1 to 8 held in Bucharest and Sibiu, Romania (number of participants: 80 to 120). Last edition: 26-27 Sept 2024, Sibiu,

Since 2012 Member, Scientific Committee, International Conference “Advanced Materials and Systems” (ICAMS), Bucharest, Romania (7 editions)

2012-2017 Member, Scientific Committee, Central & Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC), editions held in Craiova, Vilnius, Ljubljana, Chisinau)

2008 Member, Organizing Committee, International Seminar & Workshop “Conservation and Restoration of Parchments (CRP 2008)”, Sept 5-8 2008, Turin, Italy (number of participants: 138)

2007 Member, Organizing Committee, 41th International Union of Pure and Applied Chemistry IUPAC World Chemistry Congress, Aug 5-11, Turin, Italy (more than 1000 participants)

Editorial work

- 2025 Co-Coordinator, White paper on traditional forest non-timber resources: charcoal, biochar, resin, tannins. COST Action 22155 EuPoTaRCh (<https://potarch.eu/>)
- 2025 Co-editor, Frontiers publisher, Research Topic "[Green Technologies and Materials for the Conservation and Restoration of Cultural Heritage](#)" (5 manuscripts submitted, 3 accepted, 1 rejected, 1 in interactive review)
- 2019 Co-editor of the Postprint volume of the 6th ETICCH Edition: "The Cultural Object: From Investigation to Restoration", Oscar Print, Bucharest, 2019, ISBN 978-973-668-503-3.
- 2019 Guest editor: Special Issue of Heritage Science dedicated to ChemCH 2018 Conference, Vol 7 (2019); <https://www.springeropen.com/collections/chemch2018>
- 2018 Co-editor, Book of Abstracts of the 5th International Congress on Chemistry for Cultural Heritage, Eds.: E. Badea and I. Petroviciu, Ed. Muzeul Literaturii Române, București, 2018, ISBN 978-973-167-463-6.
- 2017 Co-editor, Organic Artefacts: From Research to Exhibition, Book of Abstracts of the 5th International Seminar and Workshop on Emerging Technology and Innovation for Cultural Heritage (ETICH 2017), Eds. E. Badea and A. Bernath, Ed. Oscar Print, Bucharest 2017. ISBN 978-973-668-463-0.
- 2015 Co-coordinator, with Dr. Gabriela Dumitrescu, of the book "Pergamentul...o poveste. Fata nevazuta a documentelor pe pergament emise de Cancelaria domneasca in vremea lui Stefan cel Mare" Ed. Excelenta prin Cultura, Bucharest 2015. ISBN 978-606-93840-1-5.
- 2014 Co-editor, Advanced Technology for Diagnosis, Preservation and Management of Historical and Archaeological Parchment, Leather and Textile Artefacts, Book of Abstracts of the 3rd International Seminar and Workshop on Emerging Technology and Innovation for Cultural Heritage (ETICH 2014), Eds. E. Badea, I. Petroviciu, A. Bernath, Certex Publishing House, Bucharest 2014. ISBN 978-973-1716-85-5.
- 2012 Co-editor, Preservation of Parchment, Leather and Textiles, Proceedings Book of the 1st International Seminar and Workshop on Emerging Technology and Innovation for Cultural Heritage (ETICH), Eds. E. Badea, L. Miu, M. Iordanescu, Ed. Certex, Bucharest (2012). ISBN 978-973-1716-81-7.
- 2011 Guest editor: Special Issue dedicated to MATCONS 2011 Conference, e-Preservation Science Vol 9 (2012). ISSN 1581-9280
- 2008 Co-coordinator, with D.V. Poulsen-Sommer, of the bilingual manual „Conservation and Restoration of parchments/Conservazione e Restauro delle Pergamene, Editura Civico Centro Stampa, Torino, IT.

Horizon Europe CBE JU 2025 Call

BIOBARK, Proposal ID 101292535, submitted on 18 Sept 2025. **Coordinator:** Elena Badea (Not funded. Scored above the funding threshold)

ERC Synergy Grants 2026

Verify that the History submitted to the ERC Synergy Grants 2025 has been admitted for resubmission in Oct 2026. PI Patricia Engel, **Co-PIs:** Elena Badea, Robert Sablatnig, Alessandro Silvestri.

COST Action

SHARE ART - Sharing Practices for a Sustainable and Fair Future in the Conservation of Modern and Contemporary Art. To be submitted by 21 Oct 2025. **Proposer**

Proposals for research funding submitted in 2025

Project management experience Director/Responsible/PI/Key-scientist

- 2023-2026 Network for forest by-products: charcoal, resin, tar, potash (EU-PoTaRCh), COST Action 22155, HORIZON EUROPE; **National coordinator, member of the Action Management Committee**; Leader of WG5 Future perspectives; <https://www.cost.eu/actions/CA22155/>.
- 2023-2024 **Co-PI**, with PI Dr. M. Odlyha, University of London, UKRI grant of 75 kGBP for independent research at Neutron & Muon Source at Rutherford Appleton Laboratory - Experiment RB2320345 (72 hours) and Diamond Light Source - Experiment MG 35634 (48 hours)
- 2022-2023 Analysing the spread of Russian art in the Balkan region by distinguishing the materials used to create Transylvanian icons and Russian icons from the Museikon collection. Subcontract within the ERC Consolidator grant RICONTRANS: Russian Icons Transfer—**scientist in charge**.
- 2021-2024 IoT-based system for monitoring museum environment (MUSEION) -TRL6, EUREKA network E! 13370, Grant no. 256/2021, **Project idea and Partner Responsible**. Budget~ 0.45 M Eur;
- 2021-2024 Biodegradable and antimicrobial re-tanning agent and coating for ecological and safe leather (BioSafe Leather) -TRL7, EUREKA Network E!13427, Grant no. 254/2021. **Project idea & Partner Responsible**. Budget~ 0.4 M Eur
- 2021-2024 Tannins with antimicrobial properties obtained in a biorefinery from vegetable waste (BIOTAN)-TRL6, Experimental Demonstrative project, grant no. PED 639/2021; National project. **Project idea & Partner responsible**; Budget ~ 0.4 M Eur
- 2021-2024 Advanced cleaning and protection of tangible cultural heritage (CAPTAN) - TRL6, Eureka Network E!13370 Grant no. 253/2021. **Key-person**; Budget 0.4 Mill. Eur
- 2018-2020 Innovative materials and technologies for sustainable leather manufacturing for automotive (InSuLa) TRL7, MNET17/NMCS-2303 Grant no. 35/2018; MANUNET III-Co-funded European Partnerships; **Director**. Budget ~ 0.721 M Eur

- 2018-2021 Implementation and exploitation of the scientific research results in the practice of restoration and conservation of cultural goods (IMPLEMENT), contract no. 56/2018. **Key-person** (2018-2019) & **Project responsible** (2020-2021); Complex projects carried out in CDI consortia. Budget ~ 1.1 M Eur
- 2017-2019 Sustainable low-temperature plasma technologies for cleaning historical & archaeological artefacts from natural polymers (SUSPLART) - TRL6, EUREKA network E! 9975. **Project idea and Partner responsible**; Budget~0.35 M Eur
- 2017-2019 Innovative methods for the preservation of collagen-based artworks (KOLLART). National Experimental Demonstration Project-TRL4, grant no. PED168/2017, **Director**. Budget ~ 0.133 M Eur
- 2017-2019 Eco-friendly leather manufacturing process for art and heritage bindery (PRO-ART). National Experimental Demonstration Project, contract no.160/2017. **Key-person**. Budget ~ 0.133 M Eur
- 2018 Natural leather for Contemporary Design (Leather CoDe) -TRL8, National project Innovation Voucher contract no. 176/2018. **Project responsible**. Budget~ 0.125 M Eur
- 2018 Parchment of the 21st century. Creative re-interpretation of the traditional craftsmanship (Creative Parchment), contract no. 179/2018. **Key-person**. Budget~ 0.125 M Eur
- 2016-2019 Nuclear techniques for the conservation of wooden heritage objects (NUTEKO). IAEA Technical Cooperation Project – RER 8015, grant no. C5-11/2016; **Co-PI** (PI Dr. Ioana Stanculescu); Budget~0.5 M Eur. Funded by the International Atomic Energy Agency (IAEA).
- 2014-2016 Intelligent strategy for movable cultural heritage monitoring in changing climate (INHerit) -TRL4, National Joint Applied Research Projects - PCCA, grant no. 325/2014; **Director**. Budget~0.5 M Eur
- 2013-2015 Experiments aiming to establish the optimum microclimate conditions for historical parchments preservation, Romania – Austria Bilateral Collaboration PN II 549/2012. **Key-person**
- 2013-2014 Assessment and mitigation of climate impact on library and archival heritage (LIBER), Romania–Hungary Bilateral Collaboration PN II 671/2013. **Coordinator**.
- 2012-2015 Intelligent system for analysis and diagnosis of collagen-based artefacts (COLLAGE), National Applied Research Programme PNII - Partnerships, grant no. 224/2012. **Director**. Budget~0.6 M Eur.
- 2012-2015 Automatic Damage Assessment System for Cultural Heritage Leathers and Parchments (ADAS, E!5837) – Eureka project. **Project idea and Key-person**
- 2007-2010 Durable materials and technologies for leather cultural heritage objects conservation and restoration, to ensure viable cultural inheritance at the community level, PN 91012/2007, **International expert** (part-time) at INCDTP-ICPI, while working at the University of Turin.
- 2005-2008 Multidisciplinary studies on establishing the deterioration mechanisms in historical documents (PERGAMO), CEEX 1165/2006. **International expert** (part-time) at INCDTP-ICPI, while working at the University of Turin.
- 2013-2014 Advanced techniques and interdisciplinary studies for improved assessment of historical parchments (ParIS, RO13MO10) - Executive Programme for Scientific and Technological Co-operation between Italy and Romania. Italian project. **Coordinator**.
- 2012 Exploratory Workshop: International Seminar and Workshop on Preservation of Parchment, Leather and Textiles – Emerging Technology and Innovation, PN-II-ID-WE-51/2012, **Co-Coordinator**
- 2010-2012 Study and diagnosis of historical parchments using improved systems for multispectral Analysis (MuSA System). Italian Science & Heritage Programme, grant no. 5164/2010. Budget~0.25 M Eur. **Co-PI** at the University of Turin (PI Dr. Giuseppe Rossi, INRIM, Turin)
- 2007-2008 Meso- a nanoscale processes in environmental deterioration of collagen-based historical materials. Italian Ministry for Education and Research (MIUR) funding program for basic research. **Key-person**
- 2006-2010 Old parchment evaluation, restoration and analysis (OPERA) CIPE-2004-D39 – Italian Research Programme (CIPE) – Nanoscience Domain. **Co-PI** at the University of Turin (PI Prof. Giuseppe Della Gatta). Budget~0.36 M Eur.
- 2005-2006 Thermodynamics of biological model compounds and complex systems in both aqueous solution and pure state. Italian Ministry for Education and Research (MIUR) funding program for basic research. **Key-person**
- 2004-2005 Thermodynamics of bio-pharmaceutical compounds. Italian Ministry for Education and Research (MIUR) funding program for basic research. **Key-person**
- 2003-2006 European Virtual Institute for Thermal Metrology (EVITherM) G7RT-CT-2002-05111. European Commission FP6 Framework. **Key-person**
- 2002-2005 Improved Damage Assessment of Parchments (IDAP) EVK4-CT-2001-00061. European Commission FP5 Framework. **Postdoc research fellow**. Budget~3.2 M Eur
- 2002-2003 Phase transitions and thermodynamics of model compounds of biological interest. Italian Ministry for Education and Research (MIUR) funding program for basic research. **Key-person**

Research
projects at the
University of
Turin, Italy

Research
projects
funded by
private
foundations

- 2021 Il restauro del Messale di San Marco Cod. Lat. III, 111 (=2116) / Restoration of Saint Mark's Missal, a project coordinated by the Marciana National Library and funded by Save Venice Spa, Scientist in charge of the non-invasive damage assessment of the three liturgical books of Saint Mark Basilica,
<https://www.youtube.com/watch?v=GRxs2a6lTAK>
<https://www.savevenice.org/project/restorations-in-honor-of-venices-1600th-anniversary>.
- 2014-2015 Il testamento di Messer Marco Polo/Marco Polo's Will, Transdisciplinary project coordinated by the Marciana National Library and funded by SCRIPTORIUM Spa, Venice. Scientist in charge of the non-invasive damage assessment of the Polo family's wills. <https://www.scrinium.org/en>

Erasmus
projects with
Asociatia
i-CON

- 2024-2026 #ASenseOfEU: Empowering rural communities to digitize, share and exploit Sense of Place across Europe through inter-generational exchange. Erasmus KA220-ADU - Cooperation partnerships in adult education. Partner. Budget 0.25 M Eur.
- 2021-2023 SAFECULT: a platform for disaster risk management for European libraries and archives, Erasmus KA220-VET project (2021-1-SK01-KA220-VET-000033337), Partner. Budget 0.25 M Eur. <https://safecult.eu/>

Relevant
Invited
lectures in the
last 10 years

What can calorimetry and thermal analysis tell us about parchment and leather? (Cosa ci rivelano la calorimetria e l'analisi termica su pergamena e cuoio?), The Institute of Heritage Science – National Research Council (SPC -CNR), Rome, Italy, 10 April 2025

Tannin from oak and alder bark: profile, antioxidant properties and antimicrobial activity of extracts. Conference of the EU-PoTaRCh COST Action – CA22155, 4-6 March 2024, Prague, Czech Republic.

Da rifiuti a risorse: estrazione assistita da ultrasuoni di polifenoli dalla corteccia per l'industria conciaria. Convegno Nazionale AICC, Sosteniamo la sostenibilità, Un'istantanea sul mondo della pelle, 10/ Nov 2023 - San Miniato, Italy.

Biodegradable tanning and re-tanning agents based on alginate: towards recyclable leather. The XXXVII IULTCS Congress 2023 17/10/2023 – 20/10/2023 – Chengdu, China.

Continuous real-time indoor environmental quality monitoring and analysis in historical houses through the MUSEION Platform developed within the Eureka PROJECT E!13370. Written heritage: new challenges and perspectives, Online conference of the European Research Centre for Book and Paper Conservation–Restoration on 2-3 Nov 2023

Parchment longevity: interplay between workmanship and conservation. The Craft of Parchment Workshop was organized within the ERC Beast-2 Crafts & ABC projects, 29-31 August 2023, Klosterneuburg, Austria.

Wooden icons in Transylvania in the XVIII-XIX century - art transfer and reception revealed by materials. Conference on Conservation Science, Technology and Industry (CSTI 2023), 21-23 March 2023, Bratislava, Slovakia.

Effects of conservation treatment on parchment manuscript – a study case. Workshop on the Impact of conservation on biomolecular records organized within the Beast-2-Crafts ERC project, 22-24 Aug 2022, Krems, Austria

Sodium alginate derivatives as re-tanning agents for achieving biodegradability of leather. The III IULTCS EuroCongress with the theme Rinascimento: The Next Leather Generation, 18-20 Sept 2022, Vicenza. Italy.

Il Missale ad usum ecclesiae Sancti Marci nella lettura di un chimico. Conferenza: Il Messale di San Marco Cod. Lat. III, 111 (=2116) Le ragioni di un restauro. Venezia, Sale Monumentali, Piazzetta San Marco 13/a , 10 March 2022.

The power behind micro-calorimetry - About leather making and its preservation over the millennia. Leather Discussion Group of American Institute of Conservation - Leather Panel with the theme "Selection and Use: a panel discussion on the impact of conservators' choices", May 5, 2021(online event).

In situ investigation of organic materials in museum objects. Conference on Conservation Science, Technology and Industry (CSTI 2018), Bratislava, Slovakia, 7 - 9 March 2018

Micro DSC, thermal microscopy, ATR-FTIR and unilateral NMR for the characterisation of collagen-based artefacts, XL National Congress on Calorimetry Thermal Analysis and Applied Thermodynamics, Pisa, Italy, 17-19 December 2018

Indagini fisico-chimiche di manufatti storici a base di collagene: pergamene e cuoi, "Conservazione e Restauro dei Beni Culturali" Lectures, Università degli Studi di Palermo, Palermo, Italy, 8 Jun 2016

Quantifying damage and loss in historical and archaeological collagenic artefacts by microDSC and thermal microscopy, 3rd Italo-Russian Round Table "Perspectives for the use of calorimetry and thermal analysis in chemistry and chemical technology", 1-4 Oct 2014, Plyos, Russia

Assessing the impact of NOx on parchment. Synergistic effects of light and temperature, 3rd International Congress "Chemistry for Cultural Heritage ChemCH 2014", 2-5 July, Vienna, Austria

Damage ranking in historical parchment: from microscopic study of the fiber's shrinkage to collagen denaturation, Chemistry in Art and Cultural Heritage Lectures, Institute of Science and Technology in Art, Academy of Fine Arts, 25 Jan 2013, Vienna, Austria.

Identification of environmentally sensitive archival and library parchment for low-energy environmental control in storage. International Conference "Cultural Heritage Conservation Science & Sustainable Development", 23-25 Oct 2013, Paris, France.

International Scientific Cooperation Agreements for PhD, postdoc and MSc students in the last 5 years	Jul 2025 – Member, Final Examination Board for the awarding of the PhD degree in Cultural and Environmental Heritage to Burcu Keser, University of Bologna, Italy Since 2021 - Agreement with the Doctoral School of the University of Salerno (IT) in the doctoral program "Dottorati di Ricerca con Caratterizzazione Industriale P.O.N. 2020", for the coordination of PhD internships. Results: 2 internships completed: Ilaria Quaratesi (March-December 2021) and Vittoria Ferrara (March-September 2023); 4 articles published, 1 article submitted, 1 article in progress. 2020 – Member, Final Examination Board for the awarding of the PhD degree in Pharmaceutical and Biomolecular Sciences, cycle XXXIII to Erica Rebba, University of Turin, Italy 2019 - Member, Final Examination Board for the awarding of the PhD degree in Chemical Engineering, cycle XXXIII to Claudiu Sendrea, University Politehnica of Bucharest, Romania. Supervisor at the INCDTP-ICPI. 2019 – 2023 - Supervision of international and multidisciplinary student teams within the EUROPEAN PROJECT SEMESTER in collaboration with Prof. Gina Stoica and Dr Delia Prisecaru, University Politehnica of Bucharest. Results: 4 Master's multidisciplinary theses.
Patent/ applications	M. Crudu, E. Badea, L. Miu, C. Șendrea, Eco-friendly process for obtaining collagen-based materials for creative industries. Patent no. 134905/28.02.2025 - OSIM Chipurici P., Călinescu I., Vinătoru M., Badea E., Quaratesi I., Process and plant for obtaining tanning and retanning products based on modified sodium alginate and containing zinc oxide. A000631/2023 Romanian Office for Inventions and Trademarks - OSIM. M. Crudu, E. Badea, M.-C. Micu, C. Sendrea, L. Miu, Composition based on protein from leather waste and extracts from brown algae and bio-tanning process thereof. A/00235-30.04.2020 - OSIM. L. Miu, M. Crudu, E. Badea, M.-D. Berechet, C. Sendrea, Composition with anti-fungal and antibacterial effect for curative and preventive conservation of collagen-based heritage objects. A/00375-29.05.2018 - OSIM L. Miu, E. Badea, Modern parchment for the creative industry and preparation method thereof. A/01023-03.12.2018 – OSIM (BOPI) L. Miu, M. Crudu, E. Badea, Ecological process for obtaining sheepskin with antimicrobial properties, A/01022-03.12.2018; OSIM
Community Engagement	Since 2021, EB has been involved in the Art and Science FUSION event promoted by the Qolony for Art and Science Association (https://qolony.eu/en/projects/) - a residency program coordinated by the Qolony Association and designed to create a meeting place between artists and scientists. It aims to provide a functional collaborative infrastructure that facilitates artists' participation in scientific research, ultimately bringing technical concepts closer to a broader audience. Artists who worked with: Aura Bălănescu (https://aurabalanescu.ro/portfolios/manuspectrum/), Livia Greaca (https://qolony.eu/en/residency/fusion2022/artists/), and Mihai Popescu (https://www.obsolete.studio/en/portfolio/fusion-air-2024). In 2022, the Romanian Cultural Fund Association awarded this initiative in the category Activity in (Relation to) the Public Space. This event is highly appreciated in the creative media. One example: https://www.iqads.ro/articol/54106/artistii-si-cercetatorii-din-cadrul-fusion-air-2021-isi-prezinta-public-temele# https://obsolete.studio/en/portfolio/fusion-air-2024
Community Engagement	In 2011, Elena Badea founded the Romanian Association for Science and Cultural Heritage in Conexion (i-CON), https://i-con-org.ro/, to support the systematic integration of some new forms of cultural education in the community, with a focus on young people and professionals in the field of cultural heritage, as well as the involvement of artists and creative professionals in the field of vocational training. I-CON has then co-organized the Workshop Emerging Technology and Innovation for the Conservation of Cultural Heritage (ETICCH) and finalized two projects funded by Asociația Fondului Cultural Național (AFCN) and one Erasmus project (https://safecult.eu/). Currently, i-CON Association is a partner of the KA220-ADU Erasmus project - Cooperation partnerships in adult education: #ASenseofEU (https://asenseofeu.eu/)

Other
recognition of
scientific merit

&

Science
communication
to a broader
public

In 2021, EB received the invitation to participate in the program of the French Institute / French Embassy "**International Day of Women and Girls in Science**" - February 11, 2021, a program dedicated to success stories of women researchers in France and Romania ("stories of French and Romanian women researchers").

<https://www.facebook.com/InstitutulFrancez/posts/4151111641573981>

<https://ro.ambafrance.org/Interviu-cu-Elena-BADEA-cercetator-chimist-Pre%C8%99edinte-fondator-al-Sec%C8%99Biei>

EB's research is frequently featured in the media. The research dedicated to safeguarding historical parchment and leather artefacts has attracted considerable media interest, including

Radio Romania Cultural <https://www.radoromaniacultural.ro/sectiuni-articole/stiinta/dimensiunea-stiintifica-a-artei-elena-badea-portretul-robot-al-cercetatorului-talentat-id34645.html>

<https://www.radoromaniacultural.ro/sectiuni-articole/stiinta/dimensiunea-stiintifica-a-artei-elena-badea-pigmentii-si-culorile-la-fusionair-2022-2-id32024.html>; <https://www.radoromaniacultural.ro/sectiuni-articole/stiinta/dimensiunea-stiintifica-a-artei-elena-badea-studiul-icoanelor-bizantine-de-la-muzeikon-va-continua-ep-4-id28208.html>)

Romania Liberă (<https://romaniailibera.ro/aldine/informatiile-din-codexul-lui-arhimede-sunt-atat-de-pretioase-incat-trebuie-sa-apartina-lumii-intregi-740007/>)

Proud to be Romanian Project: <https://www.facebook.com/proudromania/videos/1788643027837775>

Leading online publications such as Open Research Europe (<https://open-research-europe.ec.europa.eu/articles/4-176>), International Leather Making (<https://internationalleathermaker.com/celebrating-green-innovation-in-ilm-march-april-2024/>). Labcompare (<https://www.labcompare.com/10-Featured-Articles/573081-The-Science-of-Heritage-Preservation-Safeguarding-Historical-Parchment-and-Leather-Artifacts/>), Microscopy-Wiley Analytical Science (<https://analyticalscience.wiley.com/doi/10.1002/was.00170130>),

In 2016, EB, in her capacity as a heritage scientist, served as a scientific consultant and took part in the **filming of "Io...Arhimede. Il codice perduto", a documentary written and directed by Vittorio Muscia and produced by Cinecittà 3 Roma**. The documentary was recognized as a work of national cultural interest by the Italian Ministry of Cultural Heritage and Activities and Tourism in 2017. EB wrote the essay "Sovrapposizioni / Layerings" published in the ebook accompanying the film. Lombardi Editori & Cinecittà 3, Roma, 2017/2018, p. 68-69, 2017. ISBN-10: 88-7260-244-7; ISBN-13: 9-788872-602447/ ISBN-10: 88-7260-263-8; ISBN-13: 9-788872-602638;

<https://www.youtube.com/watch?v=UrMJ4sCm2-8&list=PLm726zNHONG6yDujUaGemRjHNw08GegFZ&index=17>

<https://www.youtube.com/watch?v=UrMJ4sCm2-8&list=PLm726zNHONG6yDujUaGemRjHNw08GegFZ&index=17>

In 2018, EB translated the film into Romanian: "*Eu, Arhimede. Codicele pierdut*", Editura Muzeul Literaturii Române, București & Cinecittà 3, Roma, 2018, p.68-69. ISBN: 978-973-167-462-9

Research
outputs track
record

51 scientific articles in ISI, 3 in ERIH and 1 in ESCI

72 scientific articles in SCOPUS-indexed journals

51 scientific articles in peer-reviewed journals/conference volumes

1 book as coordinator; 6 book chapters – international publishers; 7 book chapters – national publishers

6 conference volumes as editor; 2 workshop guidelines

1 patent and 5 patent applications

3 training modules for cultural operators training

More than 200 oral presentations at international conferences

Citation Data: WOS H-Index 24; 1211 CITATIONS; SCOPUS H-Index 25; 1404 CITATIONS; GOOGLE SCHOLAR H-Index 27; 1854 CITATIONS.