

Dr Hassan Rashidi

Catalyst Fellow

Profile

An accomplished stem cell researcher with excellent track record in delivering complex projects within demanding time and cost constraints. Successful in defining hypothesis-driven projects and securing grants. Able to manage budget and lead a team to deliver projects in line with defined objectives. Confident in managing and mitigating risks and issues whilst maintaining progress in line with projects plan. Avid supporter of diversity, equality, equity and inclusion.

Research Experience

Sep 2023 – Catalyst Fellow, UCL

- Leading the effort to develop cell-based therapies to treat liver disease supported by a Fellowship from NIHR Great Ormond Street Biomedical Research Centre

Feb 2021 – Aug 2023 Senior Postdoctoral Research Fellow, UCL

- Develop an ectopic hepatic patch supported by Awards from GOSH Charity and Sparks National Call and the Children's Liver Disease Foundation.

Feb 2018 – Feb 2021 Senior Postdoctoral Research Fellow, UCL

- Developed a novel platform to generate retinal organoids at scale and by using animal-free supplements for the first time.
- Established reprogramming platform to generate and characterise induced pluripotency stem cells.

Oct 2014 – Sep 2017 Postdoctoral Research Fellow, University of Edinburgh

- Developed a new protocol to generate human pluripotent stem cell-derived 3D hepatocytes (patented).
- Formulated a new culture medium to stabilise 3D Hepatospheres functions to over a year in culture.

Jan 2011 – Sep 2014 Postdoctoral Research Fellow, University of Nottingham

- Involved in fabrication of growth factor-loaded microparticles to treat large bone defects.
- Developed a chick embryonic femur culture system to assess the localised effect of released growth factors from manufactured microparticles.

Research Funding

2023 Catalyst Fellowship

£128k

2021 Rosetrees Trust Seedcorn Award

£10k, Principal Investigator

2020 GOSH Charity & Sparks National Call

£101k, Principal Investigator

2020 UCL Regenerative Medicine TIN Pilot Data

£16k, Principal Investigator

2019 Children's Liver Disease Foundation

£10k, Principal Investigator

2018 NC3Rs CRACK-IT Challenge

£100k, Co-Investigator

Education

2007 – 2010 PhD Stem Cell Biology

University of Nottingham, United Kingdom
(Supervisor Dr Virginie Sottile)

2006 – 2007 MRes Regenerative Medicine

University of Bath, United Kingdom (*cum laude*)

2003 – 2005 MSc Biology

University of Leiden, The Netherlands (*cum laude*)

2000 – 2002 BSc Medical Laboratory Science

Medical University of Kerman, Iran (*summa cum laude*)

Patent

WO2017072580A1 "Methods for producing Hepatocytes"

Hagbard L., Gunnar C., Ericsson J., Cameron K., Hay D. C., Forbes S., **Rashidi H.**



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Personal Awards

2007 Overseas Research Studentship (University of Nottingham, UK, £60k)

2006 International Scholarship (University of Bath, UK, £2k)

Travel Grants

2017 European Association for the Study of the Liver (EASL), £500 Travel grant

2017 European Society of Toxicology, £250 Travel grant

2012 7th International Avian Model Systems Conference, £800 Travel grant

Publications

So far, I have one patent and published 39 research articles, review papers, conference proceedings and book chapter with over 1500 citations and a total h-index of 18 on Google Scholar.

- 1- Froghi, S., Hall, A., Hanafi Bin Jalal, A., Andrade, M.O.d., Mohammad Hadi, L., **Rashidi, H.**, Gélât, P., Saffari, N., Davidson, B., Quaglia, A. Ultrasound Histotripsy on a Viable Perfused Whole Porcine Liver: Histological Aspects, Including 3D Reconstruction of the Histotripsy Site. *Bioengineering* **2023**, 10, 278. [DOI: 10.3390/bioengineering10030278](https://doi.org/10.3390/bioengineering10030278).
- 2- Froghi S., de Andrade M.O., Hadi L.M., Gelat P., **Rashidi H.**, Quaglia A., Fuller B., Saffari N., Davidson B. Liver Ultrasound Histotripsy: Novel Analysis of the Histotripsy Site Cell Constituents with Implications for Histotripsy Application in Cell Transplantation and Cancer Therapy. *Bioengineering*. **2023**; 10(2):276. [DOI: 10.3390/bioengineering10020276](https://doi.org/10.3390/bioengineering10020276). Citations: 2
- 3- **Rashidi H.**, Leong Y. C., Venner K., ..., Sowden J. C., Generation of 3D retinal tissue from human pluripotent stem cells using a directed small molecule-based serum-free microwell platform, *Sci Rep*. 12, 6646, **2022**, [DOI: 10.1038/s41598-022-10540-1](https://doi.org/10.1038/s41598-022-10540-1). Citations: 4
- 4- **Rashidi H.**, Hay D.C., Nuclear factor programming improves stem-cell-derived hepatocyte phenotype, *Cell Stem Cell*, 29, 5, **2022**, [DOI: 10.1016/j.stem.2022.04.009](https://doi.org/10.1016/j.stem.2022.04.009).
- 5- **Rashidi H.**, Hay D.C.; Serum-Free Production of Three-Dimensional Hepatospheres from Pluripotent Stem Cells, *Methods Mol Biol*. **2021**, [DOI: 10.1007/7651_2021_430](https://doi.org/10.1007/7651_2021_430).
- 6- Lucendo-Villarin B., **Rashidi H.**, Alhaque S., Fischer L., Meseguer-Ripolles J., Wang Y., O'Farrelly F., Themis M., Hay. D.C., *J. Vis. Exp.* **2019**; (149), e59965, [DOI: 10.3791/59965](https://doi.org/10.3791/59965). Citations: 11
- 7- **Rashidi H.**, Luu N.T., Alwahsh S.M., Ginai M., Alhaque S., Dong H.,, Dhawan A., Vallier L., Bradley M., Callanan A., Forbes S.J., Newsome P.N., Hay D.C.; 3D human liver tissue from pluripotent stem cells displays stable phenotype in vitro and supports compromised liver function in vivo. *Arch Toxicol*. **2018**; 92(10): 3117–3129, [DOI: 10.1007/s00204-018-2280-2](https://doi.org/10.1007/s00204-018-2280-2). **Citations: 107**
- 8- Wang Y., Alhaque S., Cameron K., Meseguer-Ripolles J., Lucendo-Villarin B., **Rashidi H.**, Hay D.C.; *J. Vis. Exp.*, 2017; e55355, [DOI: 10.3791/55355\(2017\)](https://doi.org/10.3791/55355(2017)). Citations: 62
- 9- **Rashidi H.**, Alhaque S., Szkolnicka D., Flint O., Hay D.C., Fluid shear stress modulation of hepatocyte-like-cell, *Arch Toxicol*, **2016**; 90(7):1757-1761, [DOI: 10.1007/s00204-016-1689-8](https://doi.org/10.1007/s00204-016-1689-8). **Citations: 114**
- 10- Ludendo-Villarin B.L., Cameron K., Szkolnicka D., **Rashidi H.**, Bates N., Kimber S.J., Flint O., Forbes S.J., Iredale J.P., Bradley M., Hay D.C.; *Ad Health Mat*, **2015**; 4(12):1820-1825, [DOI: 10.1002/adhm.201500391](https://doi.org/10.1002/adhm.201500391). Citations: 26
- 11- **Rashidi H.**, Smith E.L., Kanczler J.M., Black C.R., Shakesheff K.M., Oreffo R.O.C.; *Plos One*, **2015**; 10(4), [DOI: 10.1371/journal.pone.0121653](https://doi.org/10.1371/journal.pone.0121653). Citations: 15
- 12- Gothard D., Smith E.L., Kanczler J.M., Black C.R., Wells J.A., Roberts C.A., White L.J., Qutachi O., Peto H., **Rashidi H.**, Rojo L., Stevens M.M., El Haj A.J., Rose F.R.A.J., Shakesheff K.M., Oreffo R.O.C.; *Plos One*, **2015**; 10(12), [DOI: 10.1371/journal.pone.0145080](https://doi.org/10.1371/journal.pone.0145080). Citations: 79
- 13- Saeed A., Francini N., White L.J., Dixon J., Gould T., **Rashidi H.**, Al Ghanami R.C., Hruschka V., Redl H., Saunders B.R., Alexander C., Shakesheff K.M., *Adv Mater*, **2015**; 27(4):662-668, [DOI: 10.1002/adma.201403626](https://doi.org/10.1002/adma.201403626). Citations: 21
- 14- Henstock J.R., Rotherham M., **Rashidi H.**, Shakesheff K.M., El Haj A.J.; *Stem Cell Trans Med*, **2014**; 3(11):1363-1374, [DOI: 10.5966/sctm.2014-0017](https://doi.org/10.5966/sctm.2014-0017). Citations: 100
- 15- Smith E.L., Kanczler J.M., Gothard D., Roberts C.A., Wells J.A., White L.J., Qutachi O., Sawkins M.J., Peto H., **Rashidi H.**, Rojo L., Stevens M.M., El Haj A.J., Rose F.R.A.J., Shakesheff K.M., Oreffo R.O.C.; *Acta Biomater*, **2014**; 10(10):4186-4196, [DOI: 10.1016/j.actbio.2014.06.011](https://doi.org/10.1016/j.actbio.2014.06.011). Citations: 65

Publications (continued from previous page)

- 16- Smith E.L., Kanczler J.M., Gothard D., Roberts C.A., Wells J.A., White L.J., Qutachi O., Sawkins M.J., Peto H., **Rashidi H.**, Rojo L., Stevens M.M., El Haj A.J., Rose F.R.A.J., Shakesheff K.M., Oreffo R.O.C.; *Acta Biomater*, **2014**; 10(10):4197-4205, [DOI: 10.1016/j.actbio.2014.05.025](https://doi.org/10.1016/j.actbio.2014.05.025). Citations : 63
- 17- France L.A., Scotchford C.A., Grant D.M., **Rashidi H.**, Popov A.A., Sottile V.; *J Tissue Eng Regen Med*, **2014**; 8(8):652-663, [DOI: 10.1002/term.1567](https://doi.org/10.1002/term.1567). Citations: 17
- 18- Akhtar M.T., Ali S., **Rashidi H.**, van der Kooy F., Verpoorte R., Richardson M.K.; *Zebrafish*, **2013**; 10(3):283-293, [DOI: 10.1089/zeb.2012.0785](https://doi.org/10.1089/zeb.2012.0785). Citations: 68
- 19- **Rashidi H.**, Strobuecker S., Jackson L., Karla S., Blake A.J., France L., Tufarelli C., Sottile V, *Cells Tissue Organs*, **2012**; 195(6):484-494, [DOI: 10.1159/000329861](https://doi.org/10.1159/000329861). Citations: 15
- 20- **Rashidi H.**, Ellis M.J., Cartmell S.H., Chaudhuri J.B.; *Polymers*, **2010**; 2(4):709-718, [DOI: 10.3390/polym2040709](https://doi.org/10.3390/polym2040709). Citations: 16
- 21- **Rashidi H.**, Akhtar M.T., van der Kooy F., Verpoorte R., Duetz W.A.; *Appl Environ Microbiol*, **2009**; 75(21):7135-7141, [DOI: 10.1128/AEM.01277-09](https://doi.org/10.1128/AEM.01277-09). Citations: 18
- 22- Hazekamp A., Bastola K., **Rashidi H.**, Bender J., Verpoorte R.; *J Ethnopharm*, **2007**; 113(1):85-90, [DOI: 10.1016/j.jep.2007.05.019](https://doi.org/10.1016/j.jep.2007.05.019). Citations: 90

Reviews

- 23- Alhaque S, Themis M, **Rashidi H.**; Three-dimensional cell culture: from evolution to revolution. *Phil. Trans. R. Soc. B*, 2018; 373:2017 0216. [DOI: 10.1098/rstb.2017.0216](https://doi.org/10.1098/rstb.2017.0216). Citations: 73
- 24- Alwahsh S.M., **Rashidi H.**, Hay D.C.; Liver Cell Therapy: is this the end of beginning? *CMLS*, 2017; [DOI: 10.1007/s00018-017-2713-8](https://doi.org/10.1007/s00018-017-2713-8). Citations: 74
- 25- Ludendo-Villarin B.L., **Rashidi H.**, Cameron K., Hay D.C.; *J Mat Chem B*, 2016; Pluripotent stem cell- derived hepatocytes: using materials to define cellular differentiation and tissue engineering. 4(20):3433-3442, [DOI: 10.1039/c6tb00331a](https://doi.org/10.1039/c6tb00331a). Citations: 36
- 26- Gothard D., Smith E.L., Kanczler J.M., **Rashidi H.**, Qutachi O., Henstock J., Rotherham M., El Haj, Shakesheff K.M., Oreffo R.O.C.; Tissue engineered bone using select growth factors: A comprehensive review of animal studies and clinical translational studies in man. *Euro Cell Mater*, 2014; 28:166-208. Citations: 221
- 27- **Rashidi H.**, Yang J., Shakesheff K.M.; Surface Engineering of Synthetic Polymer Materials for Tissue Engineering and Regenerative Medicine Applications. *Biomater Sci*, 2014; 2(10):1318-1331, [DOI: 10.1039/c3bm60330j](https://doi.org/10.1039/c3bm60330j). Citations: 79
- 28- **Rashidi H.**, Sottile V.; The chick embryo: hatching a model for contemporary biomedical research. *BioEssays*, 2009; 31:459-465, [DOI: 10.1002/bies.200800168](https://doi.org/10.1002/bies.200800168). Citations: 120

Selected Conference Proceedings

- 29- **Rashidi H.**, Alhaque S., Szkolnicka D., Flint, O., Hay D.C.; Fluid Shear Stress Modulation of Hepatocyte- like Cell Function. **ISSCR Conference**, San Francisco, 2016
- 30- **Rashidi H.**, Alhaque S., Szkolnicka D., Flint O., Hay D.C.; Fluid Shear Stress Modulation of Hepatocyte- like Cell Function. **UKRMP Inaugural Conference**, London, 2016
- 31- **Rashidi H.**, Smith E.L., Oreffo R.O.C., Shakesheff K.M.; Growth factor-loaded microparticles to promote healing process of bone. **TERMIS**, Vienna 2012 (*J Tissue Eng Regen Med*, 2012; 6(S1):18-18)

Book Chapter

- 32- **Rashidi H.**, Hay D.C.; Application of 3D Culture Systems, Biofabrication and Bioprinting in Drug Discovery and Medicine, Stem Cells in Toxicology and Medicine, Edition: 1, Chapter: 14, Publisher: Wiley, Editors: Saura C. Sahu.

Invited Presentations

- 1- Keynote speaker at the 10th Advanced Cell and Tissue Culture Conference (Cardiff, UK, 2018)
- 2- A novel three-dimensional model for long-term evaluation of drug toxicity *in vitro*. 53rd Congress of the European Societies of Toxicology (Bratislava, Slovakia, 2017)
- 3- Combining renewable human liver tissue and novel extracorporeal devices to deliver mammalian liver support. The International Liver Congress (Amsterdam, The Netherlands, 2017)
- 4- Combining renewable human liver tissue and novel extracorporeal devices to deliver mammalian liver support. 2nd ICAS (Tehran, Iran, 2017)

Invited Presentation (continued from previous

- 5- Growth factor-loaded biodegradable microparticles for bone tissue engineering. TCES (Cardiff, 2013)
 - 6- Growth factor-loaded biodegradable microparticles to promote the natural healing process of bone. 7th International Avian Model Systems (Nagoya, Japan, 2012)
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Teaching Experience

2020-3 Lake Como Virtual School of Science

Delivered a virtual lecture on “3D Culture Systems and Alternative *in vitro* Models”

2020 UCL, Cell and Gene Therapy MSc Course

Delivered a lecture on “Pluripotent Stem Cells and Reprogramming”

2014 University of Nottingham, Stem Cell Technology MSc Course

Delivered a lecture on “Endoderm Development”

2012 University of Nottingham, Stem Cell Technology MSc Course

Delivered a lecture on “Endoderm Development”

Supervised Research Projects

2021 PhD, Second Supervisor

Development of an *in vitro* model to study the effect of MYO7A mutation in Usher Type I patients using human pluripotent stem cell-derived Retinal Pigment Epithelium (RPE) cells.

2020 MSc, First Supervisor

Role of Laminin isoforms in retinal differentiation

2012 MSc, First Supervisor

Development of a chick embryonic femur *ex ovo* culture as a tool to evaluate the efficacy of growth factor-loaded microparticles for bone tissue engineering.

2010 MSc, Second Supervisor

Difference in the Pattern and Regulation of Mineral Deposition in Human cell Lines of Osteogenic and Non-Osteogenic Origin.

Professional Memberships

International Society of Stem cell Research (ISSCR)

British Society for Gene and Cell Therapy (BSGCT)

London Stem Cell Network (LSCN)

Volunteering and Public Engagements

- 1- Fund raising for the Children’s Liver Disease Foundation (London, 2020)
 - 2- Hosting two In2Science students, UCL Great Ormond Street Institute of Child Health (London, 2019)
 - 3- GOSH BRC Family Fun Day, UCL Great Ormond Street Institute of Child Health (London, 2018 & 2019)
 - 4- GOSH Research Trail, Great Ormond Street Hospital (London, 2018)
 - 5- Royal Society Exhibition (London, July 2013)
 - 6- Afterschool Science Club (Nottingham, June 2013)
 - 7- Volunteer (Games Maker) at the London Olympics (London, 2012)
 - 8- University of Nottingham Showcase Event (Nottingham, 2011)
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References

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Professor Nader Saffari

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