介紹 Erasmus MC

Taiwanese co-publications: domains of preclinical, clinical & health sciences 2008-2017 Source InCites 5 NOV 2021		
Foreign Institute w Taiwan	co-publ	world impact
Harvard University	1,391	9.31
Johns Hopkins University	616	14.53
Stanford University	527	12.15
UC San Francisco	493	10.21
Yale University	306	23.86
Columbia University	227	24.41
Erasmus MC Rotterdam	**197**	**35.35**
University of Cambridge	157	30.16
Cornell University	155	13.54
University of Chicago	135	8.59

Erasmus University Medical Center, 被稱為 Erasmus MC: Erasmus 大學的醫學院及其 3 所大學醫院全部整合到一個園區中，並由一個執行委員會領導。該教育中心於 2012 年開業，擁有 400 個學習場所和 40 個教學與演講室，最多可容納 6,000 名學生，並於 2013 年因其建築風格而獲獎。2018 年，老醫院被最先進的單人病房，1,000 臥室醫院所取代。 Erasmus MC 致力於通過研究和教育實現健康的人口和卓越的醫療保健 (www.erasmusmc.nl)。

病人護理： Erasmus MC 只滿足於最好的護理，只有單間病房（VIP 醫院）以加速其醫療創新和使用最新、最具創新性的材料和程序治療患者的能力 https://www.youtube.com/watch?v=agYQOLrhmrQ

研究與創新： Erasmus MC 在各個臨床領域一直名列全球前 13-36 位，在生物醫學科學領域排名前 30 位(US News Clinical Medicine 2021, Nature Index Biomedical Sciences 2019). 重要的是，其在臨床前、臨床和健康科學領域的研究論文的世界影響力為 2,55，位居全球排名榜首，僅次於哈佛（2,37 見第 2 頁，左表）。 Erasmus MC 的總體研究目標是將實驗及研究發現轉化為臨床應用，並涵蓋從臨床前研究,到臨床,再到健康科學研究的所有領域。

教育培訓： Erasmus MC 提供 BSc，MSc，PhD 和 Residency 計劃，以培訓下一代醫學從業人員和研究人員。它是歐洲最大的醫學院之一，擁有約 2,500 名醫學生，每年有 220-250 名博士畢業。 其醫學教育是，33%的醫學生發表過論文，70%在國外，20%選擇了醫學博士，（成為臨床醫生和科學家），非常出色。同樣，它希望博士生在畢業考試之前擁有 4 種或以上的研究發表（在研究領域排名前 25％的期刊內）。所有博士生在入學時均擁有 MSc，MD 或 DVM，並且大多數人具有個人獎學金或由研究補助金支付。

創新教育計劃： Erasmus MC 和 Delft University of Technology 是世界上第一個提供納米生物學（Nanobiology）BSc-MSc 計劃的人，此跨領域學程結合了生物，物理，數學及電腦運算，所以它彌合了生命科學與技術之間的鴻溝。與技術大學的這種緊密合作產生了更廣泛的研究合作，並更多地關注社會上的直接應用。

監督率: 我們擁有約 750 名註冊醫學專家，約 1000 名居民和約 1500 名科學人員（加上 600 名博士後），而約有 1,250 名博士生，我們擁有世界上最好的主管比例之一（博士生至少有兩名主管）。

Erasmus MC 和歐洲： 從研究發表數量和源自 EC 資助的研究（即 FP7 和 Horizon 計劃）的研究發表數量衡量，Erasmus MC 屬於歐盟 10 大醫學院校，並且是歐洲大陸上最成功的歐洲醫學院之一（Horizon2020 主題健康、人口變化與福祉; 見右表第 2 頁）。因此，它是通向歐洲研究網絡的誘人門戶，無論您的職業是在歐洲還是國外，這都是畢業後的一項好處。

與台灣的合作： Erasmus MC 以其長期的合作和對合作夥伴的忠誠度而聞名。這種理念在高質量的研究合作中得到了體現。這通常要比台灣與更著名的合作夥伴（請參閱本頁頂部的表格）所享受的研究質量要好得多，而重要的是您一起發表的論文。因為合作比短暫的機會更為重要，所以我們更喜歡從事中荷合作和/或將荷蘭合作網絡帶回台灣的台灣博士研究生。

科技部龍門計劃： Erasmus MC 為龍門計劃的主辦機構之一，增加了與感興趣的台灣科學家合作的另一種方式。

台灣教育部核准及補助的 PhD 獎學金： 有興趣前往荷蘭 Erasmus MC 的學生，可經由此教育部連結 (Taiwanese Ministry of Education）申請全額補助獎學金。

Erasmus MC 的博士課程 - 概述

選擇一所大學攻讀博士課程是以研究為導向的職業生涯中最重要的一步。它是大學提供的最高教育課程，博士培訓的結果決定了您職業生涯的下一步。由於博士學位本質上是一項研究培訓和教育計劃，因此您想報名參加的研究所的研究發表的質量非常重要。我們還注意到，歐洲和非歐洲大學代表團始終重視獲得歐洲研究資助。因此，如果您有在國際背景下從事職業的想法，請知道 Erasmus MC 在其研究論文的質量以及獲得歐洲研究資助（所謂的 Horizon2020 資助、主題健康、人口統計學）方面有著良好的記錄與福祉。

Preclinical, clinical & Health Sciences 2016-2020
InCites Clarivate dbase as of Oct, 5th, 2021

University or Med School only*	publ	world impact
Erasmus MC*	24,271	2.55
Erasmus University Rotterdam	25,746	2.52
UCLA DG Med School*	15,863	2.47
Harvard University	139,589	2.37
Stanford University	40,396	2.32
Johns Hopkins University	63,010	2.27
Johns Hopkins Medicine*	22,879	2.27
Harvard Univ Med School*	70,795	2.27
UC San Francisco	47,712	2.22
Yale University	34,241	2.21
UC Los Angeles (UCLA)	37,742	2.21
University of Chicago	16,265	2.13

Horizon2020 Health, Demographic Change & Wellbeing
data from ec.europa.eu/dashboard 23 SEP 2020

Organization, country (*med school only)	Net contribution (in €)	project participations
INSERM, FR	115.160.351	122
Univ of Oxford, UK	76.643.642	74
LSHTM, UK	74.201.528	26
Erasmus MC*, NL	61.255.042	72
Karolinska Inst*., SE	61.171.462	89
Radboud Univ, NL	57.262.658	52
UCL, UK	55.748.799	63
UMC Utrecht*, NL	53.889.035	50
ICL, UK	50.417.535	43
KCL, UK	49.689.847	49
KU Leuven, BE	45.388.558	68
LUMC*, NL	43.742.800	56
CoEPI, NO	36.000.000	2
Univ of Cambridge, UK	32.761.296	47
Charite Univ*, DE	32.291.420	46
Univ of Newcastle, UK	31.686.153	39

左表：世界影響：這組研究發表的引用影響指數與世界影響指數相比（世界平均值為 1,00）。 InCites-Clarivate 出版物：2021 年 10 月 5 日在 InCites 數據庫中發現的 2016-2020 年臨床前、臨床和健康科學聯合領域的研究發表
右表：歐洲研究資助計劃 "地平線 2020" 中最成功的組織——主題健康、人口變化與福祉，根據 2020 年 9 月 23 日在歐盟儀表板上獲得的歐元金額排名。Erasmus MC 是第一所大陸醫學院，自法國的 INSERM 是一個全國性組織，另外兩個成功的組織是英國。

Erasmus MC 博士課程的目標是使您成為一名獨立的研究人員，能夠根據科學證據來解決複雜的問題。畢業生將具有評估科學研究的能力，並朝著成為生物醫學學者的方向邁出了重要的一步。博士生最適合成為大學醫學中心、研究型大學、研究機構的未來（臨床）研究人員，和/或填補工作人員和政策職位，例如管理生物醫學大學、醫院和其他醫療保健組織、生物醫學和製藥公司、部委等等。

我們教育理念的核心是，良好的科學培訓需要主動學習。這意味著我們以小組甚至有時單獨授課的方式來教授博士和研究型碩士生，並且以綜合方式教授理論知識和實踐技能。因此，激發學生積極地使用他們新獲得的知識，這既嵌入了他們的知識，又提高了他們的研究質量。融合是提高我們各級教育的多學科性和跨學科性的重要驅動力。學生向在各自領域處於領先地位、具有國際經驗且其研究小組與其他（國際）國家研究小組合作的教師學習。

一個典型的博士學位課程將花費 4 年，並且候選人必須擁有其理學碩士，醫學或 DVM 學位。在健康科學領域，應聘者將其博士學位研究與健康科學專業碩士相結合。候選人的雅思成績必須達到 7.0 或托福成績達到 100，但在攻讀博士學位期間，他們的英語寫作和演講技巧會得到進一步提高。

培訓和指導：作為博士研究生，您將註冊 Erasmus MC 研究生學院，該研究生學院提供通用和高度專業化的課程。然而，博士課程是高度個性化的，在最初的幾個月內，您將與您的導師一起開發最適合您的科學需求以及您理想職業道路的課程。重要的是，我們還希望您能夠獨立工作（我們會訓練您這樣做），並且敢於主動，我們會激發您競爭旅遊船，海報獎或進行其他相關的課外活動。

- *您將進行一項獨立的科學研究並將結果呈現在論文中。*
- *您將受到一名全職教授的監督，並由一名或兩名共同指導教授提供支持*
- *您將參加至少 30 個 EC 點的課程，研討會和會議（您可以從 Grad School 的 150 門課程中選擇，並且可以參加 Erasmus MC 以外的課程）*
- *您將參加一個多學科，跨國和資助驅動的最新研究環境*
- 根據您的項目，有可能出國（研究訪問）在另一個環境中學習

您的博士學位論文：每個研究項目都不同，每個博士生都不同，知識和實驗室經驗也可能不同，因為博士生來自不同的大學。但是，我們為擁有世界上最高的博士學位考試要求之一而感到自豪。當您邁向職業生涯的下一步時，這將為您帶來巨大的優勢。有關獲得博士學位後成果的範例，請查看下表：

在 2019 年從伊拉斯姆斯大學畢業的最後 10 名外國博士研究生的產出

country	publications	conferences abroad	honors & awards	teaching
Brazil	5 publications in top 3 journals, 1x top 25%, 1x other	6 conference visits + 1 conference organization	1 grant, editorial board, 4x coordinator research projects	lecturer, 4 MSc interns,
Poland	2x top 10, 2x top 25%, 1x other	3 conference visits	1 scholarship, 2 travel grants	3 BSc + 4 MSc interns
Romania	1x top 10, 3x top 25%, 2x other, 2 book chapters	1 conference + 2x course organizer, 1x course co-chairman	1 grant, editorial board	1 MSc intern
U.K.	4x top 25%, 6x other	1 course, 4 conferences	4 awards, board AAV	teaching assistant, 1 MSc intern
P.R. China	2x top 3, 1x top 5, 1x top 25%, 1 other	3 conference visits, 1 research visit	1 scholarship + 5 awards	1 MSc intern
Sudan	1x top 3, 4x top 5, 1x top 10, 2x top 25%, 12x other	6 courses/workshops, 23 conferences	2 grants	not reported
Italy	2x top 3, 1x top 5, 4x top 25%, 2x other, 2 in preparation	1 research visit, 2 workshops, 7 conference presentations	1 scholarship + 3 awards	1 MSc intern
India	3x top 25%, 8x other	8 conferences	2 awards	teaching assistant, 2 MSc interns
Mexico	1x top 10, 11x top 25%, 1x top 50% journal	4 courses, 6 conferences	1 scholarship + 5 awards, JHP Editorial Board EHF	teaching assistant, 1x intern JMS
Syria	1x top 1, 9x top 25%, 3x other	8 conferences	1 award	2x teaching assistant med school, 1x teaching nurse school
U.S.A.	2x top 3, 1x top 10, 14x other	12 conferences & workshops	not reported	5x teaching at courses, 2x advisor, 1x MSc intern
Germany	4x top 3, 1x top 10, 3x top 25%,	5 conferences, 3 courses	not reported	lecturer at med and at nursing school, residents, 2x med and 1x MSc intern
Morocco	1x top 5, 2x top 25%, 5x other	10 conferences, 6 courses	1 grant	not reported
Indonesia	1x top 3, 4x top 5, 3x top 10 , 4x top 25%, 3x Top 50% journals	1 course, 4 conferences	1 grant + 4 awards	teaching at Med School and MSc Program, 1 intern BSc student
Thailand	3x top 25%, 1x submitted, 2x in preparation	13 conferences	5 travel grants, co-chair, committee member at national science days	teaching endocrinology course

圖註：country – 博士畢業生的原籍國, publications – 博士學位論文發表，其質量由該期刊在研究生研究領域中的排名來表示, conferences abroad – 國外會議，課程和研究訪問的次數, honors & awards – 獲得的贈款和獎勵，學者或旅費，委員會或董事會成員的數量, teaching – 博士研究生開設的課程和對學生的指導.

在您獲得論文博士學位後，您與我們的聯繫將不會停止：熟悉我們的員工和我們的研究並了解西方研究資助的動態，您將從研究生轉變為有價值的海外同事和研究夥伴：表格第 2 頁顯示了我們與國外科學家的合作出版物所獲得的引用平均得分高於在世界各地擁有一些大學的外國科學家的引用數量。這是只有您才能做到的，因為我們許多成功的合作都是與我們以前的校友合作。

如何申請博士學位

如何使用此空缺手冊： 本手冊概述了 Erasmus MC 幾個選定部門中與台灣實驗室合作或正在尋求合作的各個實驗室的博士生職位。空缺以通用方式編寫，目的是使您對他們研究的主題有所了解，但也可以讓您靈活地提出一些與主題相關的建議。有關更多信息或問題，您可以隨時通過電子郵件聯繫相關教授（職位空缺包括相關教授的聯繫數據）或通過 Erasmus MC 的研究發展辦公室 RDO。

寫動機或求職信： 這些職位空缺有簡短的研究描述，並顯示了一些研究發表。這是進一步閱讀的來源。主管希望博士候選人寫一封好的動機信函，將他們的興趣描述為教授的研究興趣，以及候選人之前獲得的經驗將如何匹配或添加到博士項目中。

由於 Erasmus MC 的幾乎所有博士生的職位都是基於研究資助或自己的博士獎學金，因此建議您一下，當您被教授錄取時，您將申請博士學位獎學金。這將是您教育部的博士獎學金計劃或其他可用的獎學金，例如基於大學或大學醫院的博士獎學金。獲得獎學金可能是一種要求，但我們認為這是一個額外的步驟，可以作為您職業生涯後期質量的證明。這也是您未來的主管將在您的獎學金申請的研究部分中為您提供幫助的原因。

您被教授錄取了，現在怎麼辦？ 一旦您接受了面試（或多次面試）並被錄取，在大多數情況下，您將申請獎學金。您的主管將為您的博士獎學金申請的科學描述提供幫助，並且通常您需要獲得獎學金申請的錄取通知書。您的主管可以通過 RDO 獲得這些信息。

提交申請後，不久之後，您的獎學金將被授予，您將通知未來的指導教授。他們將把您，他們的新博士生，通知人事和人力資源部（HR），其他一些 Erasmus MC 員工也會與您聯繫。通常，HR 只會在您預計到達的兩個月之前與您聯繫。

人力資源所需的文件，以準備您的申請和註冊
o 護照的彩色複印件（所有書面和蓋章頁）；
o 在荷蘭承保的醫療保險證明；如果您沒有保險，則可以在荷蘭後安排醫療保險；
o 獨立證明：例如津貼，助學金，贊助，定期付款，任命書或僱傭合同。
o 證明您具有進行研究的適當資格的證書副本；您的文憑或大學證書。文憑或大學證書必須由公證人或市政當局批准；
o 由您的指導教授簽名的研究建議書的副本。

除上述強制性文件外，還建議提交；
o 出生證明的副本，該副本經合法化或帶有加蓋公章的印章，用於確定市政個人記錄數據庫（GBA）的個人詳細信息。
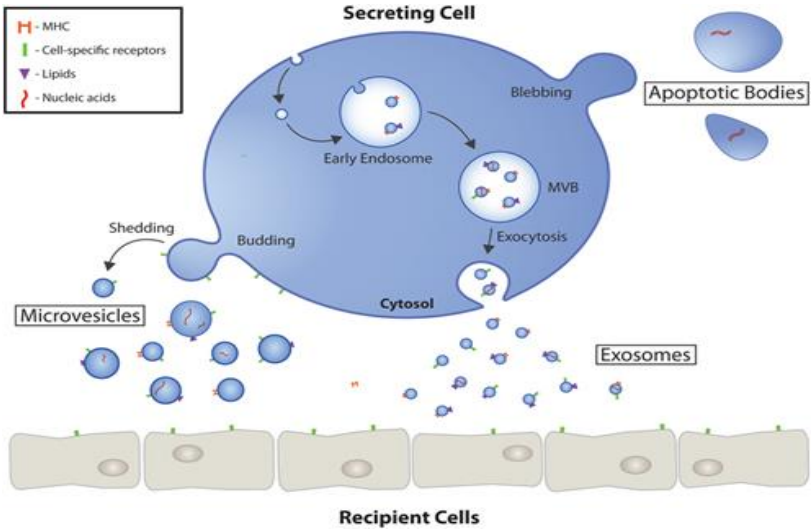
注意：這些文件必須由官方翻譯人員翻譯成英文，荷蘭文或法文。

Department of Gastroenterology & Hepatology

School/Department:	Department of Gastroenterology and Hepatology, Erasmus MC
Supervisor information:	• **Dr. Annemarie C. de Vries; MD; PhD** Email: a.c.devries@erasmusmc.nl • **Dr. Qiuwei Abdullah Pan; PhD** Email: q.pan@erasmusmc.nl • **Prof. Maikel P Peppelenbosch; PhD** Email: m.peppelenbosch@erasmusmc.nl • **Most relevant recent publications:** 1. Li P, **de Vries AC**, Kamar N, **Peppelenbosch MP**, **Pan Q**. Monitoring and managing SARS-CoV-2 evolution in immunocompromised populations. **_Lancet Microbe_**. 2022 May;3(5):e325-e326. 2. Sleutjes JAM, Roeters van Lennep JE, van der Woude CJ, **de Vries AC**. Lipid Changes After Induction Therapy in Patients with Inflammatory Bowel Disease: Effect of Different Drug Classes and Inflammation. **_Inflamm Bowel Dis_**. 2022 May 19:izac100. 3. Goetgebuer RL, Kreijne JE, Aitken CA, Dijkstra G, Hoentjen F, de Boer NK, Oldenburg B, van der Meulen AE, Ponsioen CIJ, Pierik MJ, van Kemenade FJ, de Kok IMCM, Siebers AG, Manniën J, van der Woude CJ, **de Vries AC**. Increased Risk of High-grade Cervical Neoplasia in Women with Inflammatory Bowel Disease: A Case-controlled Cohort Study. **_J Crohns Colitis_**. 2021 Sep 25;15(9):1464-1473. 4. Beelen EMJ, Nieboer D, Arkenbosch JHC, Regueiro MD, Satsangi J, Ardizzone S, López-Sanromán A, Savarino E, Armuzzi A, Janneke van der Woude C, **de Vries AC**. Risk Prediction and Comparative Efficacy of Anti-TNF vs Thiopurines, for Preventing Postoperative Recurrence in Crohn's Disease: A Pooled Analysis of 6 Trials. **_Clin Gastroenterol Hepatol_**. 2021 Oct 20:S1542-3565(21)01134-4. 5. Parikh K, Zhou L, Somasundaram R, Fuhler GM, Deuring JJ, Blokzijl T, Regeling A, Kuipers EJ, Weersma RK, Nuij VJ, Alves M, Vogelaar L, Visser L, de Haar C, Krishnadath KK, van der Woude CJ, Dijkstra G, Faber KN, **Peppelenbosch MP**. Suppression of p21Rac signaling and increased innate immunity mediate remission in Crohn's disease. **_Sci Transl Med_**. 2014 Apr 23;6(233):233ra53.
Project Title:	**Understanding the physiopathology and improving treatment of inflammatory bowel disease**
Abstract:	_Inflammatory bowel disease (IBD) is the inflammatory conditions of the colon and small intestine, Crohn's disease and ulcerative colitis being the main types. IBD is a complex disease which arises as a result of the interaction of environmental and genetic factors leading to immunological responses and inflammation in the intestine. The conventional treatments aim at controlling symptoms through pharmacotherapy, including aminosalicylates, corticosteroids, immunomodulators, and biologics, as well as surgical resection if necessary. However, disease recurrence is almost universal after resection. A considerable fraction of patients do not respond to available pharmacological treatments or lose response, which calls for better understanding the pathogenic mechanisms and developing new therapeutic strategies._ _We aim to achieve this goal through a translational approach by joining our strong expertise from the IBD clinic and the research laboratory. We will explore human intestinal organoids for modeling IBD, studying the physiopathology, and discovering new therapeutics._
Requirements of candidate:	o We are looking for a highly motivated, hardworking student to join our very international team. Our strength is in using team work to tackle large scientific questions and thus requires a student with good communication skills. o Master degree or MD o Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal) o English language requirement: 　　o _English speaking countries & Netherlands:_ no requirement 　　o _Other countries:_ IELTS 7.0 _(min 6.0 for all subs)_, TOEFL 100 _(min 20 for all subs)._

Department of Immunology

School/Department:	*Department of Immunology, Erasmus MC*
Supervisor information:	• *Dr. Christopher Schliehe, Assistant Professor* • *Email: c.schliehe@erasmusmc.nl* • *Website: https://www.erasmusmc.nl/immu/research/air* • *Grants:* - **NIH grant** (R21, National Institutes of Health, USA) as principal investigator in 2022 (275,000 Euros / 2 year) - **NWO-XS grant** (Dutch Research Council) in 2021 (50.000 Euros / 1 year) - **KWF research grant** (Dutch Cancer Society) in 2019 for Prof. Katsikis; co-Principal Investigator (536,000 Euros / 3 years) - **EU Horizon 2020 Marie Skłodowska-Curie** COFUND Postdoc Fellowship LEaDing program in 2019 (63.000 Euros / 2 years) • *Most important publications:* *Frontiers in Bioengineering and Biotechnology 9,* 867164 (2022) PMC9124759 *Leukemia 36, 687-700 (2022)* PMC8885418 *Frontiers in Immunology 13, 10:1367 (2019)* PMC6593301 *Frontiers in Immunology 8, 1920:1-13* (2018) PMC5766668 *PLoS Pathogens 13,* e1006758:1-20 (2017) PMC5738113 *Scientific Reports 12, 7:11289 (2017)* PMC5595927 *Immunity 17, 974-86 (2015)* PMC4658338 *Nature Immunology 16, 67-74 (2015)* PMC4320687 **Journal of Virology** 86, 9782-9793 (2012) PMC3446605 **Journal of Immunology** 187, 2112-2121 (2011) 10.4049/jimmunol.1002084
Project Title:	Investigating antigen presentation on MHC class I molecules to improve cancer immunotherapy
Abstract	Cytotoxic T-lymphocytes (CTLs) are the most essential effector cells needed for efficient immune responses against cancer. They recognize antigenic peptides presented on molecules of the major histocompatibility complex (MHC) class I and thereby screen the intracellular content of cells for signs of infection and/or transformation. The team of Dr. Schliehe is embedded in the Department of Immunology and has a focus on antigen presentation and immune regulation in the **context of immunotherapies**. It combines a large spectrum of experimental approaches (including classical immunological techniques, *in vivo* models, genetic screens, mass spectrometry, and chemical immunology) to elucidate the molecular mechanisms involved in direct- as well as cross-presentation of antigens on MHC class I molecules. This PhD thesis will include both hypothesis-driven as well as unbiased genetic projects to investigate novel aspects of antigen expression, processing and presentation. *Category: Fundamental Research*

Requirements of candidate:	o We are looking for a highly motivated, hardworking student to join our international team. Our strength is in using teamwork to tackle large scientific questions and thus requires a student with good communication skills.
	o Master degree or MD (we especially encourage students with a background in fundamental research to apply)
	o Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we will help with the scientific part of your scholarship proposal)
	o English language requirement:
	  ○ *English speaking countries & Netherlands:* no requirement
	  ○ *Other countries:* IELTS 7.0 *(min 6.0 for all subs)*, TOEFL 100 *(min 20 for all subs)*

Department of Internal Medicine – Transplantation Medicine

School/Department:	**Department of Internal Medicine, Erasmus MC**
Project Title:	**Exploiting the message from the kidney: the value of extracellular vesicles in transplant rejection**
Supervisor information:	Prof dr Carla C. Baan (female) **Email:** c.c.baan@erasmusmc.nl , WeChat: carla baan **Website:** *Most important publications:*. www.rotterdamtransplantationlab.nl van der Zwan M, et al. Front Immunol. 2020 Jul 3;11:1332. IF 5.0 http://nl.linkedin.com/pub/carla-baan/8/a19/960 Niu Q, et al. Front Immunol. 2020 Aug 28;11:1972. IF 5.0 www.erasmusmc.nl van der Zwan M, et al. Drugs. 2020 Jan;80(1):33-46. IF 6.2 **Personal Grants:** Shankar AS, et al. Kidney Int 2020Sep 9:S0085-2538(20)30968-6. IF 8.4 2019, Dutch Kidney Foundation Snijders MLH, et al. Transplantation. 2020 Mar 6. IF 4.5 2018, Astallas Pharma Woud WW, et al. Transplantation 2019 May;103(5):e110-e111. IF 4.5 2017, Dutch Kidney Foundation Verhoeven JGHP et al. Ther Drug Monit. 2018;40(5):515-525. IF 2.4 2016, Lundbeck Foundation Denmark de Leur K, et al. Front Immunol. 2017;8:306. IF 6.5 Gonçalves FDC, et al. Sci Rep. 2017;7:12100. IF 4.1
Abstract:	Worldwide, approximately 80.000 kidney transplantations are performed annually. Without a close match, organ transplants will be rejected, and immune competent cells like T cells will attack the new organ. Rejection occurs in up to 25% of cases, but the reasons for rejection are still largely unknown. The discovery that extracellular vesicles participate in the transfer of signaling information between eukaryotic cells and that they readily cross cell walls is a boon to hopes in gaining insight into the molecular and cellular mechanisms driving this response. **We propose the novel concept that donor organ released extracellular vesicles present a way for recipient immune cells to initiate the transplant rejection process.** To test this, a novel ex vivo platform will be developed to decipher the mechanisms that govern targeted delivery of extracellular vesicle cargo to immune cells. Extracellular vesicles are submicron membrane vesicles that are released by all human cells and transport cell-derived molecules to other cells, changing their phenotype and function. In organ transplantation, donor extracellular vesicles carry and present foreign antigens including the immune activating proteins that interact with recipient antigen presenting cells and sets off the T cell dominated immune response. Technological advances in ex vivo tissue engineering systems, imaging technologies and omics now facilitate the study of i. how donor kidney-extracellular vesicles interact with recipient antigen presenting cells, ii. which molecules are involved and iii. by what means we can interfere in this reaction. This study delivers new knowledge about immune activating mechanisms that are also of importance in auto-immunity, cancer and infectious disease.
Requirements of candidate:	o We are looking for a highly motivated, hardworking student to join our very international team. Our strength is in using team work to tackle large scientific questions and thus requires a student with good communication skills. o Master degree or MD o Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal) o English language requirement: o *English speaking countries & Netherlands:* no requirement o *Other countries:* IELTS 7.0 *(min 6.0 for all subs)*, TOEFL 100 *(min 20 for all subs)*

Department of Medical Oncology

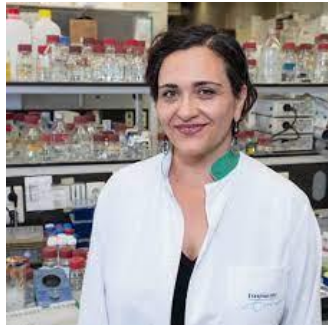| Department:	Department of Medical Oncology. Erasmus MC
Supervisor information:	**Supervisors:** Dr. Antoinette Hollestelle (a.hollestelle@erasmusmc.nl), Dr. Maurice Jansen (m.p.h.m.jansen@erasmusmc.nl), Prof dr. John Martens (j.martens@erasmusmc.nl) **Website:** https://www.erasmusmc.nl/en/cancer-institute/research/departments/medical-oncology **Grants:** Over 45 grants from national, European and international research funders, including 7 industry grants and an ERC Advanced Grant. **Most important recent publications:** **1.** Silvia Vitale, …, **John W.M. Martens**, …, **Maurice P.H.M. Jansen**. 2022. The prognostic and predictive value of ESR1 fusion gene transcripts in primary breast cancer. **BMC Cancer** 22(1):165. **2**. Laura Fachal, …, **Antoinette Hollestelle**, …, Alison M. Dunning. 2020. Fine-mapping of 150 breast cancer risk regions identifies 191 likely target genes. **Nature Genetics** 52(1):56-73. **3.** Lindsay Angus, …, **John W.M. Martens.** 2019. Genomic landscape of metastatic breast cancer and its clinical implications. **Nature Genetics** 51(10):1450-8. **4.** Kyriaki Michailidou, …, **Antoinette Hollestelle**, …, Douglas F. Easton. 2017. Association analysis identifies 65 new breast cancer risk loci. **Nature** 551(7678):92-4. **5.** Serena Nik-Zainal, ..., **John W. M. Martens**, ..., Michael R. Stratton. 2016. Landscape of somatic mutations in 560 breast cancer whole-genome sequences. **Nature** 534(7605):47–54. **6.** Marcel Smid, ..., **John W. M. Martens**. 2016. Breast cancer genome and transcriptome integration implicates specific mutational signatures with immune cell infiltration. **Nature Communications** 7:12910. **7.** Alison M. Dunning, …, **Antoinette Hollestelle**, …, Stacey L. Edwards. 2016. Breast cancer risk variants at 6q25 display different phenotype associations and regulate ESR1, RMND1 and CCDC170. **Nature Genetics** 48(4):374-86. **8.** **Maurice P.H.M. Jansen**, …, Els M. Berns. 2007. HOXB13-to-IL17BR expression ratio is related with tumor aggressiveness and response to tamoxifen of recurrent breast cancer: a retrospective study. **J Clin Oncol** 25(6):662-8.
Project Title:	**Unraveling the mechanisms underlying genetic breast cancer predisposition**
Abstract:	Due to large international research consortia, such as the Breast Cancer Association Consortium, by now more than 190 low penentrance susceptibility loci have been identified. These loci act multiplicatively to increase breast cancer risk in women op European, Asian and African descent. Because the majority of these risk loci are located outside the coding region it is still to a large extend unknown how these promote breast tumorigenesis. In this PhD project, two research angles will be pursued. First, the role of the HOXB13 cistrome in the development of breast cancer will be investigated. Breast cancer risk loci are enriched in binding sites of ER and FOXA1, but also HOXB13, suggesting deregulation of their transcriptional programs. By studying the cistrome of HOXB13 and validating findings in functional studies, the aim is to unravel the mechanisms underlying HOXB13-driven breast tumorigenesis. Moreover, the role of HOXB13 in the response to anti-cancer therapy will be evaluated. The second part of the project involves studying the role of fusion genes in the development of breast cancer. Breast cancer risk variants have been shown to alter the looping of DNA. Consequently, the proximity of certain genes and transcriptional read-through could be affected. This will be studied in the context of the 6q25 ESR1 breast cancer risk locus and in relation to known ER fusion proteins. Further, the extent to which fusion genes are implicated in breast tumorigenesis through other breast cancer risk loci will be evaluated. Techniques such as genotyping, qPCR, western blotting, cell culture, CRISPR/Cas9 and reporter assays as well as RNAseq and ChIP-seq will be used and corresponding bioinformatical/statistical analyses will be performed by the PhD student. The PhD student will be working in a project team with molecular biologists, clinicians/epidemiologists and computational biologists supervised by Dr. Hollestelle, Dr. Jansen and prof. Martens. The student will take part in the excellent educational PhD and career guidance program of the postgraduate school at Erasmus MC.
Requirements of candidate:	We are looking for a candidate with strong analytical and problem solving skills, being highly motivated and having excellent communication and writing skills and able to work independently as well as in a team. A background in cancer biology or genetics is of significant added value as well as experience with R or Python programming languages. The candidate should have demonstrated excellent scientific writing and experimental laboratory skills, have a Master's degree in molecular/cellular biology or a related field and a scholarship that will, at least, cover subsistence allowance and international air plane ticket. (we could help with the scientific part of your scholarship proposal) The student should demonstrate sufficient mastery of the English language (minimum requirement: IELTS 7.0 (min 6.0 for all subs), TOEFL 100 (min 20 for all subs).

Department of Molecular Genetics

Department:	**Department of Molecular Genetics at Erasmus MC**
Supervisor information: World no 30 Biomedical Sciences **Miao-Ping Chien** received her PhD in chemistry and biochemistry from the University of California, San Diego in 2013, and went on to do a postdoc at Harvard University, working on technology development for biology (combining biophysics, computation and optical instrumentation). She joined Erasmus MC as a group leader in June 2017 and became a principal investigator at Oncode Institute in 2019. Her current research focuses on developing and applying multidisciplinary technologies (advanced microscopy and imaging, computation, single cell technology, bioinformatics, (photo)chemistry) to investigate the underlying mechanisms of tumorigenesis, particularly of rare cancer-driving cells. She is also a founder of UFO Biosciences, which aims to enable better cancer care by creating treatment options for rare, cancer-driving cell populations that escape traditional treatment.	**Dr. Miao-Ping Chien,** m.p.chien@erasmusmc.nl, http://www.mpchienlab.org/ **Selected Grants:** *2022 NWO Vidi award (NWO Talent Scheme) 2019 Oncode Institute Junior Fellow* *2022 KWF synergy grant 2018 Erasmus MC Fellowship* *2021 Oncode Technology Development Grant 2018 CancerGenomiCs.nl Junior PI's Grant* *2020 Ammodo Science Award 2018 Dragon Gate Grant (Taiwan MoST)* *2020 Erasmus-TU Delft Convergence Grant 2017 NWO Veni award (NWO Talent Scheme)* * 2017 CancerGenomiCs.nl Junior Fellow* **Selected publications:** 1. You, Li*, Su, P.R.*, Betjes, M.*, et al., **Chien, M.P.** *"Linking the genotypes and phenotypes of cancer cells in heterogenous populations via real-time optical tagging and image analysis"*, **Nature Biomedical Engineering**, *2022* 2. Su, P.R., et al., **Chien, M.P.**, *"Microscopy-based single-cell proteomic profiling reveals heterogeneity in DNA damage response dynamics"*. **Cell Reports Methods**, *2022* 3. Smit M., et al., **Chien M.P.** *"Spatially annotated single cell sequencing for unraveling intratumor heterogeneity"*, **Frontiers in Bioengineering and Biotechnology**, *2022* 4. Li L et al. *"A Comprehensive enhancer screen identifies TRAM2 as a key and novel mediator of YAP oncogenesis."* **Genome Biology**, *2021, 22, 54,* 5. **Chien M.P** et al. *"Photoactivated voltage imaging in tissue with an archaerhodopsin-derived reporter"*, **Science Advances**, *2021: Vol. 7, no. 19, eabe3216* 6. Werley C.A., et al *"An ultrawidefield microscope for high-speed fluorescence imaging and targeted optogenetic stimulation."* **Biomedical Optics Express**. *2017, 8(12), 5794-5813.* 7. **Chien M.P.**, et al. *"Enzyme-Directed Assembly of Nanoparticles in Tumors Monitored by In Vivo Whole Animal and Ex Vivo Super Resolution Fluorescence Imaging."* **J Am Chem Soc**. *2013 Dec 18;135(50):18710-3.* 8. **Chien M.P.**, et al. *"Enzyme-Directed Assembly of a Nanoparticle Probe in Tumor Tissue."* **Advanced Materials**. *2013, July 12 (25): 3599-3604.*
	Investigation of tumorigenesis via advanced imaging and single cell -omics analysis
	The Chien Lab is looking for self-motivated PhD students with a strong interest in working in a multidisciplinary lab. In our lab, we develop single cell technologies combining optical, biomedical and bioinformatics methods to address biological questions, particularly in cancer biology and immuno-oncology. The candidate will have a chance to work on wet-lab projects, dry-lab projects or a combination of these two. For the wet-lab projects, the candidate can apply the technologies developed in Dr. Chien's group, including advanced imaging and single cell sequencing (analysis), to cancer cell lines or patient-derived primary cultures to investigate molecular mechanisms of tumorigenesis and therapy resistance. We also have a project for people with advanced imaging or optical engineering background. For the dry-lab projects, the candidate can work on advanced imaging analysis including machine learning-based approaches or bioinformatics analysis (-omics data analysis).
Requirements of candidate:	- We are looking for a highly motivated, hardworking student to join our very international team. Our strength is in using team work to tackle large scientific questions and thus requires a student with good communication skills. - Master degree or MD - Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal) - English language requirement: *English speaking countries & Netherlands:* no requirement *Other countries:* IELTS 7.0 *(min 6.0 for all subs)*, TOEFL 100 *(min 20 for all subs)*

Department of Molecular Genetics

School/Department:	**Department of Molecular Genetics, Erasmus MC**
Supervisor information:	• **Dr. Hannes Lans**, **Associate professor DNA repair mechanisms and disease** • w.lans@erasmusmc.nl www.lanslab.eu • **Grants:** - **2022** Dutch Research Council (€ 321000); **2018** 2x Dutch Research Council (€ 568000); **2017** Dutch Cancer Society (€ 534000); **2014** WorldWide Cancer Research (€ 218000); **2012** MSCA-ITN (€ 689000); **2008** Veni grant Dutch Research Council (€ 208000). • *Selected publications:* 2022 C. elegans TFIIH subunit GTF-2H5/TTDA is a non-essential transcription factor indispensable for DNA repair*. Communications Biology 4:1336* 2021 Tissue-Specific DNA Repair Activity of ERCC-1/XPF-1. *Cell Reports 34*:108608 2020 Ubiquitin and TFIIH-stimulated DDB2 dissociation drives DNA damage handover in nucleotide excision repair. *Nature Communications* 11**:**4868 2019 The DNA damage response to transcription stress. *Nature Reviews Mol Cell Biol* 20:766-784 2018 DNA damage sensitivity of SWI/SNF-deficient cells depends on TFIIH subunit p62/GTF2H1. *Nature Communications* 9:4067 2018 Base and nucleotide excision repair facilitate resolution of platinum drugs-induced transcription blockage. *Nucleic Acids Research* 46:9537-9549 2014 Understanding nucleotide excision repair and its roles in cancer and ageing *Nature Reviews Mol Cell Biol* 15:465-81
Project Title:	**Functional and molecular analysis of Nucleotide Excision Repair**
Abstract:	DNA damage is a major cause of major health issues like cancer and aging. Nucleotide excision repair (NER) is an important defense mechanism that protects cells against dysfunction by removing helix-distorting DNA damage, such as is induced by UV light and by platinum-based anticancer drugs. We study how NER functions on the molecular level and how knowledge of its function can help to prevent disease and improve cancer therapy. We investigate NER by identifying and functionally characterizing novel regulatory proteins and mechanisms. For our studies, we use both *C. elegans* and mammalian cell culture as model systems. We pursue a multi-disciplinary approach, using molecular cell biology and genetics (e.g CRISPR- and RNAi-mediated screening) combined with live cell imaging and quantitative proteomics, to study NER mechanisms in different cell types. We are looking for a highly motivated PhD student who wants to work on this frontline ambitious project aimed at understanding how NER protects cells from the deleterious consequences of DNA damage. The results of this project will help to better understand the molecular pathogenesis associated with inherited NER deficiency and to develop therapies aimed at alleviating discomfort associated with cancer and aging.
Requirements of candidate:	• The candidate should have a MSc and experience with molecular and cellular biology. • Our lab offers the PhD candidate state-of-the-art equipment and expertise to address the scientific questions stated above. Our lab consists of a mix of national and international PhD students and Postdocs and has an infrastructure that ensures intensive supervision and training during the PhD program. ○ Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal) ○ English language requirement: IELTS 7.0 *(min 6.0 for all subs)*, TOEFL 100 *(min 20 for all subs)*

Department of Pathology

School/Department:	*Department of Pathology and Department of Biochemistry, Erasmus MC*
Supervisor information:	**Prof. dr. Tokameh Mahmoudi**, PhD, t.mahmoudi@erasmusmc.nl Selected grants: ERC StG, Health Holland, ZonMW 2019 Selected publications (* as last author): 2021 Elife 10:e60747. Application of human liver organoids as a patient-derived primary model for HBV infection and related hepatocellular carcinoma* 2021 Nature Communications. doi: 10.1038/s41467-021-22608-z. Selective cell death in HIV-1-infected cells by DDX3 inhibitors leads to depletion of the inducible reservoir* 2021 Cell Death Dis. 12(7):641. Clinical stage drugs targeting inhibitor of apoptosis proteins purge episomal Hepatitis B viral genome in preclinical models. 2021 Cancer Lett. 506:35-44. 3D human liver organoids: An in vitro platform to investigate HBV infection, replication and liver tumorigenesis* 2012 Cell 149(6):1245-56. Wnt pathway activation through inhibition of proteosomal bcatenin degradation within the intact endogenous Axin1 complex*
Project Title:	**Human liver organoid-tumoroid platform in study of HBV infection and tumorigenesis**
Main methodology and techniques 3D liver organoid cultures from healthy donor, HBV infected and hepatocellular carcinoma patients, Next generation sequencing analysis of chromatin and gene expression (ChIP-seq and RNA-seq) , High resolution imaging (confocal, fluorescence microscopy), Flow Cytometry Activated Cell Sorting, Lentiviral transduction and gene editing, molecular biology and molecular virology techniques. Lab webpage: Mahmoudilab.com	*Abstract:* Persistent Hepatitis B virus (HBV) infection remains the leading cause of liver cirrhosis and hepatocellular carcinoma world-wide. However, the molecular events that occur as consequence of HBV infection and which mediate onset of hepatocellular carcinoma have remained elusive because of lack of a relevant primary untransformed model system. My group, in collaboration with the HUB has recently developed a patient-derived HBV infected human liver organoid model system (de Crignis 2021), using the adult stem cell human liver organoid/tumoroid technology (Huch 2015), which allows long term culturing and analysis of HBV infected patient or healthy donor livers providing a platform suitable for antiviral drug screening and examination of HBV-induced mechanisms of liver pathogenesis and HCC. Human liver organoids are infected with both recombinant virus as well as HBV infected patient serum and determinants of infection and viral replication are examined. We generate transgenic organoids to study the function of viral and host factors and perform drug and toxicity screens using the HBV liver organoid platform and examine the role of various pathways implicated in liver cancer such as Wnt-bcatenin (Li VS 2012), and epigenetic regulators.
Requirements of candidate:	• We are looking for a highly motivated PhD student who has received excellent scientific and practical training in the areas of Molecular Virology or Molecular Biology who also has some basic training or interest in Bioinformatics to join our research team. • The student should be fluent in English (*English speaking countries & Netherlands:* no requirement; *Other countries:* IELTS 7.0 *(min 6.0 for all subs)*, TOEFL 100 *(min 20 for all subs)*. • We offer: Supervision, lab facilities and infrastructure, and training. We will cover Laboratory costs. • As a candidate PhD student at Erasmus MC, your salary and living expenses will be covered by your University or Scholarship Council.

Department of Pediatric Surgery

School/Department:	*Department of Pediatric Surgery/Cell Biology Erasmus MC*

Supervisor information:	• ***Name:*** *Prof dr R.J. Rottier*
	• ***Email:*** *r.rottier@erasmusmc.nl*
	• ***Website:*** *https://www.erasmusmc.nl/en/research/researchers/rottier-robbert*
	• ***Grants:***
	- *ZonMW MKMD-COVID19*
	- *Human Disease Model Award*
	- *ZonMw MKMD*
	- *Dutch Lung Foundation*
	- *NWO fellowship*
	• ***Most important publications:***
	  • EBioMedicine. 2022 Jul;81:104132. doi: 10.1016/j.ebiom.2022.104132
	  • Sci Transl Med. 2022 Jun 8;14(648):eabe5407
	  • Elife. 2021 Jul 21;10:e57325. doi: 10.7554/eLife.57325
	  • Am J Respir Crit Care Med. 2020; 202(8): 1088-1104
	  • The Lancet Child & Adolescent Health 2018 Apr;2(4):290-297
	  • Am J Physiol Lung Cell Mol Physiol. 2018 Aug 1; 315(2): L276-285
	  • Sci Rep. 2018 May 9;8(1):7349
	  • Am J Respir Cell Mol Biol. 2014;51:311-22
	  • J Mol Cell Biol. 2012;4:377-385
	  • J Cell Biol. 2009;185:27-34

Project Title:	***The molecular basis of congenital and perinatal lung disease: vascular and epithelial interactions***
Abstract:	The clinical challenges of patients with congenital lung diseases and the frustration of treatment failure by clinicians and families drives the quest to improve the fundamental understanding of lung development. The lungs develop by close interaction between the epithelium and the surrounding mesenchyme, including the vessels. In my laboratory, I currently have <u>two positions</u>, one focusing on the origin and development of the pulmonary vasculature, the other focusing on epithelial differentiation: **(1) pulmonary vascular development in light of congenital lung abnormalities** Alveolar Capillary Dysplasia (ACD) and Congenital Diaphragmatic Hernia (CDH) are two examples of pediatric anomalies with abnormal vascularization of the lungs resulting from defective development. The transcription factor FOXF1 is directly involved either directly by genomic alterations of the locus (ACD), or indirectly through processes leading to reduced expression of *FOXF1* (CDH). However, the exact molecular mechanisms remain elusive, and therefore, the <u>overall objective</u> of this project is to further decipher the molecular basis of pulmonary vascular development, in health and (pediatric) disease using mouse models, human tissue and primary cells. **(2) Oxygen, lung damage and pulmonary neuroendocrine cells: a numbers game?** Treatment of patients with severe congenital or acquired lung diseases is still non-evidenced based concomitant with unpredictable therapy responsiveness. One potential underlying cause may be the intrinsic property of the lung, since many patients have increased numbers of Pulmonary Neuroendocrine Cells (PNECs). The <u>overall objective</u> is to investigate the contribution of PNECs to the origin and progression of lung disease in the CDH. Therefore, we propose to analyze factors involved in the differentiation of PNECs, and identify mechanisms that control their numbers in normal and abnormal lung development using human and mouse models.

Requirements of candidate:	o We are looking for a highly motivated, hardworking student to join our very international team. Our strength is in using team work to tackle large scientific questions and thus requires a student with good communication skills.
	o Master degree or MD
	o Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal)
	o English language requirement:
	    o *English speaking countries & Netherlands:* no requirement
	    o *Other countries:* IELTS 7.0 *(min 6.0 for all subs)*, TOEFL 100 *(min 20 for all subs)*

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Department of Radiology & Nuclear Medicine

School/Department:	**Department of Radiology & Nuclear Medicine, Erasmus MC** **BIGR-Biomedical Imaging Group Rotterdam**
Supervisor information:	• **Prof dr Wiro Niessen,:** w.niessen@erasmusmc.nl www.bigr.nl • **Dr Gennady Roshchupkin;** g.roshchupkin@erasmusmc.nl www.roshchupkin.com • **Personal Grants:** *Wiro Niessen is (co-PI) of numerous Dutch and European research grants, including on Imaging Genetics (1 MEuro), Radiomics (600 kEuro). He received personal VICI grants (1.25 MEuro) and Simon Stevin award (500 kEuro). Total research funding over last 10 years is more than 15 MEuro. He has supervised 42 PhD students.* • **Most important publications:** - Hofer, E.et al 2020. Genetic correlations and genome-wide associations of cortical structure in general population samples of 22,824 adults. Nature Communications, 11(1), pp.1-16.. - Van der Lee SJ et al. Gray matter heritability in family-based and population-based studies using voxel-based morphometry. Human Brain Mapping. 2017;38(5):2408-23. - Wang, J. et al2019. Gray matter age prediction as a biomarker for risk of dementia. Proceedings of the National Academy of Sciences, 116(42), pp.21213-21218.. - Hibar DP et al. Novel genetic loci associated with hippocampal volume. Nature Communications. 2017;8. - Roshchupkin GV et al. Heritability of the shape of subcortical brain structures in the general population. Nature Communications. 2016;7. - Santos EMM et al. Observer variability of absolute and relative thrombus density measurements in patients with acute ischemic stroke. Neuroradiology. 2016;58(2):133-9. - Roshchupkin GV et al. HASE: Framework for efficient high-dimensional association analyses. Scientific Reports. 2016;6. - Roshchupkin GV et al. Fine-mapping the effects of Alzheimer's disease risk loci on brain morphology. Neurobiology of Aging. 2016;48:204-11. - Niessen WJ. MR brain image analysis in dementia: From quantitative imaging biomarkers to ageing brain models and imaging genetics. Medical Image Analysis. 2016;33:107-13. - Huizinga W et al. PCA-based group-wise image registration for quantitative MRI. Medical Image Analysis. 2016;29:65-78.
Project Title:	**Distributed Machine Learning in application for large-scale omics studies**
Abstract	**Artificial Intelligence** field has seen dramatic advances in the past few years with much excitement around the use of deep learning (DL), many-layered convolutional neural networks (CNN). The world has witnessed striking advances in the ability of machines to understand and manipulate data, including images, language, and speech. CNN showed ability to detect a complex pattern in high-dimensional data, but also are able to integrate data from various resources by having many input channels into neural network. Human genetics can benefit immensely from DL. However, the application of AI in genetics analysis is still quite limited. The main issue is the restriction for data sharing between cohorts and loss of power, compare to the pooled analysis. Distributed Learning is a distributed machine learning approach which enables model training on a large corpus of decentralized data. **The main goal of this project** is to develop new distributed learning framework for multi-center genetics analysis in collaboration with **NVIDIA company**, which will be able to utilize machine learning approaches and increase power of gene discovery. We aim to apply these methods on large datasets from population-based Rotterdam study, UK Biobank as well as within **world-wide genetics consortiums.**

Requirements of candidate:	We are looking for a highly motivated, hardworking student to join our very international team. Successful candidates are expected to have a strong quantitative or computer science background, excel at critical thinking, with a strong motivation to engage in the development and application of advanced analytical methods.
	• Master degree in mathematics, computer science, statistics, bioinformatics, physics, electrical engineering, or in an equivalent discipline.
	•Strong knowledge of: Python.
	•Experience with machine learning and deep learning methods.
	•Scholarship that will, at least, cover subsistence allowance and international air plane ticket (we could help with the scientific part of your scholarship proposal)
	o English language requirement:
	  o *English speaking countries & Netherlands:* no requirement
	  o *Other countries:* IELTS 7.0 *(min 6.0 for all subs)*, TOEFL 100 *(min 20 for all subs)*

選擇 ERASMUS MC 的理由

不用客氣： 我們希望以您的博士生和未來的同事向您致意。我們希望您會感到賓至如歸，並在您職業生涯的任何後續步驟中與我們合作。

您職業生涯的下一步： 在 Erasmus MC 獲得博士學位意味著您擁有 4 篇經過同行評審的國際研究發表，擁有研究發表對於您職業的下一步至關重要。在大多數大學中，他們只需要一份或更少的研究發表，因此來自 Erasmus MC 意味著巨大的優勢（有關 2019 年最後 10 名外國博士畢業生的成就，請參閱第 3 頁)。

您的培訓和教育： 我們擁有約 1,500 名科研人員，為少於 1,250 名博士生提供服務，並為約 1,000 名居民提供了約 750 名醫學專家，我們的監督率極高。更重要的是，博士生至少在 Erasmus MC 擁有 2 名導師，而且通常也可以聘請台灣導師，因為我們更願意以可以繼續在台灣進行研究的方式來培訓您。

無需學習荷蘭語： 無需學習荷蘭語-荷蘭在過去兩年中英語水平排名第一，在過去十年中排名前三，鹿特丹在荷蘭城市中排名第一。因此，您無需講荷蘭語即可去雜貨店。

你的社交生活： 我們超過 30％的博士生是外國人，我們在 Erasmus MC 和 Erasmus University Rotterdam 以及國際辦事處都有活躍的博士生組織。居住在歐洲最大的港口城市，在《孤獨星球》（Lonely Planet）2016 年的城市排名中排名第 5，這意味著您在阿姆斯特丹或安特衛普（乘汽車），布魯塞爾（乘火車），倫敦（乘飛機）或在柏林坐飛機 1.5 個小時，在巴黎坐火車 2 個小時。

我們的組織： Erasmus MC 是歐洲十大醫學院之一，也是歐盟委員會資助的臨床前、臨床和健康科學出版物的十大機構之一。我們與台灣同行的科學合作非常好，與其他外國大學相比，我們在台灣的合作質量（按平均引用/出版物表示，見右表）非常高，這在進行研究時是一個優勢合作回到台灣。此外，我們在各個臨床領域（見下表）排名世界第 13-36 位，在生物醫學科學領域排名世界第 30 位 (Nature Index Biomedical Sciences).

*我們訓練台灣的年輕科學家*希望他們能成為我們台灣下一代合作者。我們希望您能加入 Erasmus MC，並成為我們未來在荷蘭和您回到台灣後的同事，因為學位獲得後我們的聯繫不會停止。**重要的,** Erasmus MC 被列為久負盛名的主辦機構台灣科技部龍門計劃 因此，一旦您返回就可以發起合作。

US News Ranking 2022	World Rank
Surgery	8
Gastroenterology & Hepatology	14
Public, Env & Occup Health	21
Endocrinology	27
Infectious Diseases	27
Social Sciences & Public Health	27
Cardiac & Cardiovasc Systems	32
Clinical Medicine	32
Radiology, Nucl Med, Med Imaging	33
Immunology	34
Pharmacology & Toxicology	36
Microbiology	42
Neuroscience & Behavior	42
Oncology	42

Nature Index Ranking	World Rank
2021 Young Universities – Life Sciencs	6
2019 Collaboration Big Science - Genetics	13
Institutional Outputs - Life Sciences	19
2021 Infectious Diseases	20
2019 Biomedical Sciences	30
2020 Cancer	48

在美國新聞網站上，鹿特丹伊拉斯姆斯大學醫學中心在指定的學科排名中被列為前幾名。

Taiwanese co-publications: domains of preclinical, clinical & health sciences 2008-2017 Source InCites 5 NOV 2021		
Foreign Institute w Taiwan	co-publ	world impact
Harvard University	1,391	9.31
Johns Hopkins University	616	14.53
Stanford University	527	12.15
UC San Francisco	493	10.21
Yale University	306	23.86
Columbia University	227	24.41
Erasmus MC Rotterdam	**197**	**35.35**
University of Cambridge	157	30.16
Cornell University	155	13.54
University of Chicago	135	8.59

Research Development Office

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