

CURRICULUM VITAE (2017–2022)

CV date	23/02/2023
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Part A. PERSONAL INFORMATION

First name	Koro		
Family name	de la Caba		
Social Security, Passport, ID number			
e-mail		URL Web	www.ehu.eus/biomat
Open Research and Contributor ID (ORCID)	https://orcid.org/0000-0002-8866-7314		

A.1. Current position

Position	Full Professor		
Initial date	13/11/2020		
Institution	University of the Basque Country (UPV/EHU)		
Department/Center	Chemical and Environmental Engineering/Faculty of Engineering of Gipuzkoa		
Country	Spain	Teleph. number	
Key words	Valorization, biowastes, biopolymers, bioeconomy, sustainable manufacture, food packaging, tissue engineering.		

A.2. Previous positions

Period	Position/Institution/Country/Interruption cause
2020-2022	Academic Secretary of Summer Courses, UPV/EHU
2015-2021	Associate Editor of Food Hydrocolloids
2010-2013	Research Committee Member, UPV/EHU
2008-2020	Associate Professor, UPV/EHU

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Extraordinary Doctoral Award	UPV/EHU, Spain	2000
PhD in Sciences	UPV/EHU, Spain	1998
Licensed in Chemical Sciences	UPV/EHU, Spain	1991

Part B. CV SUMMARY (*max. 5000 characters, including spaces*)

Koro de la Caba is Full Professor at the Department of Chemical and Environmental Engineering in the Faculty of Engineering of Gipuzkoa and UPV/EHU Research Associate at BCMaterials. Since 2012 she is the head of BIOMAT research group, awarded as type A-research group by the Basque Government (IT1658-22). Her main research interests address various aspects of bio-based materials, from the extraction of raw materials to the end of life of products. In this research area, she has supervised 7 PhD students (Cum Laude, International Mention) in the last 10 years, two of them in co-tutelle with Universidade Federal do Rio Grande do Sul (Brazil) and Prince of Songkla University in Thailand; currently, she supervises 3 PhD students, one of them in co-tutelle with Universidade Federal do Paraná (UFPR) in Brazil. Within the frame of international collaborations, she has realized scientific stays in Nha Trang University, Vietnam (2018); the University of Auckland, New Zealand (2018); Universidade Federal do Rio Grande do Sul, Brasil (2015, 2016, 2018), and University College Cork, Ireland (2011, 2012, 2013, 2014). In the last 6 years, she has participated in 26 R&D projects funded through competitive calls, leading 20 of them; she has also led 15 R&D contracts with private entities. In this context, she has published 63 papers (60 Q1, 95%, and 3 Q2), 37 of them in first decile journals (59% D1) in the last 6 years. She has a h-index of 40 and she is a researcher named in the top 2% of the most-cited scientist, released by Stanford University in 2021 and 2022. Additionally, she is co-inventor of a European patent

(PCT/EP2022/075521) and she is involved in PROTEINMAT spin-off, awarded Manuel Laborde Werlinden prize for new business initiatives in 2021. She is also committed to scientific dissemination and, in this regard, the report made to Biomat group won the Basque Country Environmental Journalism award in 2018.

Part C. RELEVANT MERITS

C.1. Publications

1. Nilsuwan, K., Arnold, M., Benjakul, S., Prodpran, T., **de la Caba, K.**
Properties of chicken protein isolate/fish gelatin blend film incorporated with phenolic compounds and its application as pouch for packing chicken skin oil
(2021) *Food Packaging and Shelf Life*, 30, art. no. 100761
DOI: 10.1016/j.fpsl.2021.100761
2. Irastorza, A., Zarandona, I., Andonegi, M., Guerrero, P., **de la Caba, K.**
The versatility of collagen and chitosan: From food to biomedical applications
(2021) *Food Hydrocolloids*, 116, art. no. 106633
DOI: 10.1016/j.foodhyd.2021.106633
3. Theerawitayaart, W., Prodpran, T., Benjakul, S., Nilsuwan, K., **de la Caba, K.**
Storage stability of fish gelatin films by molecular modification or direct incorporation of oxidized linoleic acid: Comparative studies
(2021) *Food Hydrocolloids*, 113, art. no. 106481
DOI: 10.1016/j.foodhyd.2020.106481
4. Mittal, A., Singh, A., Benjakul, S., Prodpran, T., Nilsuwan, K., Huda, N., **de la Caba, K.**
Composite films based on chitosan and epigallocatechin gallate grafted chitosan: Characterization, antioxidant and antimicrobial activities
(2021) *Food Hydrocolloids*, 111, art. no. 106384
DOI: 10.1016/j.foodhyd.2020.106384
5. Zarandona, I., Puertas, A.I., Dueñas, M.T., Guerrero, P., **de la Caba, K.**
Assessment of active chitosan films incorporated with gallic acid
(2020) *Food Hydrocolloids*, 101, art. no. 105486
DOI: 10.1016/j.foodhyd.2019.105486
6. Guerrero, P., Muxika, A., Zarandona, I., **de la Caba, K.**
Crosslinking of chitosan films processed by compression molding
(2019) *Carbohydrate Polymers*, 206, pp. 820-826
DOI: 10.1016/j.carbpol.2018.11.064
7. **de la Caba, K.**, Guerrero, P., Trung, T.S., Cruz-Romero, M., Kerry, J.P., Fluhr, J., Maurer, M., Kruijssen, F., Albalat, A., Bunting, S., Burt, S., Little, D., Newton, R.
From seafood waste to active seafood packaging: An emerging opportunity of the circular economy
(2019) *Journal of Cleaner Production*, 208, pp. 86-98
DOI: 10.1016/j.jclepro.2018.09.164
8. Uranga, J., Puertas, A.I., Etxabide, A., Dueñas, M.T., Guerrero, P., **de la Caba, K.**
Citric acid-incorporated fish gelatin/chitosan composite films
(2019) *Food Hydrocolloids*, 86, pp. 95-103
DOI: 10.1016/j.foodhyd.2018.02.018
9. Leceta, I., Urdanpilleta, M., Zugasti, I., Guerrero, P., **de la Caba, K.**
Assessment of gallic acid-modified fish gelatin formulations to optimize the mechanical performance of films
(2018) *International Journal of Biological Macromolecules*, 120, pp. 2131-2136
DOI: 10.1016/j.ijbiomac.2018.09.081
10. Etxabide, A., Garrido, T., Uranga, J., Guerrero, P., **de la Caba, K.**
Extraction and incorporation of bioactives into protein formulations for food and biomedical applications
(2018) *International Journal of Biological Macromolecules*, 120, pp. 2094-2105
DOI: 10.1016/j.ijbiomac.2018.09.030

C.2. Conferences/seminars/workshops

1. K. de la Caba. New generation of advanced materials with improved sustainability. New Materials for a Better Life! 2022. Leioa, 2022. Invited.
2. K. de la Caba. Biopolímeros: extracción, manufactura y aplicación. Aprovechamiento de residuos de la industria agroalimentaria. Virtual, 2022. Invited.

3. K. de la Caba. Alimentación circular: del residuo alimentario al envase activo y sostenible. VIII Jornada de Transferencia de Resultados de Investigación en Seguridad Alimentaria. Markina-Xemein, 2021. Invited.
4. K. de la Caba. Biomatrices: structure, formulations, properties, and biomedical applications. Workshop on the ocular surface. Leioa, 2019. Invited.
5. K. de la Caba. Active and sustainable packaging to extend food shelf life. New Materials for a Better Life! Advanced devices and Materials as Key Enabling Technologies for Sustainable Environment. Leioa, 2019. Invited.
6. K. de la Caba. Innovación y gastronomía: redibujando fronteras. VI Foro Internacional de Emprendedores del Basque Culinary Center. Donostia, 2019. Invited.
7. K. de la Caba. How to use food processing by-products to manufacture value-added products. European Asian Aquaculture Technology and Innovation Platform. Vietnam, 2018. Invited.
8. A sustainable approach towards the production of biopolymeric materials. Biocide Toolbox Program. Auckland, 2018. Invited
9. K. de la Caba. Economía circular: Implicación institucional, científica y empresarial. Donostia, 2017. Director of UPV/EHU Summer Course.
10. K. de la Caba, K. Hydrocolloid active films and coatings to extend shelf-life. 19th Gums & Stabilisers for the Food Industry Conference. Berlin, 2017. Plenary.

C.3. Research projects

1. Development of innovative and sustainable electroactive materials for energy storage and tissue engineering (PID2021-124294OB-C22). Ministry of Science and Innovation, 114.950 €, 2022-2025, PI: Koro de la Caba
2. BIO4CURE-Investigación en tecnologías de soporte para bioimpresión 4D intraoperatoria de injertos de precisión personalizados (KK-2022/00019). Gobierno Vasco, 2022-2023. Participants: Tecnalía, IIS Biocruces, Vicomtech, UPV/EHU. PI: Arantxa Renteria (Coordinator, Tecnalía) Koro de la Caba (PI, UPV/EHU), 613.920,25 € (BIOMAT, 110.482,31 €)
3. INDESMOF-International network on ionic liquid deep eutectic solvent based metal organic frameworks mixed matrix membranes (H2020_MSCA-RISE17/05), UE, 2018-2023. Participants: BCMaterials, UPV/EHU, Università degli Studi di Torino, Universidad de Buenos Aires, Universidad de Chile, Ura, Teknimap, University of California. PI: Thomas Schäfer (UPV/EHU), 225.000,00 €
4. CIRCULAR BIOBASED-Investigación en materiales y procesos biobasados para la estrategia de bioeconomía de Euskadi (KK-2021/00131). Gobierno Vasco, 2021-2022. Participants: Gaiker, CEIT, BCMaterials, Tecnalía, Neiker, UPV/EHU. PI: Maria José Suarez (Coordinator, Gaiker), Koro de la Caba (PI, UPV/EHU), 619.787,00 € (75.004,00 €, BIOMAT)
5. ACTIFILM-Development of added-value, innovative and sustainable active films from biowastes (RTI2018-097100-B-C22), Ministry of Science and Innovation, 181.500 €, 01/01/2019 - 30/09/2022, PI: Koro de la Caba
6. Proyecto estratégico cooperativo para el desarrollo de biomatrices aplicadas al tratamiento de patologías de la superficie ocular (2019-222049), Health Department of the Basque Government, 94.991,34 € (17.447,00 €, BIOMAT), 01/01/2019 - 31/12/2021, Partners: IIS Biocruces, UPV/EHU, PI: Noelia Andollo (Coordinator, IIS Biocruces), Koro de la Caba (PI, UPV/EHU)
7. B4H-Investigación fundamental colaborativa para la bioimpresión de constructos cutáneos aplicados al tratamiento de heridas crónicas (KK-2019/00006), Basque Government, 773.992,61 € (92.233,21 €, BIOMAT), 01/01/2019 - 30/06/2021, Partners: IIS Biocruces, IIS, Biodonostia, Tecnalía, Vicomtech, UPV/EHU, PI: Isabel Andía (Coordinator, Biocruces), Koro de la Caba (PI, UPV/EHU)
8. XMILE-Exopolímeros microbianos: diversidad, función y aplicaciones (KK-2019/00076), Basque Government, 628.737,36 € (99.513,80 €, BIOMAT), 01/01/2019 - 31/03/2021, Partners: Azti, Gaiker, CIC Biogune, UPV/EHU, PI: Laura Alonso (Coordinator, Azti), Koro de la Caba (PI, UPV/EHU)
9. EURASTiP Exchange Programme. European-Asian Technology and Innovation Platform. Mobility grant (Ref. 20180022), UE, 3.000 €, 09/07/2018 - 22/07/2018, PI: Koro de la Caba

10. Use of emerging technologies like ultrasound on production of biodegradable packaging containing by-products from food processing (Ref.: PVE-CNPq 88881.068177/2014-01), International Cooperation Program, Conselho Nacional de Desenvolvimento Científico e Tecnológico (Brasil), 12.000,00 € (UPV/EHU), 01/02/2015 - 31/01/2018, PI: Isabel Cristina Tessaro (Universidade Federal do Rio Grande do Sul - UFRGS, Brasil), Koro de la Caba (UPV/EHU)

C.4. Contracts, technological or transfer merits

1. Industrial & Intellectual property. Rosa Hernandez, Edorta Santos, Manoli Igartua, Kevin Las Heras, Jon Jimenez, Koro de la Caba, Pedro Guerrero, Alaitz Etxabide. Sponge-like scaffold for promoting haemostasis (PCT/EP2022/075521), 14/09/2022, UPV/EHU
2. Formulaciones de colágeno: caracterización térmica y reológica. Ekolber S.L., 24.015 €, 01/10/2022-31/12/2023, PI: Koro de la Caba
3. Caracterización de mezclas colágeno-principios activos para impresión-extrusión semisólida: medidas reológicas y de viscosidad y su dependencia con la temperatura, Ekolber S.L., 10.285 €, 17/01/2022-17/01/2023, PI: Koro de la Caba
4. Valoración de pupa de mosca para la obtención de quitina. TRAGSA, 4.470 €, 28/01/2022-28/04/2022, PI: Koro de la Caba
5. Prototipo y desarrollo de proteína texturizada, BITXO Challenge, S.L., 3.559 €, 01/02/2021 - 05/06/2021, PI: Koro de la Caba
6. Impresión 3D en el sector alimentario, Domotek, S.L., 8.023 €, 01/01/2021 - 30/06/2021, PI: Koro de la Caba
7. Materiales basados en colágeno: análisis térmico y reológico, Ekolber, S.L., 12.102 €, 01/09/2020 - 01/09/2021, PI: Koro de la Caba
8. Lanaland-Characterización de masas colagénicas con lana, Ekolber, S.L., 10.977 €, 2021, IP: Koro de la Caba
9. ALIFA3D - Alimentos contra la disfagia por impresión 3D, Domotek, S.L., 18.150 €, 01/01/2020 - 31/03/2021, PI: Koro de la Caba
10. SOSPACK – Desarrollo de packaging sostenible, Xumuxua, S.L., 18.150 €, 01/01/2020 - 30/06/2021, PI: Koro de la Caba

C.5. Theses supervised

1. Design of chitosan-based materials for food applications, Iratxe Zarandona Rodriguez, 14/07/2022. Supervisors: Koro de la Caba (UPV/EHU), Pedro Guerrero (UPV/EHU).
2. Nekazal eta industria hondakinen balorizazioa kolagenoan oinarrituriko produktu biodegradagarriak ekoizteko/Valorization of agro-industrial wastes for the production of biodegradable products based on collagen, Mireia Andonegi San Martin, 09/06/2022. Supervisors: Koro de la Caba (UPV/EHU), Pedro Guerrero (UPV/EHU).
3. Active packaging based on fish gelatin containing plant polyphenols: Property improvement and applications, Krisana Nilswan, 28/04/2020, *Cum Laude* Distinction Supervisors: Soottawat Benjakul (Prince of Songkla University, PSU, Thailand), Koro de la Caba (UPV/EHU).
4. Elikagai-industriaren azpiproduktutik eratorritako materialen diseinua/Design of materials derived from food processing wastes, Jone Uranga Gama, 10/01/2020, *Cum Laude* Distinction, International Mention. Supervisors: Koro de la Caba (UPV/EHU), Pedro Guerrero (UPV/EHU).
5. Polimero berriztagarrietan eta biodegradagarrietan oinarrituriko materialak/Materials based on renewable and biodegradable polymers, Tania Garrido Díaz, 29/05/2019, *Cum Laude* Distinction, International Mention. Supervisors: Koro de la Caba (UPV/EHU), Pedro Guerrero (UPV/EHU).
6. Desenvolvimento de embalagens biodegradáveis de amido contendo subprodutos do processamento de alimentos, Claudia Leites Luchese, 17/01/2018, *Cum Laude* Distinction, Prêmio CAPES de Tese 2019 da área de Engenharias. Supervisors: Isabel Tessaro (Universidade Federal do Rio Grande do Sul, UFRGS, Brazil), Koro de la Caba (UPV/EHU).
7. Saretze erreakzioaren kontrola proteinazko film eta biokonpositeen propietatek egokitzeko/Control of crosslinking to tailor the properties of protein films and biocomposites, Alaitz Etxabide Etxeberria, 07/09/2017, *Cum Laude* Distinction, International Mention, Extraordinary Award. Supervisors: Koro de la Caba (UPV/EHU), Pedro Guerrero (UPV/EHU).