Knowledge Security

Erasmus+ HO dag

4 december 2025

EUROPESE UNIE

Erasmus+
Enriching lives, opening minds

Session outline

- Introduction on knowledge security by Jonas Lammertink, National Contact Point for Knowledge Security

- Panel discussion:
  - Jonas Lammertink, Advisor International Innovation, National Contact Point for Knowledge Security
  - Joy Konstantopoulos, Programme manager knowledge security, Erasmus University Rotterdam
  - Sabine Amft, Strategic advisor international partnerships, The Hague University of Applied Sciences
  - Febe Piccinin, President of the Erasmus Student Network - the Netherlands

National Contact Point for Knowledge Security

Starting points knowledge security

- *Country neutral*
- *Open where possible, closed where necessary*

What is knowledge security?

1. *Preventing unwanted transfer of sensitive knowledge*
2. *Preventing unethical collection or application of knowledge*
3. *Countering foreign interference in research and education*

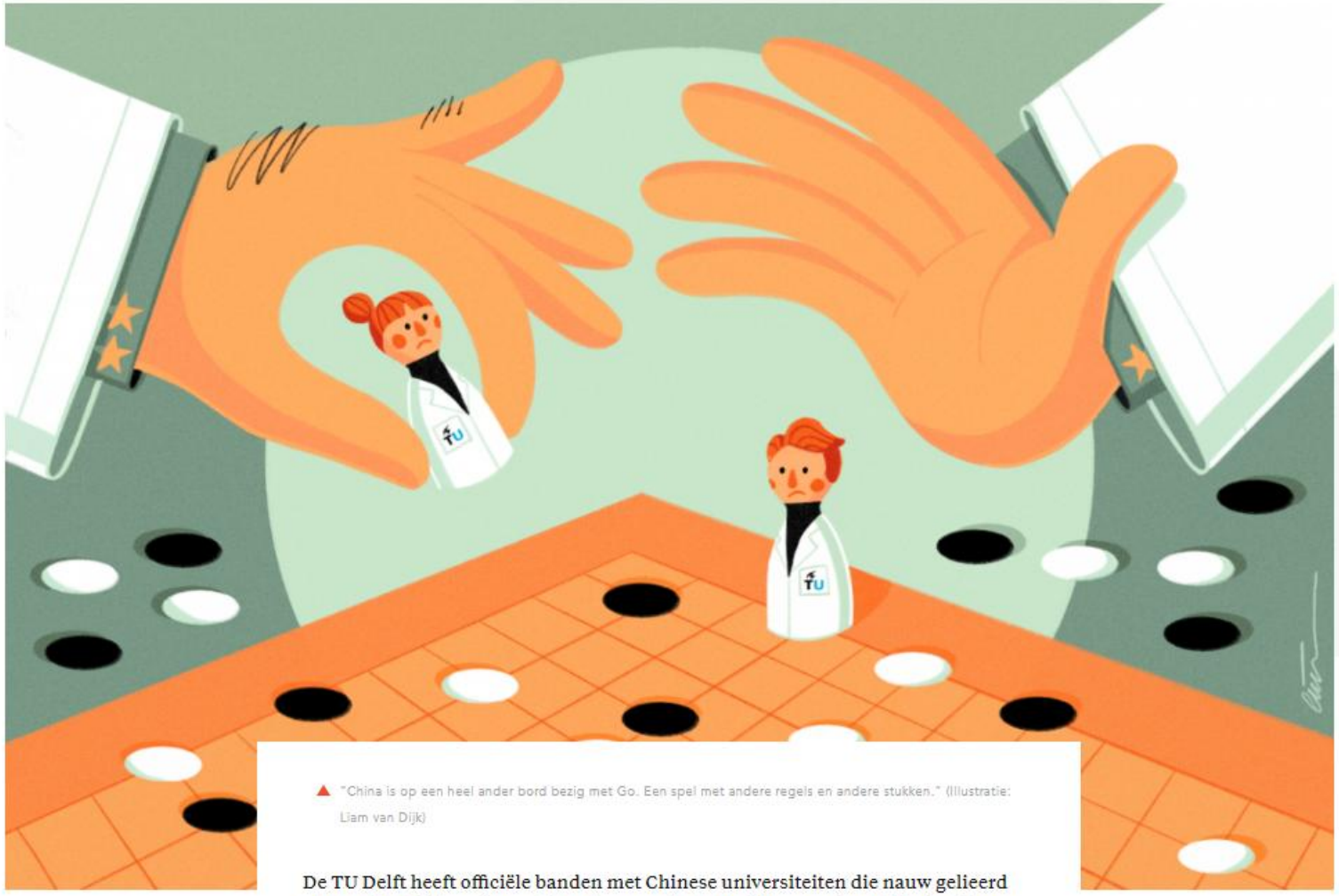
1. Preventing unwanted transfer of sensitive knowledge

When is knowledge sensitive and its transfer unwanted?

- When knowlegde could undermine our nationale security if it ends up in wrong hands
  - *E.g. military and dual-use knowledge, or knowledge about critical infrastructure*


• Risk of unwanted knowledge transfer
Technology/knowledge
Not sensitive
Sensitive
Dual-use
Military
Sanctions
Export control

Hoe de TU Delft onbedoeld het Chinese leger een handje helpt



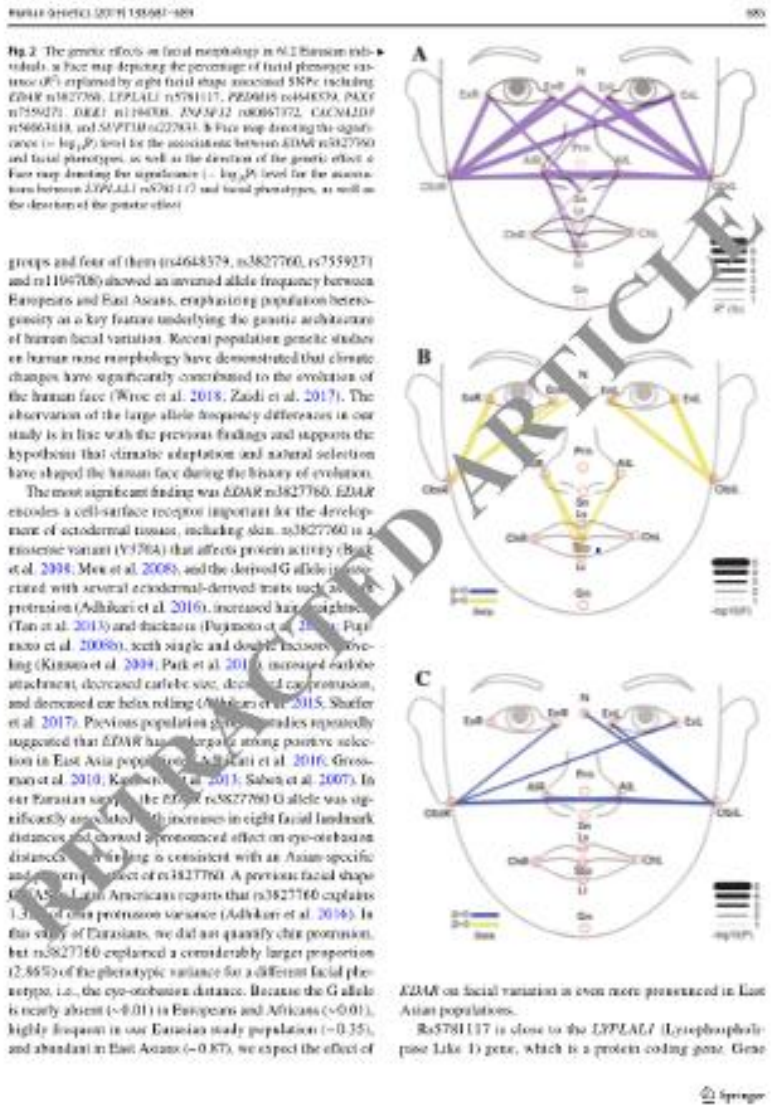
▲ "China is op een heel ander bord bezig met Go. Een spel met andere regels en andere stukken." (Illustratie: Liam van Dijk)

De TU Delft heeft officiële banden met Chinese universiteiten die nauw gelieerd zijn aan het Chinese leger. Experts waarschuwen: "Op sommige gebieden zijn er forse risico's."

2. Preventing unethical collection or application of knowledge

When is knowledge collected or applied unethically?

- *When human rights are not resepected*



groups and four of them (rs4648379, rs3827760, rs7559271 and rs1196708) showed an inverted allele frequency between Europeans and East Asians, emphasizing population heterogeneity as a key feature underlying the genetic architecture of human facial variation. Recent population genetic studies on human nose morphology have demonstrated that climatic changes have significantly contributed to the evolution of the human face (Wroe et al. 2018; Zaidi et al. 2017). The observation of the large allele frequency differences in our study is in line with the previous findings and supports the hypothesis that climatic adaptation and natural selection have shaped the human face during the history of evolution.

The most significant finding was *EDAR* rs3827760. *EDAR* encodes a cell-surface receptor important for the development of ectodermal tissues, including skin. rs3827760 is a missense variant (V370A) that affects protein activity (Bryk et al. 2008; Mou et al. 2008), and the derived G allele is associated with several ectodermal-derived traits such as chin protrusion (Adhikari et al. 2016), increased hair thickness (Tan et al. 2013) and thickness (Fujimoto et al. 2008; Fujimoto et al. 2008b), teeth single and double incisor shoveling (Kimura et al. 2009; Park et al. 2012), increased earlobe attachment, decreased earlobe size, decreased ear protrusion, and decreased ear helix rolling (Adhikari et al. 2015; Shaffer et al. 2017). Previous population genetic studies repeatedly suggested that *EDAR* has been a target of strong positive selection in East Asia populations (Adhikari et al. 2016; Grossman et al. 2010; Kamberov et al. 2013; Sabeti et al. 2007). In our Eurasian sample, the *EDAR* rs3827760 G allele was significantly associated with increases in eight facial landmark distances and showed a pronounced effect on eye-otobasion distances. This finding is consistent with an Asian-specific and dosage effect of rs3827760. A previous facial shape [illegible] Americans reports that rs3827760 explains 1.3% of chin protrusion variance (Adhikari et al. 2016). In this study of Eurasians, we did not quantify chin protrusion, but rs3827760 explained a considerably larger proportion (2.86%) of the phenotypic variance for a different facial phenotype, i.e., the eye-otobasion distance. Because the G allele is nearly absent (~0.01) in Europeans and Africans (~0.01), highly frequent in our Eurasian study population (~0.35), and abundant in East Asians (~0.87), we expect the effect of *EDAR* on facial variation is even more pronounced in East Asian populations.

Rs5781117 is close to the *LYPLAL1* (Lysophospholipase Like 1) gene, which is a protein coding gene. Gene

WETENSCHAP

Omstreden studies Erasmus MC-onderzoeker met DNA Oeigoeren teruggetrokken

Twee wetenschappelijke tijdschriften hebben omstreden artikelen waar een Erasmus MC-onderzoeker bij betrokken was onlangs teruggetrokken.

3. Countering foreign interference in research and education

- Intimidation / monitoring
- Interfering in the academic debate
- (Self-)censorship

NOS Nieuws • Maandag, 01:41

'Chinese studenten in buitenland worden in de gaten gehouden door China'

NOS Nieuws • Maandag 11 juli 2022, 18:00 •
Aangepast maandag 11 juli 2022, 19:01

Mensenrechtencentrum VU Amsterdam wordt opgedoekt na kritisch rapport

How do we protect knowledge security?

Legislation	Support by the government	Self-regulation
Export control: EU dual-use & military lists, Sanctions	National Knowledge Security Guidelines	Initiatives by umbrella organizations
Anti-espionage legislation	National Contact Point for Knowledge Security	Internal policies
Wet Screening Kennisveiligheid		Knowledge Security Coordinators

1
FRONT-OFFICE

RVO (Netherlands Enterprise Agency)

Single point of access. Provides information and advice. Easy questions can be answered immediately.

2
BACK-OFFICE

All relevant government departments

Complex questions. RVO writes the advice and all relevant ministries are connected to this service to provide additional information and advice.

3
AWARENESS

Events and website

Events about knowledge security aimed at the knowledge sector. Website with basic information and contact form. E-learnings and training courses. Toolkit for knowledge security officers.

Advices

- Non-binding advice
- No personal information
- Always a combination of risk factors