



China Scholarship Council – University Maastricht

PhD Programme Application form

Basic information

- To be filled in by the prospective UM supervisors -

1. Information on prospective UM supervisors and Promotor

1a. First Supervisor/promoter:

- Title(s), initial(s), first name, surname: Coen DA Stehouwer, PhD, MD
- Research group: PI Vascular complications of diabetes and hypertension
- Address for correspondence:
- Telephone: 0031 43 3877006
- E-mail: cda.stehouwer@mumc.nl

1b. Second Supervisor/copromoter:

- Title(s), initial(s), first name, surname: Simone JPM Eussen, PhD
- Research group: Clinical Epidemiology
- Address for correspondence: PO BOX 616, 6200 MD Maastricht
- Telephone: 0031 43 3885124
- E-mail: Simone.eussen@maastrichtuniversity.nl

1c. Promotor (if applicable): – see above

- Title(s), initial(s), first name, surname:
- Research group:
- Address for correspondence:
- Telephone:
- E-mail:

2. Information on UM Faculty/ Department/ Institute/ School contact person:

When the application is granted by both the CSC and UM, the contact person is responsible for the practical arrangements (i.e. assistance in obtaining a visa, finding accommodation, etc.) of the visit of the PhD candidate:

- Initial(s), first name, surname: Danny Luciana, managing director
- Research group: CARIM School for cardiovascular diseases, dept of Vascular complications of diabetes and hypertension
- Address for correspondence: PO Box 616, 6200 MD Maastricht
- Telephone: 0031 43 3884366
- E-mail: d.luciana@maastrichtuniversity.nl

- To be filled in by the applicant if already known -

1. Information on the applicant

- Initial(s), first name, surname:
- Male/female:
- Current work address:

- Telephone:
- E-mail: WeChat:
- Private address:

2. Details of applicant's home university

Note! A separate letter of recommendation by the supervisor or faculty dean of the home university is required.

- Name of home university:
- Address:
- Telephone:
- E-mail:
- Website (if available):

3. Applicant's home university Master Thesis supervisor:

- Title(s), initial(s), first name, surname:
- Address for correspondence:

- Telephone:
- E-mail: WeChat:

4. Research field(s)

Cardiometabolic disease, epidemiology, infection and inflammation, kynurenine pathway

5. Title of research plan for CSC-UM PhD Programme

The role of lifestyle and the kynurenine pathway in cardio-metabolic disease in The Maastricht Study

6. Short summary of research plan (max. 250 words) (A full plan has to be submitted later)

Background: During infections and inflammation, the kynurenine pathway is upregulated, which results in a disturbed balance of kynurenine metabolites having pro- or anti-inflammatory, neurotoxic or neuroprotective, and pro- or anti-oxidant properties. Some first human studies demonstrate that diet and physical activity may impact kynurenines, and that kynurenines are associated with cardio-metabolic disorders. However, results to date are scarce and inconclusive.

Study objective: This project aims to investigate associations between (1) lifestyle (diet and physical activity) and plasma kynurenines, (2) plasma kynurenines and cardio-metabolic health (including overweight, T2DM, atherosclerosis, arterial stiffness, blood pressure, and cardiac arrhythmia), and (3) whether plasma kynurenines mediate associations between lifestyle and cardio-metabolic health.

Expected Results: This research plan is the first that will combine a large panel of plasma kynurenines with extensive data on lifestyle and cardio-metabolic health within the deep phenotyping framework of The Maastricht Study (www.demaastrichtstudie.nl). This project will provide a comprehensive understanding of the potential mediating role of plasma kynurenines underlying associations between lifestyle and cardio-metabolic health. Currently, drug development for neuro-inflammatory diseases focusses on optimizing the balance between neurotoxic and neuro-protective kynurenines. However, if this project shows a clear modulating role of lifestyle on plasma kynurenines and clinical outcomes, findings of the current project would provide important leads for designing lifestyle interventions. This would be a novel step to naturally optimize plasma kynurenines to reduce the burden of diabetes and CVD.

Requirements: Background in Medicine, Biology, Immunology/Inflammation, and basic knowledge on epidemiology and/or statistical analyses

Group's performance: Eussen: 129 Publications, 2169 citations, H-Index: 26; Stehouwer: 1371 Publications, 63371 citations, H-Index: 118

Publications:

1. Associations between plasma kynurenines and cognitive function in individuals with normal glucose metabolism, prediabetes and type 2 diabetes: the Maastricht Study. Bakker L, Ramakers IHGB, van Boxtel MPJ, Schram MT, **Stehouwer CDA**, van der Kallen CJH, Dagnelie PC, van Greevenbroek MMJ, Wesselius A, Midttun Ø, Ueland PM, Verhey FRJ, **Eussen SJPM**, Köhler S. *Diabetologia*. 2021;64(11):2445-2457.
2. Fructose Intake From Fruit Juice and Sugar-Sweetened Beverages Is Associated With Higher Intrahepatic Lipid Content: The Maastricht Study. Buziau AM, **Eussen SJPM**, Kooi ME, van der Kallen CJH, van Dongen MCJM, Schaper NC, Henry RMA, Schram MT, Dagnelie PC, van Greevenbroek MMJ, Wesselius A, Bekers O, Meex SJR, Schalkwijk CG, **Stehouwer CDA**, Brouwers MCGJ. *Diabetes Care*. 2022;45(5):1116-1123.
3. Associations of Dietary Patterns with Incident Depression: The Maastricht Study. Gianfredi V, Koster A, Odone A, Amerio A, Signorelli C, Schaper NC, Bosma H, Köhler S, Dagnelie PC, **Stehouwer CDA**, Schram MT, Dongen MCJMV, **Eussen SJPM**. *Nutrients*. 2021;13(3):1034.

4. Association of the Amount and Pattern of Physical Activity With Arterial Stiffness: The Maastricht Study. Vandercappellen EJ, Henry RMA, Savelberg HHCM, van der Berg JD, Reesink KD, Schaper NC, **Eussen SJPM**, van Dongen MCJM, Dagnelie PC, Schram MT, van Greevenbroek MMJ, Wesselius A, van der Kallen CJH, Köhler S, **Stehouwer CDA**, Koster A. J Am Heart Assoc. 2020;9(20):e017502.

5. Plasma Biomarkers of Inflammation, the Kynurenine Pathway, and Risks of All-Cause, Cancer, and Cardiovascular Disease Mortality: The Hordaland Health Study. Zuo H, Ueland PM, Ulvik A, **Eussen SJ**, Vollset SE, Nygård O, Midttun Ø, Theofylaktopoulos D, Meyer K, Tell GS. Am J Epidemiol. 2017 15;183(4):249-58.

7. Motivation for CSC-UM PhD application (max. 250 words)

Two letters are required, one from the student and one from the promotion team.

Applicant's Curriculum Vitae (if available)

8. Personal details

Applicant

- Title(s), initial(s), first name, surname:

CSC-UM PhD programme start 1-9-2022

- Surname:

- Nationality: Chinese

- Date of Birth:

- Country and place of birth:

9. Master's degree (if applicable)

Note! Add a copy of your Master's degree to your application

University:

Faculty/discipline:

City and country:

Date:

Grade average:

Title Master's thesis (if applicable):

Thesis grade: