Emma Fabian, News Editor Mar 11, 2021 3 min read

# Winner of a prestigious Marie Skłodowska-Curie Actions Fellow award is joining the LCDS

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**Dr Fleur Meddens will join the Leverhulme Centre for Demographic Science as Marie Skłodowska-Curie Actions Fellow, to conduct research into links between genetics, educational attainment, and social inequality.**

Social inequality is one of the world's most persistent problems, and educational attainment one of its major drivers. College graduates typically live longer, wealthier and healthier lives. Data revealing how genes drive characteristics enabling people to climb up the economic ladder is highly relevant to policymakers.

Dr Meddens, whose background is in epidemiology, economics and genetics, said: "I am beyond excited to be coming to Oxford, hopefully in the Autumn, as the MSCA Fellow at the LCDS in the Department of Sociology. The Department is ranked as the top sociology department in Europe, and its scholars are world leaders in the field.

"All the LCDS's research programmes are bonded by a single core theme, social inequality. And it is inequality and how it's bound up with genetic factors, that fascinates me. It's not possible to study a subject as complex as inequality, which has so many moving parts, without taking a multidisciplinary approach. That is what the LCDS does and what I do too.'

Dr Meddens, obtained her PhD at the Vrije Universiteit of Amsterdam. Her research 'The Molecular Genetic Architecture of Human Behaviour' shows it's possible to partially explain human behaviour on the basis of DNA. And although the predictive power is currently limited, it is likely to gain strength as research progresses.

In the past five years, GWAS (Genomic Wide Association Studies) have identified genetic variants associated with how far people go in the education system. The genes are associated with cognitive ability, conscientiousness, and emotional stability. Currently, a methodological framework to study the extent to which genes determine inequality does not exist.

“My research, the GENIO (Genetic contributions to Inequality of Opportunity) hopes to plug that gap,” Dr Meddens explained.

The project has three aims.

The first is to develop a methodological framework to quantify and visualise the extent genes influence inequality of opportunity measured in terms of income, health and wellbeing. Dr Meddens will use bioinformatic techniques to measure genetic advantages, econometric techniques to measure inequalities, and sociological theory to interpret the results.

The second aim is to see how genetic inequality of opportunity is moderated by sex, and geographically by looking at 379 regions in the UK Biobank. The UK has some of the poorest areas in Europe. Dr Meddens will develop a geographic heatmap to illustrate how genetic differences linked to educational attainment contribute to social inequality across the UK.

The third aim is to explore to which extent genetic variations for educational attainment can predict outcomes for individuals. Currently predictions are only made at population level, and the most likely course is that it will always stay that way, which can be a relief to those fearing genetic determinism.

Dr Meddens added: “Rewarding those who have been luckier in the genetic lottery of life, has profound implications for societies striving to be meritocracies. How long a person stays in education has a powerful knock-on effect on their life opportunities.

"If genes make you much more likely to stay in education and get a higher paid, less physically demanding job, then policies that blindly value individuals born with those biological advantages actually reinforce inequalities of wealth, health and longevity.”