



## Stichting NIOC en de NIOC kennisbank

Stichting NIOC ([www.nioc.nl](http://www.nioc.nl)) stelt zich conform zijn statuten tot doel: het realiseren van congressen over informatica onderwijs en voorts al hetgeen met een en ander rechtstreeks of zijdelings verband houdt of daartoe bevorderlijk kan zijn, alles in de ruimste zin des woords.

De stichting NIOC neemt de archivering van de resultaten van de congressen voor zijn rekening. De website [www.nioc.nl](http://www.nioc.nl) ontsluit onder "Eerdere congressen" de gearchiveerde websites van eerdere congressen. De vele afzonderlijke congresbijdragen zijn opgenomen in een kennisbank die via dezelfde website onder "NIOC kennisbank" ontsloten wordt.

Op dit moment bevat de NIOC kennisbank alle bijdragen, incl. die van het laatste congres (NIOC2025, gehouden op donderdag 27 maart 2025 jl. en georganiseerd door Hogeschool Windesheim). Bij elkaar zo'n 1500 bijdragen!

We roepen je op, na het lezen van het document dat door jou is gedownload, de auteur(s) feedback te geven. Dit kan door je te registreren als gebruiker van de NIOC kennisbank. Na registratie krijg je bericht hoe in te loggen op de NIOC kennisbank.

Het eerstvolgende NIOC vindt plaats op 18 maart 2027 in Arnhem en wordt georganiseerd door HAN University of Applied Sciences.

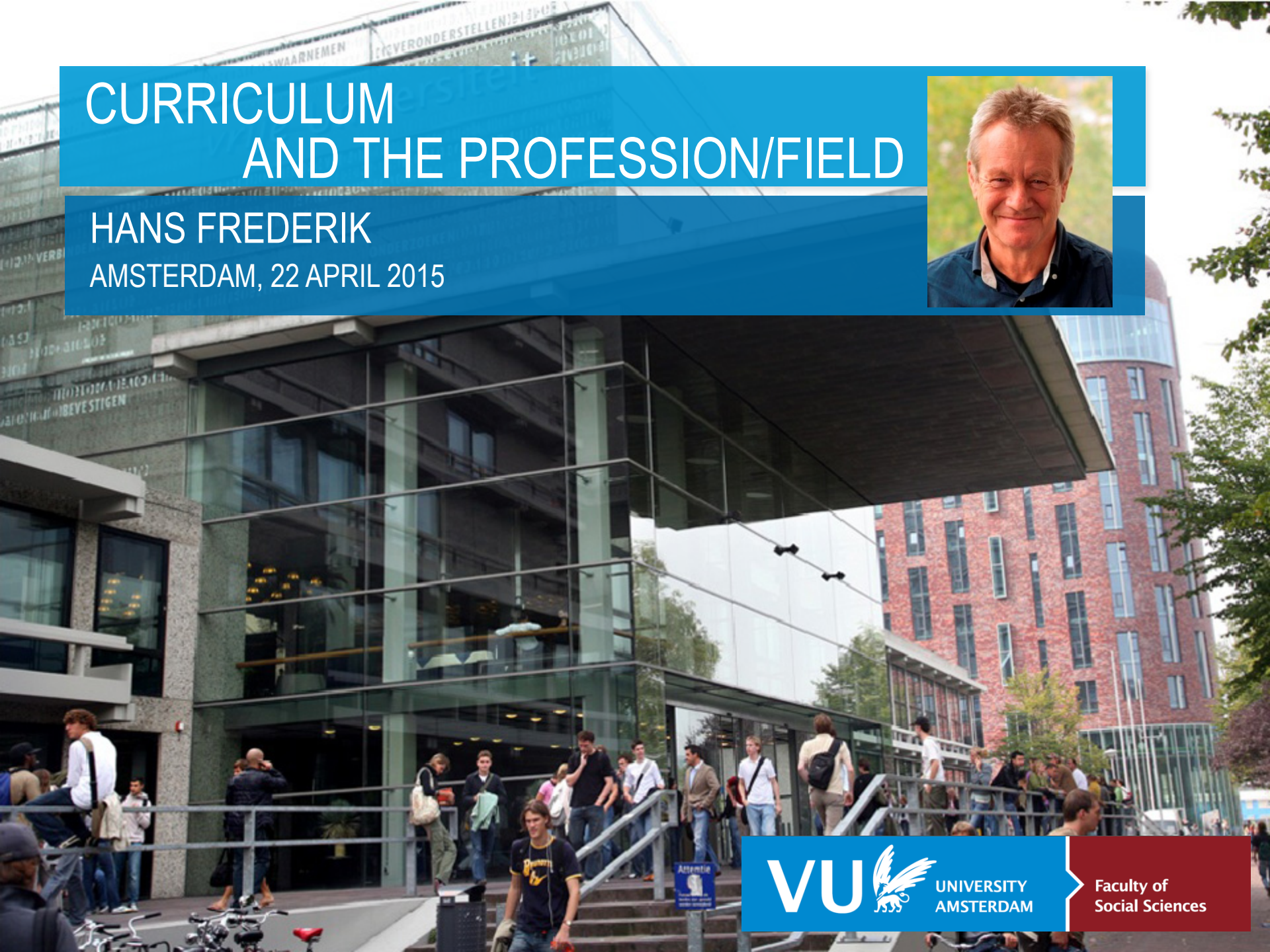
Reacties over de NIOC kennisbank en de inhoud daarvan kun je richten aan de beheerder:

R. Smedinga [kennisbank@nioc.nl](mailto:kennisbank@nioc.nl).

Vermeld bij reacties jouw naam en telefoonnummer voor nader contact.

# CURRICULUM AND THE PROFESSION/FIELD

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# SHOOTING AT A MOVING TARGET

- Higher educational programs are field and/or profession oriented.
- At the same time this field and/or profession evolves.
- New tools, new methods, new theory, all combined with existing tools, methods and theory.

So, higher education needs to see how a field/profession evolves and how the curriculum has to evolve with it.

# SCOPE

To fulfil this obligation, institutes use a range of interaction mechanisms with the profession/field.

These mechanisms differ from domain to domain:

- Health care / teacher education: mechanisms are set by law.
- Accountancy: learning outcomes are set by the international accountancy association.
- In technology: employer-organizations set the demands, agreed by higher education.
- In computer science and informatics (IT), there is a gap between the profession/field and education

# RESEARCH QUESTION

**How does higher education tie in with the profession?**

And we chosen to investigate this for:

- Universities of Applied Sciences
- Computer Science / Informatics programs

# ACCREDITATION REPORTS

## Netherlands Association of UAS:

- The quality of programs is partly dependent on good coordination with the field\*).

## The Accreditation Organization of the Netherlands and Flanders, NVAO:

- The learning outcomes tie in with the international perspective of the requirements set by the field and the discipline\*\*).

*\*) Kennis die werkt, beeld van het HBO anno 2012, HBO-raad, mei 2012.*

*\*\*\*) NVAO, Assessment framework for program assessments, Standard 1.*

# FIRST PUBLICATION

In this study we focus on the domain of information technology (IT/CS) in Dutch universities for applied sciences (UAS) and analyse their accreditation reports.

In total there are 22 universities of applied sciences in the Netherlands that together offer 53 curricula in this domain.

A distinction can be made into curricula focusing on (technical) computer science ( n=15), business IT & management (n=18) and IT (n=20).

*\*) Under Review: Professional Field in the Accreditation Process: Examining IT programs at Dutch Universities of Applied Sciences.*

# OPERATIONALIZATION

	Mechanism	Operationalization
<b>Coupledness on strategic level</b>	Governance	The involvement and role of the WoW in the board and committees of the UAS connected with the IT curriculum
	Curriculum evaluation	The involvement and role of the WoW in the regular (e.g. annual) evaluation of the IT curriculum (quality management)
	Curriculum development	The involvement and role of the WoW in the development of the IT curriculum
	Lifelong learning	The involvement and role of the WoW in lifelong learning, the continuous professional development
<b>Coupledness on operational level</b>	Mobility	To what degree does the collaboration between the UAS and the WoW enable students and staff to be practically involved with the IT-field by temporary or permanent assignments (jobs).
	Collaboration in R&D	To what degree does the collaboration in R&D between the UAS and the WoW impacts the IT curriculum.
	Commercialization of R&D	To what degree does the commercialization of R&D projects of the UAS offer opportunities for the WoW to impacts the curriculum.
	Entrepreneurship	To what degree is entrepreneurship integrated into the IT curriculum and what is the role of the WoW in this.

# STRATEGIC VS OPERATIONAL

## Almost all report about:

	n=53	
	n	%
<b>Governance</b>	48	91%
<b>Curriculum Development</b>	50	94%
<b>Curriculum Evaluation</b>	38	72%
<b>Lifelong learning</b>	39	74%
		83%

## Only some report on:

	n=53	
	n	%
<b>Mobility</b>	10	19%
<b>Collaboration in R&amp;D</b>	5	9%
<b>Commercialization of R&amp;D</b>	5	9%
<b>Entrepreneurship</b>	5	9%
		15%

# FIRST CONCLUSION

	HEI		WoW
<b>Strategic level</b>	Curriculum program (structure, content)	<b>Rituals &amp; obligations</b> <ul style="list-style-type: none"> <li>• Governance</li> <li>• Curriculum development</li> <li>• Curriculum evaluation</li> <li>• Lifelong learning</li> </ul>	Representing the WoW
<b>Operational level</b>	Delivery and execution of courses	<b>Embeddedness/ obviousness</b> <ul style="list-style-type: none"> <li>• Mobility</li> <li>• Collaboration in R&amp;D</li> <li>• Commercialization of R&amp;D results</li> <li>• Entrepreneurship</li> </ul>	Representing the company

# NEXT STEP

Accreditation reports only partly answer the “tie in” question.

And loosely coupling and stakeholder aspects are the main elements of the theoretical framework.

What next?

And how do you tie in with the requirements of the professional field?



And how do you tie in with the requirements of the professional field?

Inholland:

- > We analyse trend watchers.

Fontys:

- > Imperishable knowledge vs. hype, we choose yearly.

UAS Utrecht:

- > Yearly consults with professional field committees.

UAS Zuyd:

- > What counselors encounter in the field.

UAS Amsterdam:

- > What we see and is no hype.



# CASE STUDY

Institute for IT, University of Applied Sciences Utrecht with three IT programs: Information Technology, Business IT & management and Computer Science.

A three step approach:

1. Policy at Institute level by documents
2. Operational activities of the interaction mechanisms
3. Interview staff, management and teachers

# EIGHT INTERACTION MECHANISMS

- Colouring program outcomes
- Internships
- Graduation
- Yearly curriculum adjustment
- Consulting alumni
- Calibration with sister courses
- Internationalization
- Research

# THEORETICAL FRAMEWORK

First frame will be the stakeholder theory of Mitchell, Agle, and Wood and the analysis of Power, Legitimacy and Urgency.

Secondly, at management level these mechanisms are clear and generously used. However, some mechanisms, in particular those used at a more operational level, are less systematically used and controlled. Weick with the loosely coupled systems and the means-ends decoupling will help to analyze this effect.

# QUESTIONS?

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