CV privacy

Versione del curriculum vitae scientifico professionale, priva di dati di cui non è opportuna la pubblicazione (dati anagrafici, codice fiscale, numero di telefono, indirizzo mail, residenza anagrafica), redatta in modo da garantire la conformità del medesimo a quanto prescritto dall'art. 4 del Codice in materia di protezione dei dati personali e dall'art. 26 del D. Lgs. 14 marzo 2013, n. 33, al fine della pubblicazione, e contrassegnata per la destinazione "ai fini della pubblicazione".

Procedura valutativa di chiamata per n. 1 posto di ricercatore a tempo determinato in tenure track (rtt) riservata ex art. 24, comma 1-bis, l. 240/2010
Dipartimento di Ingegneria Meccanica e Aerospaziale, *Facoltà* di Ingegneria Civile e Industriale
Settore Concorsuale 09/G2, *Settore Scientifico Disciplinare* ING-IND/34
Codice Concorso: **2023RTTE011**
Bando emanato con D.R. n. D.R. n. 1531/2023 del 21.06.2023

Candidato: **Gianluca Cidonio**

Gianluca Cidonio
Curriculum Vitae

Place: Rome
Date: 04/08/2023

Part I – General Information

Dati personali omessi in modo da garantire la conformità del Curriculum Vitae a quanto prescritto dall'art. 4 del Codice in materia di protezione dei dati personali e dall'art. 26 del D. Lgs. 14 marzo 2013, n. 33, al fine della pubblicazione, e contrassegnata per la destinazione "ai fini della pubblicazione".

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
Post-graduate studies	2018	University of Southampton (UK)	EPSRC DP Fellowship recipient *Towards Printable Living Bone: Development and application of innovative natural and nanocomposite-based cell-laden scaffolds for in vivo skeletal regeneration*
PhD	2015-2018	University of Southampton (UK)	PhD in Engineering *3-year PhD studies on the use of 3D bioprinting technologies for the repair and regeneration of musculoskeletal defects using a library of nanocomposite inks and stem cells.*
Professional degree	2015	University of Rome Sapienza (Italy)	Engineering exam - abilitazione all'esercizio della professione di INGEGNERE INDUSTRIALE
Pre-doctorate training	2013-2014	Temple University (USA)	Global Exchange programme studies *Master programme for the academic studies and laboratory activities for 12-months in a USA institute.* *Worked in Suh lab (now at University of New Hampshire) on cell penetrating peptides*
University graduation	2014	University of Rome Sapienza (Italy)	MSc in Biomedical Engineering (LM-21) *Worked at Campus Biomedico (Rome, Italy) for my Master Thesis on 3D bioprinting technologies for regenerative medicine and drug delivery purposes*
University graduation	2012	University of Rome Sapienza (Italy)	BSc in Clinical Engineering (L-9)

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
01/11/2019	Present	Istituto Italiano di Tecnologia (Center for Life Nano & Neuro Science, Rome, Italy)	PostDoc (AIRC Fellow) *During my PostDoc in IIT, I won the AIRC Fellowship (24-months)*
11/12/2018	31/10/2019	University of Southampton, Southampton, UK	PostDoc (EPSRC DP Fellow)

IIIB – Other Appointments

Start	End	Organisation	Position/Duties
2023	Present	PNRR (EPNRRCN3 framework)	Head of the research team for the development of physical and biological models for the *in vitro* maturation of cellular components in 3D (EPNRRCN3)
2023	2023	University of Rome Sapienza	Docente a contratto del corso *Ingegneria per la medicina rigenerativa* per a.a. 2022/23
2023	Present	International Society for Biofabrication (ISBF)	Young Investigators committee member
2022	Present	*In vitro models* (Elsevier)	Early Career Board Member for the *In vitro models* jounal (https://www.springer.com/journal/44164/editors)
2021	Present	Frontiers in Medical Technology	Review Editor for Frontiers in Medical Technology (Editorial Board of Regenerative Technologies)
2020	Present	TERMIS	Communication and Outreach committee member (https://termis.org/termis-syis-eu)
2019	Present	University of Southampton	Visiting Research Fellow *Working on collaboratorive research with the group of Prof Oreffo at UoS*
2016	2017	TCES	PostGraduate Representative *Represent PhD/PostDocs in TCES group at national UK meetings*
2015	2016	Future Investigators in Regenerative Medicine (FIRM)	Conference Organising Committee (https://www.firmsymposium.com/about; https://www.regmednet.com/conference-report-future-investigators-of-regenerative-medicine-2017/)
2016	Present	Reviewer for scientific academic journals	Reviewer for Journal of Tissue Engineering, International Journal of Bioprinting, Scientific Reports

			(Nature), Biomedical Materials, PLOS ONE, Frontiers in Medical Technology, Biomolecules, and Biofabrication (IOP)

Part IV – Teaching experience

Year	Institution	Lecture/Course
2022-23	University of Rome Sapienza	Ingegneria per la medicina rigenerativa (Docente a contratto) Teaching the 2022-23 course entitled "*Ingegneria per la medicina rigenerativa*" (CFU 6) at the faculty of Engineering for the Biomedical Engineering track (https://corsidilaurea.uniroma1.it/it/users/gianlucacidoniouniroma1it)
2016-17	University of Southampton	Lead Demonstrator - 3D printing in Engineering (laboratory + seminars) Leader of the 3D printing workshop and course seminars at the University of Southampton for the Engineering Department

Part V - Society memberships, Awards and Honors

Year	Title
2023	Scientific Advisory board for ESB 2023 (https://esb2023.org/committees/)
2023-present	European Society for Biomaterials (ESB) member
2018-present	International Society for Biofabrication (ISBF) member
2016-present	Tissue Engineering and Regenerative Medicine International Society (TERMIS) member
2015-2018	Tissue and Cell Engineering Society (TCES) member
2022	GISM (Gruppo Italiano Staminali Mesenchimali) Young Investigator Award - *for best presentation at the annual GISM meeting* https://www.gismonline.it/index.php?option=com_content&view=category&layout=blog&id=67&Itemid=211&lang=en
2019	Italy Made 2019 Award - *for scientific merit working in the UK* (https://www.southampton.ac.uk/chdscr/news/2019/10/03-italy-made-me-award.page,https://www.londraitalia.com/p/italy-made-me-un-premio-alla-ricerca-italiana-nel-regno-unito, https://www.giornalediplomatico.it/Ambasciata-a-Londra-5A-Premio-aItaly-Made-Mea-a-sei-scienziati-italiani-per-le-loro-ricerche.htm)
2019	TCES Travel Award - *to attend TCES conference*
2018	TCES Adam Curtis Collaboration Award - *to initiate collaboration with Dr Tozzi* (https://tces.org/tces-membership/tces-awardsprizes/adam-curtis-

	award-2019-gianluca-cidonio/)
2018	International Society for Biofabrication Travel Award - *to attend ISBF conference*
2013	Sapienza Biomedical Engineering Scholarship - *to attend 12-months of graduate school at Temple University (Philadelphia, USA)*

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Year	Title	Program	Grant value
2023	**PI** - Bioprinting meniscus implants harnessing microfluidic biofabrication technology to pattern density gradient porosity and biologics (BUBBLES)	ON Kick-starter Grant	
2022	**I** - Artificial Intelligence aided design of 3D printing of in-situ polymerising collagen for development of scaffold for retinal regeneration (PI, Hanieh Khalili)	Royal Society Research Grant 2022	
2020	**PI** - 3D bioprinted model for the study of proliferation, migration and homing of metastasising breast cancer to bone tissue (*3D breast-to-bone*)	AIRC Fellowship	
2019	**PI** - TOWARDS PRINTABLE LIVING BONE: Development and application of innovative natural and nanocomposite-based cell-laden scaffolds for in vivo skeletal regeneration	EPSRC Fellowship	

Part VII – Research Activities

Keywords	Brief Description
3D bioprinting	**As demonstrated by my first author publications, since 2017 I have been at the centre of the 3D bioprinting revolutionary approach for the fabrication of tissue substitutes.** Particularly, I have been using a custom-made piston-driven extrusion-based 3D bioprinter at the University of Southampton to develop new and exciting cellularised constructs for the regeneration of musculoskeletal tissues.
Publication	G Cidonio, M Costantini, F Pierini, C Scognamiglio, T Agarwal, A Barbetta 2021, 3D printing of biphasic inks: beyond single-scale architectural control. J. Mater. Chem. C 9, 12489–12508, DOI: 10.1039/D1TC02117F G Cidonio, M Cooke, M Glinka, J I Dawson, L Grover, R O C Oreffo 2019 Printing bone in a gel: using nanocomposite bioink to print functionalised bone scaffolds,

	Materials Today Bio, DOI: 10.1016/j.mtbio.2019.100028 T Ahlfeld & G Cidonio, D Kilian, S Duin, A R Akkineni, J I Dawson, S Yang, A Lode, R O C Oreffo M Gelinsky 2017 Development of a clay based bioink for 3D cell printing for skeletal application, *Biofabrication*, DOI: 10.1088/1758-5090/aa7e96
Musculoskeletal regeneration	Since my PhD studies, I have been focusing on the use of new bioprinting approaches to engineer musculoskeletal tissue substitutes. Particularly, I have been the first to use a synthetic nanoclay to engineer a new nanocomposite material to drive skeletal regeneration in a fast and reliable manner. Indeed, by 3D printing living human bone marrow stromal cells within the nanocomposite ink, I demonstrated the possibility to derive functional bone substitutes in less than 48h, showing the functionality *in vitro*, *ex vivo* and *in vivo* following fabrication.
Publication	G Cidonio, M Glinka, Y-H Kim, J Kanczler, SA Lanham, T Ahlfeld, A Lode, JI Dawson, M Gelinsky, R O C Oreffo 2020 Nanoclay-based 3D printed scaffolds promote vascular ingrowth ex vivo and generate bone mineral tissue in vitro and in vivo, *Biofabrication*, DOI: 10.1088/1758-5090/ab8753 G Cidonio, C R Alcala-Orozco, K S. Lim, M Glinka , I Mutreja, Y-H Kim, J I. Dawson, T B F Woodfield & R O C Oreffo 2019 Osteogenic and angiogenic tissue formation in high fidelity nanocomposite Laponite-gelatin bioinks, *Biofabrication*, DOI: 10.1088/1758-5090/ab19fd D van der Heide, G Cidonio, M J Stoddart, M D'Este 2022, 3D printing of inorganic-biopolymer composites for bone regeneration. *Biofabrication* 14 042003, DOI: 10.1088/1758-5090/ac8cb2 B O Okesola, A K Mendoza-Martinez, G Cidonio, B Derkus, D K Boccorh, D Osuna de la Peña, S Elsharkawy, Y Wu, J I Dawson, A W Wark, D Knani, D J Adams, R O C Oreffo and A Mata 2021 De Novo Design of Functional Coassembling Organic–Inorganic Hydrogels for Hierarchical Mineralization and Neovascularization ACS Nano 15, 11202–11217 DOI: 10.1021/acsnano.0c09814
Cell 3D bioprinting	I have pioneered the printing of human bone marrow stromal cells in a variety of nanocomposite inks, as demonstrated by my publications. I have gathered a compendium and some guidelines in a review article, now cited more than 140 times, to offer a view on the possibility to 3D print living cells without affecting their viability and functionality.
Publication	G Cidonio, M Glinka, J I Dawson, R O C Oreffo 2019 The cell in the ink: improving biofabrication by printing stem cells for skeletal regenerative medicine, *Biomaterials*, DOI: 10.1016/j.biomaterials.2019.04.009 G Cidonio, M Glinka, Y-H Kim, J I. Dawson and R O C Oreffo 2020, Nanocomposite clay-based bioinks for skeletal tissue engineering, Springer Methods Mol Biol, DOI: 10.1007/978-1-0716-0611-7_6
3D Microfluidic Biofabrication	I have been working on the development of a new set of approaches synergistically blending microfluidic and bioprinting technology to engineer a new approach for the rapid fabrication of hierarchical and functional tissues. As recently reported in my corresponding author publication, I have led the study to produce a new way to pattern functionally graded materials in 3D, generating new complex structures in a free-form fabrication manner, but relying on a custom-made microfluidic printhead to include discrete and controllable porosity gradients within the printed structure.
Publication	M Marcotulli, M C Tirelli, M Volpi, J Jaroszewicz, C Scognamiglio, P Kasprzycki, K

	Karnowski, W Święszkowski, G Ruocco, M Costantini*, G Cidonio*, and A Barbetta*, 2022, Microfluidic 3D printing of emulsion ink for engineering porous functionally graded materials, *Advanced Materials Technologies* DOI: 10.1002/admt.202201244 L Iafrate, M C Benedetti, S Donsante, A Rosa, A Corsi, R O C Oreffo, M Riminucci, G Ruocco, C Scognamiglio, G Cidonio 2022, Modelling skeletal pain harnessing tissue engineering. *In vitro models*, DOI: 10.1039/D1TC02117F C Scognamiglio, A Soloperto, G Ruocco and G Cidonio 2020 Bioprinting stem cells: building physiological tissues one cell at a time Am. J. Physiol. Physiol. 319 C465–80 DOI: 10.1152/ajpcell.00124.2020

Part VIII – Summary of Scientific Achievements

ORCID - https://orcid.org/0000-0002-9445-6994
Scopus - https://www.scopus.com/authid/detail.uri?authorId=57195404284

Product type	Number	Data Base	Start.	End
Papers [international]	13	Scopus ID (57195404284) https://www.scopus.com/authid/detail.uri?authorId=57195404284	2017	present
Books [scientific]	1	Scopus ID (57195404284) https://www.scopus.com/authid/detail.uri?authorId=57195404284	2017	present

	Based on the list of selected publication (n=12) for the 2023RTTE011call (Scopus)	Based on ALL the publication (GScholar)
Total Impact factor	108.128	150.561
Total Citations	627	781
Average Citations per Product	52.25	60.08
Hirsch (H) index	8	9
Normalized H index*	1.6	1.8

*****H index divided by the academic seniority.

Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

	Title	Authors	Reference data	Journal IF	Citations	Press release
1	Development of a clay based bioink for 3D cell printing for skeletal application,	T Ahlfeld & G Cidonio, D Kilian, S Duin, A R Akkineni, J I Dawson, S Yang, A Lode, R O C Oreffo M Gelinsky	*Biofabrication* (2017) DOI: 10.1088/1758-5090/aa7e96 **SCOPUS**	**9**	**209**	https://3dprintingindustry.com/news/3d-printed-clay-scaffolding-shows-promise-cell-growth-drug-delivery-121155/
2	Osteogenic and angiogenic tissue formation in high fidelity nanocomposite Laponite-gelatin bioinks,	G Cidonio, C R Alcala-Orozco, K S. Lim, M Glinka , I Mutreja, Y-H Kim, J I. Dawson, T B F Woodfield & R O C Oreffo	*Biofabrication* (2019) DOI: 10.1088/1758-5090/ab19fd **SCOPUS**	**9**	**113**	
3	The cell in the ink: improving biofabrication by printing stem cells for skeletal regenerative medicine,	G Cidonio, M Glinka, J I Dawson, R O C Oreffo	*Biomaterials* (2019), DOI: 10.1016/j.biomaterials.2019.04.009 **SCOPUS**	**14**	**144**	
4	Nanoclay-based 3D printed scaffolds promote vascular ingrowth ex vivo and generate bone mineral tissue in vitro and in vivo	G Cidonio, M Glinka, Y-H Kim, J Kanczler, SA Lanham, T Ahlfeld, A Lode, JI Dawson, M Gelinsky, R O C Oreffo	*Biofabrication*(2020) DOI: 10.1088/1758-5090/ab8753 **SCOPUS**	**9**	**55**	
5	Printing bone in a gel: using nanocomposite bioink to print functionalised bone scaffolds	G Cidonio, M Cooke, M Glinka, J I Dawson, L Grover, R O C Oreffo	*Materials Today Bio* (2019) DOI: 10.1016/j.mtbio.2019.100028 **SCOPUS**	**10.761**	**51**	

6	De Novo Design of Functional Coassembling Organic–Inorganic Hydrogels for Hierarchical Mineralization and Neovascularization	B O Okesola, A K Mendoza-Martinez, G Cidonio, B Derkus, D K Boccorh, D Osuna de la Peña, S Elsharkawy, Y Wu, J I Dawson, A W Wark, D Knani, D J Adams, R O C Oreffo and A Mata	ACS Nano (2021) DOI: 10.1021/acsnano.0c09814 **SCOPUS**	**17.1**	**24**	
7	Bioprinting stem cells: building physiological tissues one cell at a time	C Scognamiglio, A Soloperto, G Ruocco and G Cidonio	Am. J. Physiol. Physiol. (2020) DOI: 10.1152/ajpcell.00124.2020 **SCOPUS**	**5.5**	**13**	
8	3D printing of biphasic inks: beyond single-scale architectural control.	G Cidonio, M Costantini, F Pierini, C Scognamiglio, T Agarwal, A Barbetta 2021	J. Mater. Chem. C (2021) DOI: 10.1039/D1TC02117F **SCOPUS**	**6.4**	**8**	
9	3D printing of inorganic-biopolymer composites for bone regeneration.	D van der Heide, G Cidonio, M J Stoddart, M D'Este	*Biofabrication* (2023) DOI: 10.1088/1758-5090/ac8cb2 **SCOPUS**	**9**	**7**	
10	Microfluidic 3D printing of emulsion ink for engineering porous functionally graded materials,	M Marcotulli, M C Tirelli, M Volpi, J Jaroszewicz, C Scognamiglio, P Kasprzycki, K Karnowski, W Święszkowski, G Ruocco, M Costantini*, G Cidonio*, and A Barbetta*	*Advanced Materials Technologies* (2022) DOI: 10.1002/admt.202201244 **SCOPUS**	**6.8**	**3**	https://www.ingegneriabiomedica.org/news/tessuti/medicina-rigenerativa-biostampa-3d-ricerca-ingegneri-biomedici/ https://www.ansa.it/canale_scienza_tecnica/notizie/maker_faire/2022/10/08/nasi-e-orecchie-impiantabili-stampati-in-3d-_c3507b59-8639-4e42-

						8aa7-671862e03521.html
11	Harnessing Biofabrication Strategies to Re-Surface Osteochondral Defects: Repair, Enhance, and Regenerate.	F Bini, S D'Alessandro, A Pica,F Marinozzi, G Cidonio 2023	Biomimetics (2023) DOI: 10.3390/BIOMIMETICS8020260. **SCOPUS**	**4.5**	**0**	
12	Unlocking Neural Function with 3D In Vitro Models: A Technical Review of Self-Assembled, Guided, and Bioprinted Brain Organoids and Their Applications in the Study of Neurodevelopmental and Neurodegenerative Disorders.	C D'antoni, L Mautone, C. Sanchini, L Tondo, G Grassmann, G Cidonio, P Bezzi, F Cordella, S Di Angelantonio, 202	*Int. J. Mol. Sci.* (2023). DOI: 10.3390/IJMS241310762. **SCOPUS**	**5.6**	**0**	

Part X – Publications

All publications and submitted manuscripts are available here

ACCEPTED MANUSCRIPTS

1 F Bini, S D'Alessandro, T Agarwal, D Marciano, S Duchi, E Lucarelli, G Ruocco, F Marinozzi, and G Cidonio 2023, 3D bioprinting approaches to engineer the tumor microenvironment, International Journal of Bioprinting, DOI: 10.36922/ijb.1022

2 M Marcotulli, E Senturk, A Pica, F Marinozzi, F Bini, G Ruocco, C Scognamiglio, G Cidonio 2023, Active biomaterials for bone tissue regeneration, Stimuli-Responsive Materials for Tissue Engineering (Book), Wiley

CORRESPONDING AUTHOR

1 F Bini, S D'Alessandro, A Pica, F Marinozzi, G Cidonio 2023 Harnessing Biofabrication Strategies to Re-Surface Osteochondral Defects: Repair, Enhance, and Regenerate. Biomimetics 2023, Vol. 8, Page 260 2023, 8 (2), 260. DOI: 10.3390/BIOMIMETICS8020260.

2 M Marcotulli, M C Tirelli, M Volpi, J Jaroszewicz, C Scognamiglio, P Kasprzycki, K Karnowski, W Święszkowski, G Ruocco, M Costantini*, G Cidonio*, and A Barbetta*, 2022, Microfluidic 3D printing of emulsion ink for engineering porous functionally graded materials, Advanced Materials Technologies
DOI: 10.1002/admt.202201244

3 L Iafrate, M C Benedetti, S Donsante, A Rosa, A Corsi, R O C Oreffo, M Riminucci, G Ruocco, C Scognamiglio, G Cidonio 2022, Modelling skeletal pain harnessing tissue engineering. In vitro models,
DOI: 10.1039/D1TC02117F

4 C Scognamiglio, A Soloperto, G Ruocco and G Cidonio 2020 Bioprinting stem cells: building physiological tissues one cell at a time Am. J. Physiol. Physiol. 319 C465–80
DOI: 10.1152/ajpcell.00124.2020

CO-AUTHOR

5 G Loi, F Scocozza, F Aliberti, L Rinvenuto, G Cidonio, N Marchesi, L Benedetti, G Ceccarelli, M Conti 2023, 3D Co-Printing and Substrate Geometry Influence the Differentiation of C2C12 Skeletal Myoblasts. Gels 9:595. DOI: 10.3390/gels9070595

6 C D'antoni, L Mautone, C. Sanchini, L Tondo, G Grassmann, G Cidonio, P Bezzi, F Cordella, S Di Angelantonio, 2023 Unlocking Neural Function with 3D In Vitro Models: A Technical Review of Self-Assembled, Guided, and Bioprinted Brain Organoids and Their Applications in the Study of Neurodevelopmental and Neurodegenerative Disorders. Int. J. Mol. Sci. 2023, Vol. 24, Page 10762 2023, 24 (13), 10762. DOI: 10.3390/IJMS241310762.

7 M Miotto, L Di Rienzo, G Grassmann, F Desantis, G Cidonio, G Gosti, M Leonetti, G Ruocco, E Milanetti 2023 Differences in the Organization of Interface Residues Tunes the Stability of the SARS-CoV-2 Spike-ACE2 Complex. Front. Mol. Biosci. 2023, 10, 1205919. DOI: 10.3389/fmolb.2023.1205919.

8 D van der Heide, G Cidonio, M J Stoddart, M D'Este 2022, 3D printing of inorganic-biopolymer composites for bone regeneration. Biofabrication 14 042003, DOI: 10.1088/1758-5090/ac8cb2

9 B O Okesola, A K Mendoza-Martinez, G Cidonio, B Derkus, D K Boccorh, D Osuna de la Peña, S Elsharkawy, Y Wu, J I Dawson, A W Wark, D Knani, D J Adams, R O C Oreffo and A Mata 2021 De Novo Design of Functional Coassembling Organic–Inorganic Hydrogels for Hierarchical Mineralization and Neovascularization ACS Nano 15, 11202–11217
DOI: 10.1021/acsnano.0c09814

FIRST AUTHOR

10 G Cidonio, M Costantini, F Pierini, C Scognamiglio, T Agarwal, A Barbetta 2021, 3D printing of biphasic inks: beyond single-scale architectural control. J. Mater. Chem. C 9, 12489–12508, DOI: 10.1039/D1TC02117F

11 G Cidonio, M Glinka, Y-H Kim, J Kanczler, SA Lanham, T Ahlfeld, A Lode, JI Dawson, M Gelinsky, R O C Oreffo 2020 Nanoclay-based 3D printed scaffolds promote vascular ingrowth ex vivo and generate bone mineral tissue in vitro and in vivo, Biofabrication, DOI: 10.1088/1758-5090/ab8753

12 G Cidonio, M Cooke, M Glinka, J I Dawson, L Grover, R O C Oreffo 2019 Printing bone in a gel: using nanocomposite bioink to print functionalised bone scaffolds, Materials Today Bio, DOI: 10.1016/j.mtbio.2019.100028

13 G Cidonio, M Glinka, J I Dawson, R O C Oreffo 2019 The cell in the ink: improving biofabrication by printing stem cells for skeletal regenerative medicine, Biomaterials, DOI: 10.1016/j.biomaterials.2019.04.009

14 G Cidonio, C R Alcala-Orozco, K S. Lim, M Glinka , I Mutreja, Y-H Kim, J I. Dawson, T B F Woodfield & R O C Oreffo 2019 Osteogenic and angiogenic tissue formation in high fidelity nanocomposite Laponite-gelatin bioinks, Biofabrication, DOI: 10.1088/1758-5090/ab19fd

15 T Ahlfeld & G Cidonio, D Kilian, S Duin, A R Akkineni, J I Dawson, S Yang, A Lode, R O C Oreffo M Gelinsky 2017 Development of a clay based bioink for 3D cell printing for skeletal application, Biofabrication, DOI: 10.1088/1758-5090/aa7e96

BOOK CHAPTER

16 G Cidonio, M Glinka, Y-H Kim, J I. Dawson and R O C Oreffo 2020, Nanocomposite clay-based bioinks for skeletal tissue engineering, Springer Methods Mol Biol, DOI: 10.1007/978-1-0716-0611-7_6

17 G Cidonio 2018, A Free Piece of Cake, The Global Benefits of Open Research, The MDPI Writing Prize, Martyn Rittman (Ed.), Published: November 2018, DOI: 10.3390/books978-3-03897-010-1-14

CONFERENCE PROCEEDINGS

18 G Cidonio, F Salaris, J Kanczler, A Soloperto, C Scognamiglio, A Barbetta, J Dawson, R Oreffo, A Rosa, G Ruocco 2022, Harnessing Microfluidic Biofabrication And Cell Printing To Develop An In Vitro Bone Pain Model, TISSUE ENGINEERING PART A, 10.1089/ten.tea.2023.29043.abstracts

19 Y-H Kim, G Cidonio, J A Milan, R OC Oreffo, J I Dawson, 2022 Optimising Human Bone Extracellular Matrix Derived Hydrogels For Bone Tissue Engineering-An Analysis Of Processing Parameters, TISSUE ENGINEERING PART A, 10.1089/ten.tea.2023.29043.abstracts

20 M Marcotulli, M C Tirelli, C Scognamiglio, M Costantini, A Barbetta, G Cidonio, 2022, Harnessing Microfluidic Bioprinting to Fabricate Gradient-Like Porous 3D Constructs Via Emulsion Ink Deposition, TISSUE ENGINEERING PART A, 41883609524 DOI: 10.1089/ten.tea.2023.29046.abstracts

21 G Cidonio, V Brancato, C Scognamiglio, M Marzi, A Barbetta, M Riminucci, F Nicassio, G Ruocco, 2022 Modelling Breast-To-Bone Metastatic Mechanisms Via Microfluidic Biofabrication, TISSUE ENGINEERING PART A, 94238139137 DOI: 10.1089/ten.tea.2023.29046.abstracts

22 C Scognamiglio, E Anastasiadou, G Cidonio, A Barbetta, C Marchese, G Ruocco 2022, Preclinical 3D Bioprinted Model Of Ovarian Cancer Tumor Microenvironment To Test Mirna-Based Personalized Therapies, TISSUE ENGINEERING PART A, 62825424005 DOI: 10.1089/ten.tea.2023.29046.abstracts

23 G Cidonio, M Glinka, M Cooke, JI Dawson, L Grover, ROC Oreffo 2019 Nanocomposite bioink for novel fluid-gel cells printing for skeletal regeneration eCM, collection 3, p. 483.

24 G Cidonio, T Ahlfeld, M Glinka, Y-H Kim, J M Kanczler, S A Lanham, S Yang, A Lode, J I Dawson, M Gelinsky and R O C Oreffo 2018 In vivo evaluation of a biofabricated nanocomposite cell-laden bioink for skeletal tissue regeneration eCM 91, collection 4

25 G Cidonio, T Ahlfeld, M Glinka, Y Kim, S Lanham, J Kanczler, S Yang, J I Dawson, M Gelinsky, R O C Oreffo 2018 In vivo skeletal regeneration using a nanocomposite silicate-based bioink, JBMR PLUS, DOI: https://doi.org/10.1002/jbm4.10073

26 M Glinka, G Cidonio, J Geng, E Czekanska, Y-H Kim, J I Dawson, SYang, K Lim, T Woodfield, M Bradley, and R O C Oreffo 2018 Stimulation of bone cell function using osteogenic factor-loaded poly-lactic-co-glycolic (PLGA) nanoparticles in light-curable scaffolds, JBMR PLUS, DOI: https://doi.org/10.1002/jbm4.10073

27 T Ahlfeld & G Cidonio, A R Akkineni, A Lode, J I Dawson, R O C Oreffo M Gelinsky 2016 3D-Plotten eines Alginat-Laponit-Methylcellulose-Komposits für die Biofabrikation: Herstellung, Charakterisierung und in vitro- Untersuchungen BioNanoMaterials 17, DOI: https://doi.org/10.1515/bnm-2016-1001

PRE-PRINT

28 Y-H Kim, J M Kanczler, S Lanham, A Rawlings, M Roldo, G Tozzi, J I Dawson, G Cidonio* & R O.C Oreffo*, 2023, Biofabrication of nanocomposite-based scaffolds containing human bone extracellular matrix for the differentiation of skeletal stem and progenitor cells, biorXiV, DOI: 10.1101/2023.04.07.536074 (https://www.biorxiv.org/content/10.1101/2023.04.07.536074v1)

Part XI – Collaborations

XIa - *International*

Name	Institution.	Brief Description
Prof Richard Oreffo	University of Southampton	Past PhD supervisor. Long-lasting collaborator which has provided much of the support during my early academic career (REF 10-16, REF 23-27). We are constantly collaborating on new projects (REF 18, 19) expanding the plethora of nanocomposite that can be bioprinted for bone regeneration.
Dr Yang-Hee Kim	University of Southampton	Dr Kim is an independent investigator at the UoS, and we have produced a number of joint manuscripts in recent years (REF 11, 14, 16, 19, 24-26, 28) and we are collaborating on the use of 3D bioprinting technologies (free-form fabrication) to condition macrophages polarisation while printing and drive a better skeletal regeneration
Prof Michael Gelinsky	Technische Universitat Dresden	The collaboration with Prof Michael Gelinsky has produced two original articles (REF 11, 15) and three proceedings (REF 22, 23, 25, 27). The future collaborative work with the lab of Prof Gelinsky will explore new possibilities for the bioprinting of complex tissue in space.
Prof Tim Woodfield, Prof Khoon Lim	University of Sydney	Prof Woodfield and Prof Lim (Sydney) aid the production of two recent publications (REF 14, 26). Currently, we are in contact with Prof Lim for the development of new nanocomposite that can be light-activated.
Dr Dario Carugo	University of Oxford	Collaboration on the use of low-intensity pulsed ultrasound (LIPUS) to trigger stem cell differentiation during printing. Presentation of poster (accepted) at ESB 2023 in Davos (Sep 2023)
Prof Gianluca Tozzi	University of Greenwich	The collaboration with Prof Tozzi has now peaked with a recent submission of a pre-print to biorXiV (REF 28) with the submission now to Bio-Design and Manufacturing journal (IF=7.9).
Prof Alvaro Mata	University of Nottingham	Esteemed collaborator, we published a joint manuscript in 2021 (REF 9). We are currently collaborating on the development of aqueous two-phase solutions for 3D bioprinting applications.

XIb - *National*

Name	Institution	Brief Description
Prof Andrea Barbetta	University of Rome Sapienza	La fruttuosa collaborazione con il Prof. Barbetta è attiva e continua. Lo studio pubblicato recentemente (REF 2) è in fase di miglioramento e test clinico (REF 18-20) con ulteriori possibilità per l'ingegnerizzazione di un sistema ad emulsioni che risulta biostampabile e utile per guidare il differenziamento cellulare post-stampa.
Prof Alessandro Rosa	University of Rome Sapienza	Con il Prof. Alessandro Rosa abbiamo recentemente pubblicato (REF 3) uno studio sulle possibilità di modellare il dolore osseo. Con il nostro progetto in corso d'opera (REF 18) ci stiamo avvicinando alla realizzazione di una piattaforma biostampata che comprenda due popolazioni cellulare (staminali scheletriche e pluripotenti indotte indirizzate verso nocicettori) così da rassomigliare una porzione di osso innervato per lo studio dei meccanismi molecolari del dolore muscoloscheletrico.
Prof Franco Marinozzi	University of Rome Sapienza	La ricerca collaborativa con il gruppo del Prof Marinozzi è in corso e attualmente iniziata con un articolo pubblicato (REF 1) e due manoscritti accettati per pubblicazione (Accepted Manuscripts 1 e 2). L'attività di ricerca si concentra nell'utilizzo di un nuovo sistema di tracciamento di coordinate spaziali per la biostampa di costrutti cellularizzati *in situ* all'interno del difetto del paziente stesso. Attualmente, l'attività viene svolta presso il laboratorio di Bioprinting dell'IIT.
Prof Eugenio Martinelli	University of Rome Tor Vergata	La collaborazione con il gruppo del Prof. Eugenio Martinelli è in corso. Assieme al Prof Martinelli stiamo sviluppando nuove tecniche di machine learning per la biostampa 3D di tessuti e organi su chip per ingegnerizzare costrutti capaci di maturare nell'arco di pochi giorni ed essere così osservati con *live imaging*
Dr Enrico Lucarelli	Istituto Ortopedico Rizzoli	Assieme al Dr Enrico Lucarelli, stiamo esplorando nuove possibilità nel campo della ingegneria tissutale al servizio della modellizzazione di tumori complessi. In particolare, ci stiamo impegnando nella biostampa di tumori ossei come osteosarcoma e Ewing sarcoma tramite tecniche di biostampa e materiali innovativi sviluppati nei laboratori IIT.
Dr.ssa Giorgia Montalbano	Politecnico di Torino	La collaborazione con la Dr.ssa Montalbano è iniziata nell'Aprile 2023, con la richiesta di supporto a caratterizzazione meccanica di costrutti biostampati con tecnica a gradiente funzionale. La caratterizzazione meccanica tramite sistema di

		misurazione dinamica e micro-tomografia computerizzata è tutt'ora in corso.
Prof Michele Conti	Università di Pavia	Assieme al Prof. Michele Conti, siamo impegnati nello sviluppo di nuovi approcci di biostampa e materiali (REF 5) per la modellizzazione di malattie e al contempo la rigenerazione dei tessuti – in particolare quella del tessuto muscoloscheletrico.

Part XII – Seminars and invited talks

Seminar/Conference	Talk	Institution/Event	Date
Invited seminar (online)	Microfluidic 3D Bioprinting: shaping new ways to fabricate physiologically-relevant tissue substitutes	University of New Hampshire (Manchester, USA)	12/12/2022
Invited Speaker (Seminar)	Emerging platforms in 3D Bioprinting: Harnessing microfluidic technology to shape the biofabrication of physiologically-relevant tissues	Vienna Ludwig Boltzmann Lecture series (Vienna, Austria)	28/10/2022
Invited Speaker (Seminar)	3D platform for RNA therapeutics safety and efficacy	RNA initiative, IIT(Genova, Italy)	27/10/2022
Invited Speaker (Conference)	Microfluidic Biofabricaton for the engineering of complex tissues Link	33.BI-MU FieraMilano, New technologies for biofabrication (Milan, Italy)	13/10/2022
Live exhibition and TV interview	Exhibition with national TV (Rai 2, ANSA) interview	Maker Faire 2022	07/10/2022

Invited Speaker (Keynote)	Microfluidic bioprinting of emulsion inks for the fabrication of gradient-like 3D porous constructs	International Society for Biofabrication 2022 conference Montecatini (Pisa), Italy	25-28/09/2022
Oral presentation (International Conference)	Modelling breast-to-bone metastatic mechanisms via microfluidic biofabrication	TERMIS – EU conference Krakow, Poland	28/06/2022
Invited exhibition at National Museum	Exhibition for the show "The Future of Science in Rome" Link	Show at Palazzo delle Esposizioni	12/10/2021
Invited Speaker (Conference/Workshop)	Hybrid Bioprinting: harnessing microfluidic devices to generate complex and functional tissues	II and V Workshop Bioprinting, From printing set-up to in vitro analysis (University of Pavia, Pavia, Italy)	29/09/2020 20/02/2019
Invited Speaker (Winter School)	A comprehensive overview of 3D Bioprinting and new Biofabrication technologies. From additive manufacturing to Bioprinting	BioP Winter school (University of Pavia)	14/02/2022
Invited Speaker (Oral presentation)	Engineering cell-laden 3D bone substitutes for disease modelling and regeneration	1st European CELLINK Collaborative Partnership Conference (San Raffaele Hospital, Milan, Italy)	10/05/2019
Oral presentation (International Conference)	Nanocomposite bioink printing in a fluid gel: an innovative approach to vascular skeletal regeneration	TERMIS – EU conference Rhodes, Greece	27/05/2019

Oral presentation (International Conference)	In vivo skeletal regeneration using a nanocomposite silicate-based bioink	International Society for Biofabrication 2018 conference Würzburg, Germany	28-31/10/2018

Part XIII – Other Academic activities

XIIIa - Supervision

Appointment	Institution	Students (end date)
MSc Thesis supervisor	University of Rome Sapienza	Anna Dell'Armi (Biologia, Jan 2024); Andrea Franconetti (Engineering, Jan 2024); Sajad Mohammadi (Engineering, Jul 2023); Arianna Iacomino (Engineering, Mar 2023); Lucia Iafrate (Engineering, Dec 2022); Maria Celeste Tirelli (Chemistry, Dec 2022); Sara Carmosino (Engineering, May 2021); Chiara Giulianelli (Engineering, May 2021)
Visiting students	*International*	Felix Portner (Uni Wien, May 2023); Hamid Heidari Kashkooli (University West London, Jun 2023); Liam Chase (Temple University, Feb 2020)
PhD Thesis supervisor	University of Rome Sapienza	Federico Serpe (Dec 2023); Martina Marcotulli (Sep 2024); Salvatore D'Alessandro (Sep 2024); Efsun Senturk (Sep 2025)

XIIIb - Visiting Researcher

Appointment	Institution	Duties and dates
Visiting Researcher/Scholar	University of Southampton (UK)	2019 – present Currently visiting researcher at the University of Southampton. The visiting status is allowing me to improve the collaborative work with Prof Richard Oreffo and his lab.
Visiting Researcher	TU Dresden (Germany)	2016 – 2017 Visiting PhD researcher at the Gelinsky's lab for the design and engineering of novel nanocomposite materials for musculoskeletal regeneration

Luogo e data **Roma, 04/08/2023**

Autorizzo al trattamento dei miei dati personali ai fini della pubblicazione, ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 e del GDPR (Regolamento UE 2016/679.