# 8th International Conference on the History of Occupational & Environmental Health

15–17 April 2026 | Leuven, Belgium

Organised by the Scientific Committee on History of Prevention of Occupational and Environmental Diseases

**Supporting Organisations**

Grant K702626N

INTERNATIONAL COMMISSION ON OCCUPATIONAL HEALTH
Scientific Committee on History of Prevention of Occupational and Environmental Diseases

8th International Conference on the History of Occupational and Environmental Health
Wednesday 15th - Friday 17th of April 2026, Leuven, Belgium

## Introduction

### Recognizing the rich history of occupational and environmental health

The Scientific Committee on the History of Prevention of Occupational and Environmental Diseases, part of the International Commission on Occupational Health (ICOH), is pleased to organise the 8th International Conference on the History of Occupational and Environmental Health. The conference is arranged by the Centre for Environment and Health, KU Leuven, Belgium and the Research group of Social Epidemiology & Health Policy, UAntwerpen, Belgium.

The scientific program focuses on the importance of taking into account the history of occupational and environmental health. Throughout history, occupational and environmental health has been influenced by a wide range of factors. Technological advances and socio-economic changes have introduced new hazards, altered the patterns of established diseases, and given rise to entirely novel conditions. Occupational health practitioners, researchers, workers' and other social movements have been instrumental in recognizing sentinel health events, identifying disease causes, and advancing prevention efforts. However, progress has often faced delays due to vested interests. Historical insights might play an important role in shaping current and future practices in occupational and environmental health.

The conference intends to promote interconnections among historians, social scientists and occupational and environmental practitioners/researchers.

The conference is supported by the Collegium Ramazzini, KU Leuven, the City of Leuven, ICOH, La Isla Network, ETWIE - Museum of Industry Ghent, and the Research Foundation – Flanders (FWO).

This is the 8th edition of the conference with previous meetings held in Rome (Italy) 1998, Norrköping (Sweden) 2001, Birmingham (UK) 2007, San Francisco (US) 2010, Rotterdam (The Netherlands) 2014. Gothenburg (Sweden) 2017, and Durban (South Africa) 2023.

Email: info@icohhistory2026.org
Website: https://laislanetwork.org/events/icoh-history-2026/

## Scientific Organising Committee

- Steven Ronsmans (KU Leuven; University of Leuven, Belgium), conference chair
- Jason Glaser (La Isla Network), chair of the ICOH History Scientific Committee
- Rajen Naidoo (University of KwaZulu-Natal, South Africa), secretary of the ICOH History Scientific Committee
- Paul Blanc (University of California - San Francisco, US)
- Michele Riva (University of Milano-Bicocca, Italy)
- Robin Debo (ETWIE, Expertise Center for Technical, Scientific and Industrial Heritage, Ghent, Belgium)
- Catherine Cavalin (CNRS, France)
- Alfredo Menéndez Navarro (University of Granada, Spain)
- Ben Nemery (KU Leuven, Belgium)
- Kjell Torén (University of Gothenburg, Sweden)
- Kristina Jakobson (University of Gothenburg, Sweden)
- Julia Moses (University of Sheffield, UK)
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## Practical information

### Online Conference Programme

For the full programme, scan this QR code →

### KU Leuven WiFi Access

To connect, scan this QR code. This will automatically connect you to the Wi-Fi network without the need to manually enter the password.

Don't have a QR scanner on your device? You can connect manually using this network and password:
Network: iotd; Password: 96wy?Wzw

## Venue & Directions

### Conference Venue

KU Leuven Faculty of Social Sciences
▶ Aula AV 00.17 — Main conference room
▶ Couvreur — Exhibition, posters & breaks
Toilets: ground floor corridor (follow signs)
Address: Parkstraat 45, 3000 Leuven
For the map, scan this QR code →

### Opening Reception — Wed 15 April, 18:00

KU Leuven University Hall, Jubileumzaal
Address: Naamsestraat 22, 3000 Leuven
~8 min walk from venue (heading south on Naamsestraat)
For the map, scan this QR code →

### Conference Dinner — Thu 16 April, 19:00

Optimist, Veilingzaal
Address: Vismarkt 7, 3000 Leuven
~15 min walk or short taxi
For the map, scan this QR code →

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## Conference programme (version 08.04.2026)

### Wednesday 15 April 2026

Throughout the entire conference, you can find in room *Couvreur:*

- **Exhibition** on Occupational Health in Belgian Museum Collections
- **Book table**: with recently published books related to history of occupational and environmental health
- **Posters** from the participants are displayed

12h15–12h45: **Registrations** *[Couvreur]*

12h45–13h00: **Introduction** to the conference: Steven Ronsmans, Jason Glaser *[Aula AV 00.17]*

13h00–13h50: **Keynote lecture 1:** Bernard Thomann (France) *[Aula AV 00.17]*
*Mine worker studies of silicosis by medical and social experts in Japan from the 1920s through the 1960s*

13h50–14h50: **Plenary session 1:** Chairs: Bernard Thomann, Jason Glaser *[Aula AV 00.17]*
*Conflicting perspectives on toxic exposure and prevention in the 20th century*

| | | |
|---|---|---|
| 1 | Silvia Pérez-Criado (Max Planck Institute for the History of Science, Berlin, Germany) | Spraying Progress: How Spain's Agricultural Workers Learned to Live with DDT Risks |
| 2 | Sofiya Kamalova Rogova (University of Valencia, Spain) | Toxicity Ignorance and the Politics of Expertise: Lessons from the Ardystil Occupational Poisoning (Spain, 1992–2003) |
| 3 | Benoit Nemery (KU Leuven, Belgium) | How knowledge of history (and personal experience) contributed to understand the outbreak of mass sociogenic illness associated with Coca Cola during the Belgian dioxin crisis of 1999. |

14h50–15h20: Break *[Couvreur]*

15h20–16h10: **Keynote lecture 2:** Judith Rainhorn (France) *[Aula AV 00.17]*
*How Industrial Work Democratized Beauty and Its Toxic Burden. A Tale of Colour and Poison in 19th-Century European Cities*

16h10–17h10: **Plenary session 2**: Chairs: Judith Rainhorn, Robin Debo *[Aula AV 00.17]*
*Archives of work and health and collections with hidden dangers: Preserving and presenting occupational health heritage*

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|---|---|---|
| 1 | Ntombizodwa Ndlovu (University of the Witwatersrand, South Africa) | Documenting Occupational Lung Diseases: The Changing Practices of Autopsy Data Collection in South African Mining |
| 2 | Peter Loockx (ETWIE - Museum of Industry Ghent , Belgium) | Dangerous Heritage: the past strikes back |
| 3 | Marie Kympers (ETWIE - Museum of Industry, Ghent, Belgium) | Collecting and presenting occupational health and safety at the Museum of Industry |

17h10–17h20: Introduction to the exhibition: Robin Debo

18h00: **Opening reception** *[Jubileumzaal KU Leuven]*

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## Thursday 16 April 2026

08h30–09h00: **Registrations** (for new participants) *[Couvreur]*

09h00–09h50: **Keynote lecture 3:** Gregory Wilson (US) *[Aula AV 00.17]*
*The Kepone Disaster in Virginia and its Legacy*
Chair: Alfredo Menéndez

09h50–10h15: Break *[Couvreur]*

10h15–12h15: **Plenary session 3**: Chairs: Catherine Cavalin and Alfredo Menéndez *[Aula AV 00.17]*
**Mini-symposium —** *Contested science, citizen and workers-driven movements in occupational health. The case of engineered stone*

This mini-symposium examines the role of historical and sociological research in engaging non-academic actors—particularly workers, trade unions and affected communities—in the co-production of knowledge on occupational health, drawing on traditions of action research and citizen science. It takes as its central case study the ongoing global epidemic of silicosis and systemic diseases associated with exposure to crystalline silica in the engineered stone (ES) industry, understood as a paradigmatic instance of contested occupational illness.

10h15—10h35: Alfredo Menéndez-Navarro
*Action research and occupational health: a historical perspective*

10h35—10h55: Catherine Cavalin
*The IRP PIEDRA: an original format for shared knowledge production*

10h55—11h15: Mari Carmen Macías and Francisco Aragón Velázquez (ANAES, Spanish National Association of People Suffering from Silicosis)
*Experiencing contested illness and under-recognition*

11h15—11h45: Liam O'Brien (Australian Council of Trade Unions), Tony Musu (European Trade Union Institute), and Oscar Bayona (Comisiones Obreras)
*Organised action: science, labour and precaution*

11h45—12h15: Conclusions and open debate

12h15–13h15: Lunch *[Couvreur]*

13h15–14h05: **Keynote lecture 4**: Laurent Vogel (Belgium) & Patrizio Tonelli (Chile) *[Aula AV 00.17]*
*The history and present of the Italian workers' model*

14h10–15h10: **Plenary session 4:** Chairs: Laurent Vogel, Rajen Naidoo *[Aula AV 00.17]*
*Participatory and Colonial Perspectives on Workers' Health*

| | | |
|---|---|---|
| 1 | Charles-Antoine Wanecq & Bastien Cabot (Sciences Po Lille/ Paris, France) | From Occupational to Environmental Expertise: Miners' Safety Delegates in France, 1890-1990s. |
| 2 | Véronique Stenger, Bruno J. Strasser (University of Geneva, Switzerland) | Breathing modernity: workers' resistance to respiratory masks in nineteenth-century France |
| 3 | Stephanie van Dam (Ecole des Hautes Etudes en Sante Publique, France) | Negligence as Resource Extraction: Workplace Accidents in Colonial Ghana, 1925-1947 |
| 4 | Simon De Nys-Ketels (Université Libre de Bruxelles, Belgium) | A Matter of Life and Death: Exploring the colonial roots of asbestos-cement in the Democratic Republic of Congo |

15h10–15h30: Break *[Couvreur]*

15h30–16h15: **Poster talks:** Chair: Kjell Torén & Paul Blanc *[Aula AV 00.17]*

*In this session presenters will give a brief 4-minute "poster talk" with a maximum of 3 slides in the auditorium. There will be no questions during the poster talk session. Participants will be invited to continue discussions at the poster in room Couvreur.*

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| *National histories of occupational health and safety regulation* | | |
| 1 | Emna Bechrifa (The Rabta University Hospital, Tunisia) | From Protectorate Decrees to Modern Tables of Occupational Diseases: The Evolution of Occupational Medicine in Tunisia (1921-2025) |
| 2 | Jinky Leilanie Lu (National Institutes of Health, University of the Philippines Manila, Philippines) | History of Occupational Health and Safety in the Philippines |
| 3 | Fatma Bozdağ (Gazi University, Türkiye) | Occupational Health and Safety: History, Legislation, and Compliance Procedures |
| 4 | Steven Ronsmans (KU Leuven, Belgium) | Emergence and development of workers' health regulations, labour inspection and occupational health services in Belgium (1830–1965) |
| 5 | Gill Nelson (University of the Witwatersrand, South Africa) | Manganese toxicity: an echoing burden |
| *History of occupational health inequities* | | |
| 6 | Zixi Zhu (USC Keck School of Medicine, United States) | Tuberculosis and Health Inequities: Examining the Role of Immigration and Urban Living Conditions in Early Twentieth-Century New York |
| *Occupational and environmental medicine as specialties* | | |
| 7 | Pouné Saberi (EnviroSphere, LLC, United States) | From Miasmas to Medicine: The Recognition of Environmental Medicine as a Field in the United States |
| 8 | Maggie Goldie (Australasian Faculty of Occupational and Environmental Medicine, Australia) | Capturing the Past to Inform the Future - the Australasian Story |
| 9 | Jessica Johnson (Australasian Faculty of Occupational and Environmental Medicine, Australia) | History of Occupational Medicine in Australia and Aotearoa New Zealand Project: Thematic Analysis of a Witness Seminar – 'Occupational Medicine – Are we there yet?' |

16h15–17h30: **Posters** *[Couvreur]*

17h30–18h30: **ICOH Scientific Committee business meeting** *[Aula AV 00.17]*

19h00: **Conference diner** *[Veilingzaal Leuven]*

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## Friday 17 April 2026:

08h30–09h00: **Registrations** (for new participants) *[Couvreur]*

09h00–09h50: **Keynote lecture 5**: Stefania Barca (Spain) *[Aula AV 00.17]*
*The invisible labours of the Great Acceleration (1950 to present): housework and the struggle against industrial toxicity*

09h50–10h15: Break *[Couvreur]*

10h15–12h15: **Plenary session 5:** Chairs: Stefania Barca and Benoit Nemery *[Aula AV 00.17]*
*Dangerous trades around the world*

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|---|---|---|
| 1 | Paul Blanc (University of California San Francisco, San Francisco, US) | The Chimkent Phosphorus Plant: the rise and fall of a major Soviet-era manufacturer |
| 2 | Sandra Domeracki (University of California, San Francisco, US) | Use of oral history in studying carpet fitters |
| 3 | Eva María Trescastro López (University of Alicante, Spain) | Comprehensive healthcare: the case of medical services provided by the Rio Tinto mining company (1942–1969) |
| 4 | Silvana Salerno (Women and work, International Ergonomics Association, Italy) | Painting radium watches at home in Switzerland: a hidden history of women's pain, hand surgery, deaths and more… |
| 5 | Daniela Pelclova (Charles University and General University Hospital, Prague, Czech Republic) | The Influence of Politics on Czechoslovak Occupational Medicine |
| 6 | Seong-Kyu Kang (Gachon University Gil Medical Center, Incheon, Republic of Korea) | The Evolution of Occupational Health in Korea: From Occupational Poisoning to Lifestyle Diseases |
| 7 | Subhabrata Moitra (Ahmedabad University, India) | 125 Years of the Indian Mines Act: A Journey from History to Modern Times |

12h15–13h15: Lunch *[Couvreur]*

13h15–14h05: **Keynote lecture 6:** Iva Peša (The Netherlands) *[Aula AV 00.17]*
*Pollution and Environmental Lifeworlds: Occupational Health and Environmental Wellbeing on the Zambian Copperbelt*

14h05–15h05: **Plenary session 6:** Chairs: Iva Peša and Kristina Jakobsson *[Aula AV 00.17]*
*Beyond the Factory Walls: Occupational Exposure, Environmental Pollution, and Health Inequities*

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| 1 | Stuart Batterman (University of Michigan, US) | Recycling lead – or not? A lifecycle analysis of science, training, exposure, policy, and ongoing harm |
| 2 | Staf Henderickx (Medicine for the People, Belgium) | Consequences of historical, industrial heavy metal pollution on the environment and public health in the north of Belgium |
| 3 | Isabelle Devos (Ghent University, Belgium) | The Occupational Gradient in Flu-Related Mortality: Evidence from the city of Antwerp during the 'Spanish' flu pandemic (1918-19) |
| 4 | Denise Brennan (Georgetown University/Harvard Radcliffe Institute, US) | Work on A Heated Planet |

15h05–15h30: **Closing session and panel** *[Aula AV 00.17]*
Jason Glaser (La Isla Network, US): *Extreme Heat and Kidney Disease: How LIN used history to help crack the case of CKDnt/CKDu and save lives*

Panel discussion: Benoit Nemery, Kristina Jakobson, Rajen Naidoo

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## Posters

All posters are displayed throughout the entire conference *[Couvreur]*

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|---|---|---|
| **National histories of occupational health and safety regulation** | | |
| Emna Bechrifa | The Rabta University Hospital, Tunisia | From Protectorate Decrees to Modern Tables of Occupational Diseases: The Evolution of Occupational Medicine in Tunisia (1921-2025) |
| Jinky Leilanie Lu | National Institutes of Health, University of the Philippines Manila, Philippines | History of Occupational Health and Safety in the Philippines |
| Fatma Bozdağ | Gazi University, Türkiye | Occupational Health and Safety: History, Legislation, and Compliance Procedures |
| Steven Ronsmans | KU Leuven, Belgium | Emergence and development of workers' health regulations, labour inspection and occupational health services in Belgium (1830–1965) |
| Gill Nelson | University of the Witwatersrand, South Africa | Manganese toxicity: an echoing burden |
| **History of occupational health inequities** | | |
| Zixi Zhu | USC Keck School of Medicine, United States | Tuberculosis and Health Inequities: Examining the Role of Immigration and Urban Living Conditions in Early Twentieth-Century New York |
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| Key figures in the history of occupational health | | | |
| | Charles Yarborough | CYHealthAssociates, LLC, United States | “Good Neighbor Medicine” Policy for Occupational and Environmental Health: Legacy of Dr. A. W. Schoenleber |
| Dusty legacies | | | |
| | Nany Hairunisa | Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia | The Historical Evolution of Occupational Exposure to Asbestos, Silica, and Inorganic Dusts in Indonesia: Regulation, Industry Influence, and Shifting Recognition of Occupational Disease (1950–2025) |
| | Husnun Amalia | Ophthalmology Department, Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia | The Eye as a Forgotten Organ: Historical Trajectories of Ocular Surface Damage from Asbestos, Silica, and Inorganic Dust Exposure in Indonesian Workers |
| Historical Perspectives | | | |
| | Ram Gopal Parihar | Madhav University, Rajasthan, India | Environmental Pollution and the Rising Burden of Hay Fever (Allergic Rhinitis): A Historical Analysis of Occupational and Industrial Health Impacts |
| | Fatma Bozdağ | Gazi University, Türkiye | The Effects of the Same Day Notification of Employment Regulation in Turkish Social Security Legislation on Work Accident Notification Statistics and Sectoral Projections |
| Connecting the past to the present | | | |
| | Erika Scott | Northeast Center for Occupational Health and Safety, Bassett Healthcare Network, United States | Not Ancient History Yet: Silicosis among Bluestone Workers in New York and Pennsylvania, United States |
| | Fatma Bozdağ | Gazi University, Türkiye | Silicosis Among Artificial Stone Fabrication Workers: A New Face of an Old Threat |
| | Cesar Caja | Profesional independiente, Perú | Unmasking Silica: Correcting Diesel Particulate Matter Interference and its Implications for the History of Occupational Risk in Andean Underground Mining |
| | Michele Augusto Riva | University of Milano-Bicocca, Italy | Unrecognized Lessons: Early European Insights into Reproductive Toxicity from Workplace Exposures |

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## ABSTRACTS

The conference abstracts have been published in a supplement of the *Journal of Occupational Medicine and Toxicology.*



**Link to the abstracts:**
https://link.springer.com/article/10.1186/s12995-026-00505-9

Or scan this QR code

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*Wednesday 15 April 2026: 13h00-13h50*

**KEYNOTE LECTURE**

**#01**

# Mine Workers and the Study of Silicosis by Medical and Social Experts in Japan from the 1920s to the 1960s

**Bernard Thomann**[1]

[1] Institut français de recherches sur l'Asie de l'est (Inalco/Université Paris Cité/CNRS), France

Presenting author: bernard.thomann@inalco.fr

**Abstract**

The history of mining labor in twentieth-century Japan has largely been framed through three dominant narratives: the miner as a heroic agent of national economic growth; the miner as a victim of industrial accidents, exploitation, or colonial domination; and the miner as a beneficiary of rising living standards and social modernization. While these approaches have significantly enriched our understanding of miners' social worlds, they have largely overlooked silicosis and pneumoconiosis—occupational diseases that caused more deaths than any other hazard in Japan's industrial history. This striking absence is evident not only in historical scholarship, but also in museums, artistic representations, and literary or oral accounts of mining communities.

This lecture investigates the social, cultural, and historiographical mechanisms that contributed to the long-term invisibility of silicosis in Japan's mining history. It first argues that the disease's specific characteristics—its long latency period, slow and insidious progression, frequent association with tuberculosis, and strong social stigma—made it difficult to recognize as a collective industrial problem. Unlike accidents or mine closures, silicosis often affected workers after they had left the mines, isolating victims and their families and limiting public awareness.

The presentation further examines how the separation between medical history and labor history reinforced this invisibility. Although medical research on dust-related lung diseases was extensive and began as early as the late nineteenth century, was reinforced by the influence of the International Labour Organization during the interwar period, and intensified under pressure from social movements after World War II—and although specific legislation was enacted in 1955 and 1960—these developments had little impact on mainstream labor historiography. The scarcity of, and restricted access to, company and union archives, combined with a historiographical focus on wages and labor conflicts, contributed to the marginalization of occupational health issues in Japanese labor history.

To overcome these limitations, this study draws on sources that foreground workers' experiences, including early trade union investigations such as the 1925 Yoroke survey, research in labor science, union newspapers, and records from victims' associations. These archives make it possible to highlight the gap between medical knowledge, legal frameworks, and the lived experience of occupational disease in industrial Japan.

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*Wednesday 15 April 2026: 13h50-14h50*

**PLENARY SESSION — Conflicting perspectives on toxic exposure and prevention in the 20th century**

*[Oral presentations: 12 minutes per presentation + 3 minutes Q&A]*

**#02**

# Removing dust: mechanical ventilation in English factories as a technological shift at the turn of the twentieth century

**Yohann Guffroy**[1]

[1] Science Faculty, University of Geneva, Geneva, Switzerland

Presenting author: yohann.guffroy@unige.ch

**Abstract**

At the turn of the twentieth century in England, the development of mechanical ventilation to remove the dust-laden air of factories emerged as a major concern among hygienists, physicians, and state authorities. These actors promoted this collective means of protection as a better alternative to individual respirators, which had failed to become adopted in the nineteenth century. In the late nineteenth century, engineers improved ventilation systems and the State compelled employers to install them—sometimes at the cost of substantial alterations to industrial infrastructure and significant financial investment.

For much of the nineteenth century, hygienists had encouraged workers to wear respirators as a form of individual protection against dust generated by manufacturing processes, viewing the preservation of health as a matter of personal responsibility. However, in light of the limited adoption of these devices, the persistence of high mortality rates, and the continued unsanitary conditions of workplaces, this discourse gradually evolved. This shift occurred alongside scientific advances in understanding the composition and movement of air, as well as changes in the balance of power between employers and workers within factories.

In this communication, I propose to examine this technological shift through factory inspectors' reports, which record both on-site observations and the testimonies of various actors involved in occupational health issues. These sources convey the perspectives of physicians and employers, as well as those of workers, who bear witness to their working conditions. Published between 1840 and 1930, these reports make it possible to trace changes in discourse and practice surrounding mechanical ventilation as a means of combating industrial dust, perceived as a major cause of illness and premature death among workers.

**Keywords:** Dust, Mechanical Ventilation, Factories, England

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**#03**

# Spraying Progress: How Spain's Agricultural Workers Learned to Live with DDT Risks

**Silvia Pérez-Criado**[1]

[1] Department "Knowledge Systems and Collective Life", Max Planck Institute for the History of Science, Berlin, Germany

Presenting author: sperezcriado@mpiwg-berlin.mpg.de

## Abstract

This study examines how the risks associated with DDT were perceived, managed, and often rendered invisible in Spanish agriculture, focusing on the intertwined health of agricultural workers and their environmental surroundings. Drawing on archival research, historical studies and institutional records the analysis highlights the complexity of pesticide hazards, combining direct health effects such as irritation, dizziness, nausea, and endocrine disruption with broader ecological consequences affecting biodiversity and working conditions.

The management of these risks involved multiple actors: the agricultural community, medical professionals, agricultural engineers, and policy-makers. The National Institute of Occupational Medicine and Safety (Instituto Nacional de Medicina y Seguridad del Trabajo) identified hazards and promoted preventive strategies, yet protocols and resources were often inaccessible, leaving workers exposed to preventable harm.

This scenario reflects structural ignorance and power asymmetries between the chemical industry and the agricultural workforce. Risk was not a static protocol but a dynamic process, shaped by institutional limitations, social hierarchies, and evolving scientific knowledge. Workers' exposure varied with labour intensity, clothing, environmental conditions, and historical exposure, revealing that toxicity was always relational—between chemicals, environment, and bodies with distinct histories.

The case illustrates that occupational and environmental health are inseparable: hazards were not only produced by chemicals but mediated through work practices, labour mobility, and environmental conditions. It underscores how political, social, and disciplinary frameworks influenced the visibility of risks and the protection of workers. By reconstructing this historical trajectory, the study offers insights for contemporary debates on pesticide regulation, occupational safety, and sustainable agriculture, highlighting the enduring relevance of integrating worker health and environmental stewardship.

**Acknowledgments:** This research was funded by "Ministry of Science, Innovation and Universities. State Research Agency", grant number "PID2019-106743GB-C21".

**Keywords:** agricultural workers, environmental health, risk knowledge

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**#04**

# Toxicity Ignorance and the Politics of Expertise: Lessons from the Ardystil Occupational Poisoning (Spain, 1992–2003)

**Sofiya Kamalova Rogova**[1]

[1] López Piñero Interuniversity Institute, University of Valencia, Valencia, Spain

Presenting author: sofiya.kamalova@uv.es

## Abstract

The Ardystil case is a significant incident of occupational poisoning that took place in the Alcoià and Comtat regions of southeast Spain in the early 1990s. Eight small textile workshops used a mixture of acrylic paints, primarily Acramin products, combined with solvents, and sprayed the mixture onto textiles using airbrush guns. The process was conducted in poorly ventilated indoor spaces, without protective gear or safety procedures. Consequently, seventy-one workers, primarily women, experienced severe respiratory symptoms, and six died from acute pulmonary failure.

A national public health investigation found a link between Acramin products and a disease outbreak, but the exact toxicological mechanism remained unclear. Later, researchers at KU Leuven conducted controlled animal studies that confirmed the products' high pulmonary toxicity. Their results attracted the attention of industry experts, even though the manufacturer claimed that the poisoning was due to “improper use” rather than unknown product toxicity.

This paper examines the Ardystil case using agnotology, the study of how ignorance is socially constructed, to understand how uncertainty in toxicology can be deliberately used. Analysing interactions among different expert groups reveals how toxicological expertise was fragmented and influenced by the interests of various stakeholders.

The Ardystil episode illustrates how different expert groups approached the ambiguity surrounding toxicity mechanisms. Placing this case within the broader context of industrial toxicology highlights the importance of respiratory toxicity testing for the prevention of occupational diseases such as Ardystil syndrome.

**Acknowledgments:** This research is part of PID-2023-150413NB-C22 funded by MCIN/AEI/10.13039/501100011033/ and FEDER Una manera de hacer Europa, UE” and part of CIAICO/2023/093 financed by GVA.

**Keywords:** Ardystil Syndrome, Airbrushing, Textile Industry, Acramin FWN

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**#05**

# How knowledge of history (and personal experience) contributed to understand the outbreak of mass sociogenic illness associated with Coca Cola during the Belgian dioxin crisis of 1999.

**Benoit Nemery**[1,]

[1] Centre for Environment and Health, Department of Public Health and Primary Care, KU Leuven, Leuven, Belgium

**Abstract**

The Belgian "dioxin crisis" erupted at the end of May 1999 after revelations that animal feed had been contaminated by polychlorinated biphenyls (PCBs), which led to a country-wide recall (and export bans) of eggs, poultry, meat and dairy products for several weeks.

On 8 June 1999, pupils from a secondary school were admitted to hospital because they had become sick after drinking Coca-Cola. This was prominently reported by the media, together with news about the ongoing dioxin crisis. Over the next days, groups of pupils from other areas reported to emergency departments (sometimes under TV coverage) having become ill after drinking various Coca Cola products. The national Poison Control Centre received over 1400 telephone calls related to Coca Cola from the public and health professionals. On 14 June, the sale of all products from the Coca Cola Company was forbidden in Belgium.

A committee of experts concluded that mass psychogenic/sociogenic) illness was the most likely explanation for the Coca Cola crisis [Nemery *et al*. 2002; doi: 10.1016/s0278-6915(02)00135-7]. This hypothesis was based on 1/ the absence of serious clinical or laboratory anomalies among affected persons; 2/ the epidemiologic features and aberrant geographic spread and temporal pattern of the outbreak; 3/ the lack of plausible toxicological causes; 4/ the considerable anxiety about food in the population during the dioxin crisis; 5/ importantly, the history of analogous outbreaks in a variety of other settings, i.e., essentially among communities affected by a shared belief of a threat to their group's integrity. A critical – admittedly anecdotal – factor that led to the hypothesis of mass sociogenic illness was my personal experience dealing with an outbreak of mass illness during a fact-finding mission in Tbilisi (then Soviet Georgia) in April 1989 [described by Barron *et al*. 1993; doi: 10.1016/0160-2527(93)90006-z].

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*Wednesday 15 April 2026: 15h20-16h10*

**KEYNOTE LECTURE**

**#06**

# How Industrial Work Democratized Beauty and Its Toxic Burden. A Tale of Colour and Poison in 19th-Century European Cities

**Judith Rainhorn**[1]

[1] Professor of Modern History at University Paris 1 Panthéon-Sorbonne and researcher at Maison française d'Oxford. Her work spans the history of medicine, health, environment, labor, and cities in 19th–20th century France, Europe, and the U.S. Author of Blanc de plomb (2019, award-winning, forthcoming English translation in 2026) and currently writing books on Dr. Alice Hamilton and on arsenic poisoning in Victorian Britain.

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**Abstract**

Far from the grey and gloomy picture often painted, nineteenth-century European urban society experienced an outburst of colour. While building façades were coated in bright white lead paint, the interior walls of apartments were covered with colourful papers and furnishings were adorned with plain, striped and floral fabrics. Refined clothing, cosmetic jars, tights, corsets and hats in bright hues were now part of the aristocratic and bourgeois wardrobe, as well as that of the upper fringe of the urban working class, who gradually acquired the ability to participate in this consumerist revolution. Nineteenth-century modern chemistry made available colorful beauty to most people. But it definitely brought with it a heavy and widely shared toxic burden. Even though toxicity seized all aspects of society, in both the home and the workplace, women particularly bore the brunt of this burden through the wallpapers, fabrics, clothes and artificial flowers in their finery. In the meantime, medical journals and the popular press devoted extensive coverage to the dangers posed to workers by the use of metallic and organic chemicals in the manufacture of a growing number of goods, whose toxicity easily spread beyond factory walls to endanger consumers throughout industrial Europe.

In 1869, a small anonymous English book challenged the collective consent to occupational and domestic poisoning by arsenical greens: The Green of the Period, together an aristocratic travelogue, a scientific treatise and a political pamphlet, is an extraordinary piece. Drawing on the discovery of this curious little book, I will discuss the process of massive democratization of consumption, dramatic increase in the use of toxic chemicals in industrial manufacturing processes affecting both workers and consumers, and the growing invisibility of pollution in the workplace and in the home in nineteenth-century industrial Europe.

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**PLENARY SESSION — Archives of work and health and collections with hidden dangers: Preserving and presenting occupational health heritage**

*[Oral presentations: 12 minutes per presentation + 3 minutes Q&A]*

**#08**

# Documenting Occupational Lung Diseases: The Changing Practices of Autopsy Data Collection in South African Mining

**Ntombizodwa Ndlovu[1], Deepna Lakhoo[2,3], Jill Murray[1]**

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[2]Pathology Division, National Institute for Occupational Health, National Health Laboratory Services, South Africa
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**Abstract**

Silicosis and other silica-related occupational diseases have burdened the South African mining industry since the discovery of gold on the Witwatersrand in 1886. From the earliest years of mining, autopsies formed an integral component of clinical investigation, with findings recorded in meticulous handwritten ledgers. In this presentation we will explore the historical development of autopsy data collection in the South African mining industry.

The Miners' Phthisis Allowance Act of 1911 was South Africa's first workers' compensation law, covering gold miners with silicosis or tuberculosis. Autopsies were incorporated into compensation legislation in 1916, and over time, other lung diseases and mining commodities were added. The Pneumoconiosis Act of 1956 mandated standardised autopsy methods, leading to the centralisation of examinations at the Pneumoconiosis Research Unit (now the National Institute for Occupational Health) in Johannesburg. By then, full autopsy reports were typed, and key findings captured on edge-punched cards for compensation. Manual punching and processing of approximately 3,000 cards annually was labour-intensive, and the limited data fields in cards restricted the number and design of research outputs produced.

Technological advances led to the replacement of edge-punched cards through the introduction of the Pathology Automation (PATHAUT) computerised database in 1974. The structure of PATHAUT has continued to evolve, including integration with the compensation processing system. Today, PATHAUT contains over 115,000 records and 459 variables, enabling both surveillance and research using robust, analytical epidemiological methods.

Currently, we are using artificial intelligence to digitise edge-punched card data. This project has the potential of adding 15 years (1959–1974) of historical records to PATHAUT. We will present the preliminary findings. This methodological approach may enable analysis of previously unexamined text fields in PATHAUT and inform similar health research in other settings.

**Keywords:** postmortems, compensation, edge-punched cards, PATHAUT

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**#09**

# Dangerous Heritage: The Past Strikes Back

**Peter Loockx**[1]

[1] ETWIE (Center for Industrial Heritage in Flanders), Museum of Industrie, Gent, Belgium

Presenting author: peter@etwie.be

**Abstract**

Across the global heritage landscape, museums and industrial sites are increasingly confronted with buildings and, especially, objects containing hazardous materials such as asbestos, mercury, arsenic, and other toxic substances. These materials, once common in everyday work and life, now pose significant challenges for conservation, public access, and transparent risk communication. Yet many heritage professionals still lack integrated, evidence-based frameworks that allow them to address these hazards responsibly without creating unnecessary alarm or institutional paralysis.

This lecture positions “dangerous heritage” as both a material hazard and a narrative opportunity and proposes a practical model for recognising, assessing, and managing hazardous substances in heritage contexts. It asks a central question: how can institutions safeguard health while preserving the historical meaning of risky materials, and how can these practices strengthen today’s prevention culture and future occupational health policies?

The discussion draws on case studies from Belgian museum collections, including hazardous pharmaceuticals in medical collections; legacy batteries that reveal risks involving heavy metals, leakage, and instability; and machines containing asbestos components, where material properties help explain their original function and their current risks. These examples show how understanding material composition, technical function, and degradation processes is essential for contemporary prevention culture. This empirical work is paired with a critical-heritage perspective that views hazardous materials not merely as technical problems but as narrative catalysts revealing intertwined histories of labour, science, and material innovation.

Findings indicate that dangerous materials in collections often remain undocumented. A structured workflow—systematic inventory, risk screening, safe handling advice, transparent communication, and interpretive reframing—supports responsible action without panic. The lecture shows how such materials can reveal overlooked occupational risks and reshape how we remember and use the past, reframing dangerous heritage as a vital component of industrial memory, occupational health awareness, and the prevention culture we need for tomorrow.

**Acknowledgments:** /

**Keywords:** Heritage, Hazard, Asbestos, Toxicity, Narrative

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**#10**

# Collecting and presenting occupational health and safety at the Museum of Industry

**Marie Kympers**[1]

[1] Collections and Research Department, Museum of Industry, Ghent, Belgium

Presenting author: marie.kympers@stad.gent

## Abstract

The Museum of Industry collects the traces of our industrial past since 50 years. The collection includes objects, photographs and documents related to occupational safety and well-being, such as safety clothing, posters and medical-mechanical devices by Dr. Zander. Work organisation is documented with items such as time clocks and workshop regulations. In oral history projects, in which the museum has been a pioneer since 1978, attention is always paid to these topics.

In 2022-2023, the museum devoted an exhibition to the history of occupational health and safety in Belgium: “Burn. From fire hazard to burnout”. The exhibition took an integrated approach to safety and well-being (physical, social and psychological) and highlighted different aspects: from fire hazards to burnout, from occupational accidents to ergonomics, from time clocks to prevention measures. The exhibition shed light on societal trends and socio-cultural aspects of labour organisation: break times, collegiality, workplace atmosphere … Objects from a wide range of workplaces were presented, from the distant (since 1800) and recent past. Numerous testimonials – in text, audio and video – sparked reflection and discussion among the visitors.

In 2025-2027, the project “Powder to the People” aims to research, present and discuss the underexposed, socially charged heritage of the so-called “nerve powders” through a travelling exhibition. It will open in May 2026 and is preceded by a participatory process with students, an oral history project, a public call for stories and historical research. From the 1920s to the 1980s, millions of people in Flanders used ”compound analgesics”: freely available painkillers and stimulants based on phenacetin, aspirin and caffeine. They were ubiquitous – at home and among (mostly female) labourers – and when used excessively, they caused serious medical damage, particularly kidney failure. Despite their impact, they are in danger of disappearing from collective memory with the last generation that knew them.

**Acknowledgments:** The Museum of Industry is funded by the City of Ghent and Flanders (Department of Culture, Youth and Media)

**Keywords:** history, museum collections, exhibition, occupational health and safety

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**KEYNOTE LECTURE**

**#11**

# The Kepone Disaster in Virginia and its Legacy

**Gregory Wilson**[1]

[1] Distinguished Professor of History, Director of Graduate Studies, University of Akron, United States

Presenting author: gwilson@uakron.edu

**Abstract**

Based on my book, Poison Powder, the talk will examine the history of the Kepone disaster in Virginia and its toxic legacy. In 1975, workers at Life Science Products in Hopewell, Virginia began to experience tremors, headaches, and other symptoms after exposure to Kepone, the pesticide they were making. Kepone is one of the brand names for chlordecone. Life Science held a contract with Allied Chemical, the much larger, international company with a plant nearby in Hopewell. Only when one of the workers sought out medical care from a specialist did awareness of the ongoing crisis emerge. Government officials soon discovered the Life Science plant awash in Kepone waste, with workers in various stages of Kepone poisoning. Officials closed the plant and began a larger investigation that revealed a disaster that encompassed not only workers but also the surrounding waterways and landscape. Yet the toxic impact went beyond Hopewell to include the islands of Guadeloupe and Martinique, where banana growers used the white powder to combat insects. The talk will explore key aspects of the disaster and its importance to understanding occupational and environmental health.

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**MINI-SYMPOSIUM**

**#12**

# Contested science, citizen and workers-driven movements in occupational health: the case of engineered stone

**Catherine Cavalin**[1,2] and **Alfredo Menéndez-Navarro**[3]

[1] Centre for research on medicine, science, health, mental health, and society (Cermes3), National Centre for Scientific Research (CNRS UMR 8211), Paris & Villejuif, France

[2] Laboratory for Interdisciplinary Evaluation of Public Policies (LIEPP, Sciences Po), Paris, France

[3] Department of History of Science, University of Granada, Spain

**Abstract**

This mini-symposium examines the role of historical and sociological research in engaging non-academic actors in the co-production of knowledge on occupational health, drawing on traditions of action research and citizen science. It takes as its central case study the ongoing global epidemic of silicosis and systemic diseases associated with exposure to crystalline silica in the engineered stone (ES) industry, understood as a paradigmatic instance of contested occupational illness.

The re-emergence of accelerated silicosis among young workers employed in the ES sector has revealed the enduring consequences of historically restrictive definitions and compensation of occupational disease since the interwar period. This persistence echoes long-standing historiographical analyses of "contested illnesses", in which scientific uncertainty, regulatory inertia and economic interests converge to obscure causal links between work and disease.

Situating the ES epidemic within a longer history of labour struggles for health at work, the mini-symposium draws on analytical frameworks from the social sciences, science and technology studies, and labour and medical history to explore how alternative epistemologies—rooted in workers' experience and collective mobilisation—have challenged dominant biomedical and epidemiological paradigms. Particular attention is paid to the legacy of the Italian workers' model of the 1960s and 1970s, which foregrounded workers' embodied knowledge and collective inquiry as legitimate sources of scientific evidence and political action.

Against a broader backdrop characterised by the strategic production of doubt by industry, the mini-symposium examines how citizen science alliances and trade-union pressure can reconfigure knowledge production and contribute to preventive policy outcomes.

The mini-symposium foregrounds lay and experiential knowledge by examining the lived experiences of workers and those affected by silicosis in Spain. It approaches these narratives as historically situated and epistemically productive forms of knowledge. Moreover, it fosters dialogue and collaboration between historians, social scientists, victims' associations, and trade unions in Spain and Australia.

**Programme of the mini-symposium**

Alfredo Menéndez-Navarro

*Action research and occupational health: a historical perspective*

A historical overview of action research and citizen science in occupational health, highlighting their epistemological foundations and political implications, with particular reference to the influence of the Italian labour movement.

Catherine Cavalin

*The IRP PIEDRA: an original format for shared knowledge production*

An account of the genesis and development of the IRP PIEDRA project, focusing on co-produced knowledge with affected workers and on strategies to counter deliberate and structural forms of ignorance.

Mari Carmen Macías and Francisco Aragón Velázquez (ANAES, Spanish National Association of People Suffering from Silicosis)

*Experiencing contested illness and under-recognition*

Testimonies and reflections on silicosis as a contested occupational disease. The contribution will emphasise the importance of sustained collaboration with historians and social scientists in documenting exposure histories, reframing disease narratives, and strengthening claims for recognition and compensation.

Liam O'Brien (Australian Council of Trade Unions)**,** Tony Musu (European Trade Union Institute), and Oscar Bayona (Comisiones Obreras)

*Organised action: science, labour and precaution*

A comparative discussion of trade-union strategies for mobilising scientific evidence, with particular attention to how unions have engaged with the social sciences and the humanities to challenge dominant framings of occupational risk and scientific uncertainty. The discussion will focus on the campaign leading to the ban on ES in Australia, contrasted with the structural limitations of current European regulatory frameworks

Conclusions and open debate

**Keywords**: Silicosis, Crystalline Silica, Contested Illnesses, Citizen Science, Italian Workers' Model, Victims' Associations.

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**KEYNOTE LECTURE**

**#13**

# The history and present of the Italian workers' model

**Laurent Vogel**[1], **Patrizio Tonelli**[2]

[1] Former director of the Working Conditions, Health and Safety Department of the European Trade Union Institute (ETUI), European Trade Union Confederation (ETUC), Brussels, Belgium
[2] Escuela de Salud Pública, Facultad de Medicina, Universidad de Chile, Chile

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**Abstract**

By the term “Italian workers' model,” we refer to a set of practices developed by the workers' movement since the 1960s. These practices are as international as the workers' movement itself; they have crossed borders and enriched each other. Nevertheless, we can speak of an “Italian workers' model” for at least three reasons. Italy was one of the first countries where these new practices emerged. Italy is the country where they have experienced the most significant growth, thanks to an unprecedented alliance between union activists, scientific researchers, and a student movement seeking new identities freed from a mandarin tradition of transmitting scholarly knowledge cut off from the workplace practice. Finally, Italy is also the country where this model has been the subject of the most theoretical reflection was extended on a large scale through the development of reference documents.

On the other hand, it can be considered an international experience that has had a profound influence on occupational health prevention across five continents. From Scandinavia to Japan, from Brazil to Zimbabwe, there are few countries where traces of this influence cannot be found.

This exchange took place through international trade union cooperation, through the movement of some people personally involved (in some cases, due to the political exile of some of them) and, more indirectly, through the debates that the model sparked in institutions such as the International Labor Organization, regional or global professional associations, the World Health Organization, etc.

The Italian workers' model provides still important elements for collective practices. While it clearly cannot be replicated as it stands, it continues to inform effective prevention strategies through some of its key principles. We consider in particular: the recognition of workers' knowledge about the organization of work and the impact that work has on health; the importance of a multidisciplinary approach whose validation rests with the groups concerned; the importance given to social struggles and collective bargaining in advancing prevention.

In this age, it seems important to recognize the cardinal principles of the Italian labor model while integrating elements that have been largely absent from the practices that have developed over the past century, such as the need to link the fight for health at work with gender equality and the integration of environmental concerns into occupational health policies.

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**PLENARY SESSION — Participatory and Colonial Perspectives on Workers' Health**

*[Oral presentations: 12 minutes per presentation + 3 minutes Q&A]*

**#14**

# From Occupational to Environmental Expertise: Miners' Safety Delegates in France, 1890-1990s.

**Charles-Antoine Wanecq[1], Bastien Cabot[2]**

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[2] Centre d'histoire de Sciences Po, Sciences Po Paris, France

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**Abstract**

During the industrial era, workers succeeded in establishing bodies to assess, monitor and regulate the risks to which they were exposed in the course of their work. For instance, in 1890, France introduced safety representatives in mines. Elected by their peers every three years, these delegates could write reports on visits to mine galleries and investigations into workplace accidents. These documents represent a genuine counter-expertise on the part of workers, engaging with technical and administrative standards and taking on a militant dimension, since the role was regularly filled by trade unionists.

The aim of this paper is to examine the extent to which the expertise in the working environment developed by these miners' delegates gradually became an "environmental" expertise. Indeed, mines and the processing plants associated with them produced industrial 'spillovers' that affected the surrounding area: land subsidence, toxic air and water contamination, proliferation of solid waste, etc. How do miners' delegates view these spillovers? To what extent were they able to overcome the legal, administrative, social and cultural barriers that separated occupational and public hygiene?

Overall, this contribution aims to examine the originality of environmental expertise produced from within the workplace. It traces its long-term evolution, while exploring the potential encounters between labour and environmental movements. To this end, we draw on several archival collections: documentation produced by delegates from the coal mines of the Loire region from 1890 to 1914, from the Isère region from the 1940s to the 1970s, then from the Nord-Pas-de-Calais region in the 1990s, and finally by delegates from the gold and arsenic mines of Salsigne in the 1960s and 1970s.

**Acknowledgments:** This research was funded by "Chaire Santé, Vulnérabilités, Territoires" (Sciences Po Lille / UFR3S) and "Fonds Bruno Latour" (Sciences Po Paris).

**Keywords:** expertise; occupational health; working environment; mines; unions

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**#15**

# Breathing modernity: workers' resistance to respiratory masks in nineteenth-century France

**Véronique Stenger[1], Bruno J. Strasser[2]**

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## Abstract

Nineteenth-century French hygienists are best known for how much they published and how little they achieved. This is particularly true in the field of occupational health. Historians have explained the limited impact of the hygienists' well-intentioned recommendations by pointing to legislative shortcomings, administrative weaknesses, and the social proximity between hygienists and industrialists. Hygienists themselves offered another explanation: workers refused to wear protective devices. This paper revisits that narrative by foregrounding workers' own perceptions of insalubrious air and their strategies for navigating toxic industrial environments. Our analysis takes the respiratory mask—a preventive device promoted by hygienists but rarely adopted by workers—as its point of departure.

Sources that capture workers' voices are rare, but they reveal the multiple meanings workers attributed to masks. Many evaluated these protective devices in pragmatic terms: wearing a mask could hinder productivity, disrupt shop-floor sociability, and reduce income tied to risk. In contrast, hygienists presented masks as symbols of protection and medical progress, framing them as self-evidently beneficial. These divergent perspectives underscore the gap between workers' experiential knowledge of hazardous labor and the prescriptive, moralizing narratives constructed by experts.

The contrast between these two viewpoints also highlights the fundamental ambiguity of protective technologies : by proposing devices for individual protection, they shift responsibility onto workers for their own health while legitimizing the expansion of toxic workplaces. In this light, the respiratory mask emerges as a privileged entry point for understanding how occupational health was negotiated, contested, and experienced. It allows us to trace how workers articulated their own forms of expertise, how hygienists constructed normative ideals of behavior, and how the very act of breathing became a site where modernity's promises and contradictions were made visible.

**Acknowledgments:** This research was funded by "the Swiss National Science Foundation (SNSF)" to Bruno J. Strasser, grant number 100011_212283.

**Keywords:** personal protective equipment, respiratory mask, workers' resistance.

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**#16**

# Negligence as Resource Extraction: Workplace Accidents in Colonial Ghana, 1925-1947.

**Stephanie van Dam**[1]

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**Abstract**

On 5 June 1934, Kweku Donkor made his way to the Ariston Gold Mines in Prestea in the Gold Coast (present-day Ghana). Upon arrival, he found the lifeless form of his friend Yankson among forty other dead mine workers killed in a gruesome mining accident at AGM that day. This paper asks what the legacies of this accident were for the occupational safety and economic compensation of injured workers and their dependents in colonial Ghana. Through a comparison of the impact of the accident on injury compensation in the railway and mining industry from 1925-1947, this paper argues that the 1934 accident was, on the one hand, a catalyst for an industry-wide change in occupational safety and injury compensation in the Gold Coast well before the general mines strike of 1947. It demonstrates the importance of global networks of imperial activists to the local colonial implementation of new international standards in occupational health.

On the other hand, the comparison between the railway and the mining industry highlights that changes in safety and compensation practices were to a large extent industry-specific and informal. This limited who could apply for compensation and who benefited from a higher standard of financial compensation. In practice this meant that the socio-economic security of workers in colonial industries was dependent on the paternalist logic of colonial administrators and employers who judged whether or not they deemed someone 'deserving' of financial compensation.

I argue that the differentiated impact of the 1934 mining accident on occupational welfare in colonial Ghana shows that resource extraction was dependent on structural negligence towards both the safety of workers and the unwillingness to be held liable for the financial consequences of workplace accidents. Histories of occupational health therefore need to include not just formal policy, but also informal, paternalistic practices of negligence.

**Acknowledgments:** This research was funded by the ESRC Cambridge DTP, Cambridge Trust, and Ellen McArthur Fund.

**Keywords:** workplace accidents, colonial history, imperial policy

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**#17**

# A Matter of Life and Death: Exploring the colonial roots of asbestos-cement in the Democratic Republic of Congo

**Simon De Nys-Ketels**[1]

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## Abstract

Asbestos-cement was one of the most widely used construction materials of the twentieth century, yet its toxic histories are unevenly understood. While extensive scholarship exists on asbestos histories in the West, research on the mineral in Africa, and particularly the Democratic Republic of Congo (DRC), remains scarce. This gap is significant and acute, as critical environmental historians emphasize how the 'slow violence' of toxicity has disproportionately affected former colonial regions such as the DRC, where asbestos-related diseases are increasingly being diagnosed by medical experts. This research investigates the colonial roots of these contemporary asbestos-related health issues in the DRC. On the one hand, it examines asbestos-cement production in Belgian Congo, circumventing the public inaccessibility of archives of many global asbestos players such as Eternit by focusing on local manufacturing firms. In particular, it traces the development of Belgian-Congo's first asbestos-cement manufacturing site in Lubudi, founded in 1927, charting how and if questions of race were entangled with toxic on-site labour conditions. On the other hand, by analysing understudied archival sources such as architectural plans, construction details, or building specifications, it explores how such manufactured asbestos-cement products were deployed in colonial housing construction across the Congolese territory. It thereby seeks to understand how toxic building materials inserted environmental health hazards into the privacy of the colonized home, and how such domestic toxicities mapped onto colonial segregated housing policies. In doing so, this research recentres asbestos histories away from the West, investigating how colonial logics structured labour and domestic exposure to toxicity, and arguing that race and colonialism still warrant a more central position in global histories of occupational and environmental health.

**Acknowledgments:** This research is part of the research project *Construction history, above and beyond: What history can do for construction history*, funded by the EOS Excellence of Science Programme, grant number 40007559.

**Keywords:** asbestos, Democratic Republic of Congo, colonialism

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**POSTER TALKS**
*[4 minutes per poster talk;*
*in addition, all posters are displayed throughout the entire conference]*

**#18**

# From Protectorate Decrees to Modern Tables of Occupational Diseases: The Evolution of Occupational Medicine in Tunisia (1921-2025)

**Emna Bechrifa[1], Emna Baraketi, Nihel Khouja, Jihen Hsinet, Farah Taleb, Aida Benzarti[1]**

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**Abstract**
The origins of occupational health in Tunisia date back to the Beylical era. The first Tunisian law on work accidents was established by the Beylical Decree of March 15, 1921, introducing the earliest form of social protection for workers and marking the birth of the first branch of social security in the country. This beylical Decree, enacted under the French Protectorate, was inspired by the French 1898 law and, although it aimed to regulate equal treatment, it imposed residence-based restrictions on foreign workers; rather than serving colonial interests, it ultimately provided a solid foundation for the development of occupational health in Tunisia. The discipline's roots trace back to 1956, when the Decree of October 25 made it compulsory for all workplaces employing more than 50 workers or apprentices to establish occupational health services. This represented Tunisia's first formal step toward integrating health protection within the workplace. In 1978, occupational medicine became a distinct medical specialty with the creation of a dedicated postgraduate program at the Faculty of Medicine of Tunis, establishing the academic foundation of the field. During the 1980s, joint occupational health services, shared among several companies, expanded, allowing small and medium-sized employers to ensure medical surveillance of their workers. A major institutional reform took place in 1990, when Decree 90-559 transferred occupational medicine from the Ministry of Health to the Ministry of Social Affairs. The same year, Law 90-77 created the Occupational Health and Safety Institute (ISST), reinforcing prevention, training, and research. A second milestone came with Law 95-56 of June 28, 1995, establishing a special compensation regime for work accidents and occupational diseases, which remains the cornerstone of Tunisia's social protection system for workers. Most recently, the official schedule of occupational diseases was updated and published in the Official Gazette (JORT No. 115, September 2025), reflecting Tunisia's continued commitment to protecting workers' health. A century after the first Beylical decree, Tunisia continues to advance the integration of health, safety, and social protection at work, affirming the enduring legacy of occupational medicine.

**Keywords:** Tunisia, occupational medicine, history, occupational diseases tables, regulatory reform

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**#19**

# History of Occupational Health and Safety in the Philippines

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**Abstract**

In the Philippines, efforts to promote occupational safety and health were already evident during the American Period in the Philippines with the institution of the Employer's Liability Act of 1874 directing the employers to compensate the family of a deceased worker whose death was caused by workplace conditions, or by the neglect of employers in the execution of their duty to protect the safety and health of their employees. There are other subsequent legislations aimed at providing occupational health and safety. The Workmen's Compensation Act through Act NO. 3428 of December 10, 1927 required compensation not only for death but also for illnesses and injuries caused by workplace exposures. Commonwealth Act No. 104 on October 29, 1936 called the Industrial Safety Law enforced certain rules and standards for the mining industry. Republic Act No. 1054 or the Free Emergency Medical and Dental Treatment Act of June 12, 1954 stipulated the need for emergency dental services to employees. In 1903, physicians began to be employed in industries to provide medical treatment for sick and injured workers. In 1923-1932, the Section of Industrial Hygiene was established under the then Bureau of Health. This was followed by the implementation of the Workers' Compensation Act No. 3428 and the Emergency Dental and Medical Service Act NO. 1054. After World War II, the Philippine Association of Occupational Medicine (now PCOM) was formed (www.doh.gov.ph).In 1950, the Joint ILO-WHO Committee on Industrial Hygiene issued its first international definition of occupational health. Then finally, the history of occupational health and safety has indeed started with the functions and structure of the Department of Health. By the virtue of E.O. 119, the DOH Office of Public Health Service was created which had the Non-Communicable Disease Control Service tasked with the responsibility of formulating policies, programs and standards primarily for the prevention and control of Occupational Health, Cardiovascular Diseases and Cancer.

**Acknowledgments:** This research was under the administration of the National Institutes of Health for its research faculty

**Keywords:** OH History, Philippines, Occupational Medicine

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**#20**

# Occupational Health and Safety: History, Legislation, and Compliance Procedures

**Fatma BOZDAĞ[1], Duygu SEYHAN ERDOĞAN[1], Fatıma Betül TOPCU[1], Volkan MEDENİ[1], Sultan Pınar ÇETİNTEPE[1], Mustafa Necmi İLHAN[1]**

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**Abstract**

The implementation of Occupational Health and Safety (OHS) in Türkiye has followed an evolutionary trajectory, originating from traditional master-apprentice relationships and advancing toward reactive measures against industrial risks, ultimately reaching a modern, proactive, and comprehensive legal framework.

OHS regulations during the Ottoman Empire were fundamentally based on traditional, Islamic, and moral security perspectives. The master-apprentice relationship served as the primary factor in both vocational skill acquisition and accident prevention. During this period, mutual aid funds were utilized in cases of illness or occupational accidents. With the onset of industrialization, written regulations were introduced, initially implemented within the coal mining industry.

Following the establishment of the Republic of Türkiye, OHS became an integral component of the state's social policy. Key early developments included: 'The reduction of miners' working hours to eight hours per day, The prohibition of child labor for those under the age of 18.' The 1930 mandate requiring workplaces with more than 50 employees to employ a workplace physician. In 1936, the first comprehensive labor law was enacted, institutionalizing state intervention in working life. These regulations underwent various modernization processes through the early 2000s.

Global trends and the European Union harmonization process transformed risk perception in Türkiye, facilitating a transition from a "reactive" to a "proactive" approach. The most significant milestone in this transition was the enactment of the Occupational Health and Safety Law (No. 6331) in 2012.

This legislation introduced several transformative pillars:

-*Universal Coverage:* All employees in both the public and private sectors were brought under the scope of OHS services.

-*Risk Assessment*: A proactive philosophy was established, prioritizing the identification of hazards before accidents occur.

-*Employee Participation*: Workers were encouraged to take an active role in safety processes.

-*Professional Mandatory Staffing*: It became mandatory to appoint occupational safety specialists, workplace physicians, and other healthcare personnel.

Today, OHS practices are integrated with technological infrastructure. The reporting of occupational accidents and diseases has been migrated to electronic platforms, with notification periods governed by strict regulatory timelines. The oversight mechanism has been strengthened through administrative fines imposed for failure to report or delayed notifications.

**Keywords:** Occupational Health, Occupational Health and Safety, legislation regulations

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**#21**

# Emergence and development of workers' health regulations, labour inspection and occupational health services in Belgium (1830–1965)

**Steven Ronsmans**[1]

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## Abstract

The emergence of workers' health protection in Belgium cannot be understood as a purely technocratic or legal process, but was shaped by broader socio-economic dynamics. We trace the development of workers' health regulations, labour inspection and occupational health services between 1830 and 1965.

At independence in 1830, Belgium was among the most industrialized regions in continental Europe. The new state adhered to principles of economic liberalism. Regulation of working conditions was absent, while repressive laws restricted worker coalitions. Regulation of *dangerous, unhealthy, or noxious establishments*—introduced earlier under French rule—was intended to protect local residents, rather than workers. Harsh working conditions prevailed, including child labour, long hours, low wages, and frequent accidents.

The landmark governmental surveys of 1843—in which physicians played an important role—revealed widespread child labour and occupational diseases. However, strong employer opposition prevented any policy change. Only the crises of 1845–1848—marked by famine, epidemics and revolutionary unrest across Europe—prompted modest (but largely ineffective) provisions for worker protection.

The strikes and riots of 1886—and their violent repression—marked a turning point, leading to cautious social legislation. Employers starting *dangerous, unhealthy, or noxious establishments* were now required to mitigate worker risks (1886), child labour under 12 was prohibited (1889) and labour inspection was established (1888/1894). Further social legislation followed, driven by newly formed trade unions and the Belgian Workers' Party (1885).

From 1895 onward, physicians were gradually integrated into the labour inspection—under the leadership of Dr. D. Glibert (later a pioneer of ICOH)—as new regulations mandated health surveillance of workers, notably in phosphorus-match and white-lead manufacturing. An ancylostomiasis epidemic in the coal mines (from 1895) led to mandatory screening of miners, demonstrating the practical value of occupational medicine.

After the First World War, occupational health became institutionalised by establishing the *Medical Labour Service* within the labour inspection (1919). After 1945, the solidaristic social model shaped the General Regulation for the Protection of Labour (1946). Medical surveillance of workers and working conditions was transferred to non-governmental occupational health services (1965), with labour inspection only retaining oversight of regulatory compliance.

**Acknowledgments:** SR was supported by internal KU Leuven funding (STG/23/043).

**Keywords:** labour inspection, workers' health surveillance, historical development

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**#22**

# Manganese toxicity – an echoing burden

**Gill Nelson[1,2], Brad Racette[1,2], Sabrina Benvenuti[1]**

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## Abstract

The earliest clinical description of manganese toxicity dates back to 1837 when James Couper reported tremors and weakness in five Scottish miners exposed to manganese dust. In 1955, Jean Rodier described manganism in 115 Moroccan underground mine workers in a paper published in the British Journal of Industrial Medicine. He observed a gradual progression in mood and behavioural changes, gait disturbances, rigidity, and a characteristic 'cock-walk'. He filmed the affected workers undertaking various tasks, as evidence of his findings.

In the following decades, exposure controls were introduced and occupational manganese concentrations decreased – or so it was believed. Manganese research gradually shifted from high-exposure mining to lower modern occupational concentrations in welders and smelters, who showed parkinsonian signs rather than classic dystonia. Longitudinal studies showed symptom progression even after exposure cessation, with gait worsening over time.

However, all countries are not equal. Developing countries are notoriously used as dumping grounds for companies that are shut down in developed countries due to excessive and uncontrolled toxic emissions. Manganese smelters are one example. We describe a group of smelter workers in Zambia who are exposed to high concentrations of manganese and exhibit characteristics similar to those described by Rodier 70 years ago. While Rodier's work laid the foundation for recognising occupational manganese neurotoxicity, there has been a systematic failure in ensuring that workers in developing countries are protected from the harms of exposure. Zambia is one such country – there is no doubt that workers in other countries are also being exploited and their health ruined in the pursuit of profit.

**Acknowledgments:** This research was funded by Barrow Neurological Institute

**Keywords:** manganese smelter, manganism, neurological health effects

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**#23**

# Tuberculosis and Health Inequities: Examining the Role of Immigration and Urban Living Conditions in Early Twentieth-Century New York

**Zixi Zhu[1], Richard M Watanabe[2]**

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## Abstract

This study examines the tuberculosis (TB) epidemic in early twentieth-century New York City through the lens of health inequities, analyzing how immigration and urban living conditions contributed to disproportionate disease burden between 1900 and 1920. Drawing from municipal health reports, archival data, and historical scholarship, this research demonstrates that TB mortality rates were significantly higher among immigrant and working-class populations, particularly adults aged 20-40 employed in industrial occupations. Statistical analysis reveals that immigrants faced mortality rates 2-3 times higher than native-born residents, with particularly severe impacts observed among Italian and Eastern European communities.

Three interconnected factors exacerbated these health disparities: First, mass immigration concentrated vulnerable populations in overcrowded tenement districts with inadequate sanitation and ventilation. Second, hazardous working conditions in factories and construction sites increased occupational exposure to TB bacteria through prolonged dust inhalation and close contact with infected individuals. Third, socioeconomic barriers including language differences, limited access to healthcare, and cultural misconceptions about disease prevention delayed diagnosis and treatment. Gendered occupational roles further placed male breadwinners at particularly high risk, as societal expectations compelled them to continue working while symptomatic.

The study further analyzes public health responses that gradually reduced TB mortality after 1920, including housing reforms like the Tenement House Act of 1901, public health education campaigns in multiple languages, and eventual medical advances including the development of streptomycin. These interventions underscored the necessity of addressing both biological and social determinants of health through coordinated policy measures.

This historical case study highlights how infectious disease epidemics amplify existing social inequalities through mechanisms of environmental concentration, occupational hazard, and healthcare access limitation. It concludes that effective health crisis management requires comprehensive strategies that integrate medical, social, and structural interventions—a lesson with continuing relevance for contemporary public health challenges. The research contributes to historical understandings of health inequities and offers insights for current efforts to address health disparities in urban environments through targeted public health interventions and equitable resource allocation.

**Acknowledgments:** Extends special gratitude to Professor Richard M Watanabe for his dedicated guidance throughout GESM final paper.

**Keywords:** Tuberculosis, Immigration, Tenements, Epidemiology

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**#24**

# From Miasmas to Medicine: The Recognition of Environmental Medicine as a Field in the United States

**Pouné Saberi, MD, MPH [1], Tee Guidotti, MD, MPH, DABT [2] Lisa Jordan, PhD [3]**

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**Abstract**

Until the nineteenth century, the notion of a general environmental influence on individual health referred to the notion of bad airs or miasmas in Europe and the United States. The "environment" has not always or uniformly been accepted as a determinant of human health for individuals apart from specific hazards. Environmental conditions in general, other than specific hazardous exposures, have been largely ignored in allopathic medicine. The American Board of Preventive Medicine did not officially include the term environmental medicine in the title of the specialty of occupational and environmental medicine until 2022. We trace the history of the term "environmental medicine" by practitioners in medicine (individual health), as opposed to populations (public health) and its relationship to occupational medicine. Within this framework and history environmental medicine could not exist without the recognition of occupational medicine as sister disciplines. We discuss possible contributing factors such as military exposures, litigation, and rise of media coverage. We propose that the modern distinction reflects recognition of social determinants of health, such as housing, in medical education, and the importance of "environmental justice". Climate medicine and "planetary health" are now at the forefront of environmental medicine.

**Acknowledgments:** No funding sources to declare

**Keywords:** environmental medicine, social determinants of health, environmental exposures, population health

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**#25**

# Capturing the Past to Inform the Future – the Australasian Story

**Dr Maggie Goldie** [1], **Adj Prof Niki Ellis** [1, 2], **A/Prof (Retired) Cate Storey, Dr Amanda Silcock** [1]

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**Abstract**
In late 2020 Niki Ellis made a phone call to several colleagues to invite us to join a group of interested colleagues to establish a committee to capture the History of Occupational Medicine. Her motivation was to record the story of the development of occupation medicine as a specialty in Australia and New Zealand while there were enough of us still alive who could remember the early days.

The History of Occupational Medicine (HOM) Committee was established with objectives and an initial workplan.

The poster describes the Committee's activities since its inception with the first project being the organisation of a witness seminar in March 2022 with the theme "Are we there yet?". My colleague and fellow HOM committee member, Dr Jessica Johnson, is presenting the thematic analysis and outcomes from the witness seminar in her poster.

Further valuable historical information was gathered by Dr Farhan Shahzad from 42 interviews with occupational physicians (OPs) which were recorded and preserved in the RACP library.

Recognising the value in generating interest in the history of occupational medicine in the younger generation of OPs, in 2022 the Committee invited Expressions of Interest to the Australasian Faculty of Occupational and Environmental Medicine (AFOEM) trainees to select an historical project for their final submission. This led to two completed projects to date and there are more in the pipeline for 2026.

In 2024 the HOM committee arranged a 40 year anniversary celebration of having our specialty recognised with the inauguration of the Australasian College of Occupational Medicine (ACOM) in 1984.

The Committee's 2026 agenda includes running another witness seminar to capture the history of the development of the OP competencies and trainee program which led to the specialty being recognised with the inauguration of ACOM.

**Acknowledgments:** The work of the HOM Committee members Adj/Prof Niki Ellis, Dr Amanda Silcock FAFOEM, Dr Farhan Schahzad FAFOEM, Karen Myers RACP Librarian, Dr Jess Johnston FAFOEM, Dr Barry Gilbert FAFOEM (retired), Dr Philippa Harvey Sutton FAFOEM, Dr Dwight Dowder FAFOEM, ANZSOM Secretariat

**Keywords:** History, Occupational, Medicine, College, Seminar, Trainee

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**#26**

# History of Occupational Medicine in Australia and Aotearoa New Zealand Project: Thematic Analysis of a Witness Seminar – *'Occupational Medicine – Are we there yet?'*

**Dr Jessica Johnson[1], Adj/Prof Niki Ellis[1, 2], A/Prof (Retired) Cate Storey[3]**

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**Abstract**

*Background:* The witness seminar and publication of an annotated transcript is an established method in documenting the history of medicine, established by the Wellcome Trust History of Twentieth Century Medicine Group. A witness seminar was held as part of The History of Occupational Medicine Project - a collaboration between the Royal Australasian College of Physicians (RACP) Library, the Australasian Faculty of Occupational and Environmental Medicine (AFOEM) and the Australian and New Zealand Society of Occupational Medicine (ANZSOM) with the aim of capturing the story of the development of occupation medicine as a specialty in Australia and Aotearoa New Zealand while some Fellows who were present in the early days are still alive. The data collected in the process was a video recording of the entire seminar, and archival material related to the development of AFOEM. *Aims:* 1. This project's first aim was to create an annotated and contextualised transcript of the seminar, with footnoting referencing exiting literature and other sources. 2. The second aim was to undertake a thematic analysis of the seminar transcript and related archive material. *Methods:* The witness seminar followed the method of the Wellcome Trust History of Twentieth Century Medicine Group. Throughout transcript annotation and editing, themes were generated in a process of reflexive thematic analysis. *Results:* The final transcript was extensively annotated for context. Five major themes were generated: 1. The complexity of becoming a specialty college; 2. The importance of collaboration; 3. The significance of government and economy influence; 4. The importance and value of occupational medicine; 5. Learning from the past. *Discussion/conclusion:* The witness seminar and edited transcript contribute to the professional heritage archive in the RACP Library. Themes generated from the discussion between key participants in the development of Occupational Medicine revealed difficulties and strengths that are coherent with previously documented information. The themes are relevant and actionable towards the promotion of the ongoing importance and relevance of this specialty, both in Australasia and internationally. The methodology offers a model for future projects documenting the history of other medical specialties in the RACP and the medical profession more widely.

**Acknowledgments:** The work of the HOM Committee Adj/Prof Niki Ellis FAFOEM FAFPHM, Dr Amanda Sillcock FAFOEM, Dr Maggie Goldie FAFOEM, Dr Farhan Shahzad FAFOEM, Ms Karen Myers RACP Librarian, A/Prof Cate Storey, Dr Jessica Johnson FAFOEM, Dr Barry Gilbert FAFPHM, Dr Philippa Harvey-Sutton FAFOEM, Dr Dwight Dowda FAFOEM. Ms Fiona Landgren ANZSOM Secretariat. Comcare, Financial sponsor of the Witness Seminar event.
**Keywords:** occupational medicine, history, witness seminar, thematic analysis

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*Friday 17 April 2026: 09h00–09h50*

**KEYNOTE LECTURE**

**#27**

# The invisible labours of the Great Acceleration (1950 to present): industrial work, housework, and the struggle against depletion

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**Abstract**

GDP and population growth are two major trends of the era which earth-system scientists have termed the Great Acceleration (1950 to present). First published in 2005, and then updated in 2015, the Great Acceleration (GA) graphics show not only an unequivocal correlation between the exponential growth of various socioeconomic trends and earth-systems degradation, but also marked differentiations among world areas, depending on their income levels. The GA data, however, do not show differentiations within countries – and particularly those related to the position of different categories of workers within national economic (and account) systems.

Assuming the perspective of labour, as a broadly intended historical subject including waged/industrial and unwaged/domestic and subsistence workers, in my Workers of the Earth (Pluto press, 2024) I gather different stories of the GA period, which document both the unequal vulnerability of these different categories of workers to the depleting effects of industrial growth, and their ecological consciousness and agency throughout the same period. In this presentation, I will offer a brief overview of the nexus between occupational and environmental health in the GA era, and then move onto one national case study, that of Italy, to discuss the social cost of the GA as experienced by two categories of workers: the (mostly male) workforce engaged in the production of industrial commodities, and the (female) unpaid domestic workforce – i.e. working-class and peasant housewives – engaged in making, raising, servicing and caring for the Italian workforce (and population at large) in the same period.

While for the first case I will rely on data from the National Workers' Insurance Agency and on the specialized literature, for the second, in the absence of statistical data, I will develop some hypothesis based on the available research in women's history in postwar Italy, and on Social Reproduction Theory. I will conclude with a reflection on the possibilities for future research to investigate the depleting effects of the Great Acceleration upon unpaid domestic labour.

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*Friday 17 April 2026: 10h15–12h15*

**PLENARY SESSION — Dangerous trades around the world**

*[Oral presentations: 12 minutes per presentation + 3 minutes Q&A]*

**#28**

# The Chimkent Phosphorus Plant: the rise and fall of a major Soviet-era manufacturer

**Denis Vinnikov[1,2], Paul Blanc[3]**

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[3] University of California San Francisco, San Francisco, USA

Presenting author: Paul.Blanc@ucsf.edu

## Abstract

**Background.** The Chimkent Phosphorus Plant (CPP) (operational 1966-1996) was the flagship enterprise of the chemical industry in Soviet Kazakhstan, employing up to 8,860 permanent staff and almost the same number of contractors at its peak in 1986. We wished to characterize the occupational exposures and adverse health outcomes associated with the operation that were recognized at that time.
**Methods.** We analyzed archival data for the facility from of the Turkistan Oblast State Archive together with data from contemporary Soviet biomedical journal publications.
**Results.** The CPP integrated ore processing from a mine in the region and phosphate refining. The latter process included series of chemical reactions producing yellow phosphorus, phosphoric acid, sodium tripolyphosphate, zinc phosphide, and reactive phosphorus salts from phosphite. Archival industrial hygiene data for area sampling documented concentrations of elemental phosphorus, its oxides, phosphorus chloride, and fluoride compounds (including hydrogen fluoride), along with hydrogen sulfide and chlorine gas, silicon tetrachloride, coke dust, carbon monoxide. In the first years of production (1966-1970), multiple process steps exceeded the current occupational exposure limited (OEL) for total dust of 5 mg/m3. This included drying and crushing process (samples peak, 1080 mg/m3); agglomeration, where ore was combined with coke and silica prior to furnace processing (peak 700 mg/m3), and tripolyphosphate processing (peak 1170 mg/m3). Exposure to toxic gases was also high (chlorine gas, 13 ppm (OEL 0.3 ppm), hydrogen sulfide, 66 ppm (OEL 6.5 ppm). There was modest reduction in overexposure following the introduction of more efficient ventilation in early 1970s. From 1968 to 1992, annual internal reports documented a total of 298 cases of "chronic phosphorus intoxication" (CPI), a syndrome defined clinically by hepatic, other gastrointestinal, and bone abnormalities attributed to phosphorous toxicity.
**Conclusions.** In this large industrial site overexposures to various hazards were common and occupational disease was endemic.

**Acknowledgments:** None.

**Keywords:** phosphorus, fertilizer manufacturing, occupational disease, chronic phosphorus intoxication

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**#29**

# Use of oral history in studying carpet fitters

**Sandra Jo Domeracki**[1,2]

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[2] Employee Occupational Health, San Francisco Veterans Affairs Health Care System, San Francisco, USA

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## Abstract

A carpet fitter is a professional who specializes in cutting and installing carpets. The term “carpet fitter” is relatively modern, emerging as a job title during the rise of fitted carpets in the late 18th century. While the phrase “carpet fitter” is explicitly mentioned in works like the urban legend “The Carpet Fitter,” its precise linguistic origins remain uncertain. Historical references, such as Thomas Sheraton’s writings from 1806, describe fitting carpets across entire room floors. Earlier terms, such as “carpet-man” (1571) or “carpet-monger” (1599), appeared in the 16th century, but they referred to individuals involved in chamber amusements or frequenting ladies’ boudoirs, rather than the process of carpet fitting. The professionalization of carpet fitting likely coincided with the popularity of wall-to-wall carpeting during the 19th century, with “carpet fitter” eventually becoming an established occupational title as the trade grew. Early tools used in the profession were hammers, nails, and rudimentary wooden stretchers to stretch and secure the carpet close to the wall. Over time, newer tools were developed to improve process efficiency, but that also brought new ergonomic risks. Carpet fitters spend approximately 75% of their work time in kneeling postures with hips and knees flexed beyond 90 °, performing 120–140 forceful knee kicks per hour. One such device, introduced in the 20th century, is called a “knee kicker.” The widespread use of the knee kicker tool, which stretches carpet by forcefully striking it with the knee, contributes to conditions like "carpet layer’s knee" and femoral vein thrombosis. Because knee-kicker-driven wall-to-wall carpet installation is a relatively “new” industry, much of its history falls outside the biomedical literature. Oral history provides a valuable tool to assess the lived experience of this occupational group. Oral histories obtained from 14 carpet fitters from a recently completed dissertation study will highlight this phenomenon.

**Acknowledgments:** This research was funded by the University of California, San Francisco’s School of Nursing Century Club Award, the Center for *Occupational and Environmental Health* Llewelyn Student Project Award, and the American Association of Occupational Health Nurses Foundation’s 2025 Medique New Investigator Grant.

**Keywords:** carpet fitter, carpet layer, carpet installer, floor coverer, oral history

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**#30**

# Comprehensive healthcare: the case of medical services provided by the Rio Tinto mining company (1942–1969)

**Eva María Trescastro-López[1,2], Josep Bernabeu-Mestre[3], David Carrión Rico[4], Agustín Galán[5], Alba Martínez-García[2,6]**

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**Abstract**

The health status of populations is one of the dimensions of well-being that best reflects the living conditions of a population.

At the Rio Tinto Co Ltd (RTCL) mines, the company's health initiatives were not limited to occupational medicine, but included comprehensive health monitoring, which was highly innovative compared to contemporary healthcare in Spain. This healthcare was heavily influenced by British medical principles, which introduced comprehensive and preventive healthcare that was well ahead of its time.

The Riotinto Medical Department sought to make up for the shortcomings of an underdeveloped area that had been neglected by the authorities in terms of healthcare and did not have the support of local medicine.

In this context, it seems appropriate to ask about the impact that both the introduction of health insurance in Spain in 1942 and the arrival of Franco's dictatorship and its occupational health policies had on this healthcare model and on the health of workers and their families.

An analysis has been carried out of the sources available in the archives of the RTCL medical service for the period 1942-1969. Documentation relating to blood, urine, sputum, water, milk, gastric juice, cerebrospinal fluid and stool analyses carried out on users of the medical service during that period has been consulted. The journal “Medicine and Occupational Safety” from 1952 to 1969 was also consulted, as well as the annual report of the medical service of the Spanish mining company Rio-Tinto S.A. (1966) and other medical materials from the company.

Despite all the changes introduced during the period studied, the strong British presence and influence led to effective and efficient health measures, as well as effective prophylactic action with mass vaccinations, even though it was a private company and an organisation with an exemplary and operational social medical system for the time.

**Acknowledgments:** This research has been funded by the project ‘Mining during the Franco regime: social history’, grant number PID2022-137302NB-C33, awarded by the Spanish Ministry of Science and Innovation.

**Keywords:** mining, occupational health, Rio Tinto

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**#31**

# Painting radium watches at home in Switzerland: a hidden history of women's pain, hand surgery, deaths and more…

**Silvana Salerno[1], Isabelle Probst[2]**

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## Abstract

Traces of radium, detected in a landfill and homes originating from the Swiss watchmaking industry, were found in Biel (Switzerland) and the surrounding region in 2014 [1]. Two years later, a report from the University of Bern, commissioned by the Federal Office of Public Health, highlighted the widespread radium contamination of watch-making buildings with a need to renovation due to high levels of radioactivity [2]. Since the nineteenth century Karl Marx described the division of work in the watch industry of La Chaux-de-Fonds and Le Locle area. Women and girls were working at home and exposed to radium with different working conditions from the US Radium girls, with mainly hand radiodermitis. The hands of women exposed to radium at home were cured by a woman surgeon Isabelle Poulenas and her master Claude Verdan (1909-2006) founder of the Hand Museum in Lausanne [3]. Poulenas described her surgery on women hands exposed for several years to radioactive radiation, making photographs before and after surgery, providing a picture of the working conditions of homeworkers in the 1950s and 1960s. In 1934 International Labour Office (ILO) listed a new disease due to "radium, radioactive substances, X-rays" so why a well-known radioactive material was still in use in Switzerland without any precautions? Previously in 1925 Marie Sklodowska Curie was first asked about radium adverse effects by the New Jersey Department of labour and, the occupational physician Alice Hamilton organized a radium conference in order to find a solution to the US radium girls, mainly immigrant workers, new disease (1928) [4]. Many questions remained unsolved: Why prevention in the Swiss watch industry was not improved? Did women claim any occupational diseases? How many women were immigrants?

**Keywords:** radium, women, Switzerland, radiodermitis

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**#32**

# The Influence of Politics on Czechoslovak Occupational Medicine

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## Abstract

In Czechoslovakia, first Out-patient Department of Occupational Medicine (OM) was established in 1932 in Prague. At that time, this parliamentary republic was a functioning democracy in Central Europe. The research of the head of Department, professor Teisinger, led to an enrichment of world OM. However, the Clinic had no beds.

In 1948, the Communist Party of Czechoslovakia, with Soviet backing, assumed control over the Czechoslovak government through a coup d'état and four decades of totality started. Consequently, the religious institutions were nationalized, including Benedictine Monastery Emauzy. The rooms of the monks were adapted for OM Department with 27 beds. The positive side of this fact was that severely ill patients with silicosis, asbestosis and lung cancers in uranium miners including political prisoners could be treated there.

Two causes of industrial poisonings related to the political pressure appeared and affected workers were repeatedly examined.

First included 80 chemical workers producing in 1965-1968 defoliant Arboricide (trichlorophenoxyacetic acid), surprisingly sold to USA and sprayed in Vietnam. They were exposed to 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD), formed during production. They developed chloracne, porphyria, neuropsychological impairments, atherosclerosis and cancers. Their back-calculated 2,3,7,8-TCDD plasma level belonged to the highest in the world (up to 355,000 pg/g fat).

Another consequence of totalitarian political pressure was chronic toluene intoxication in the old printing house in 1977-1989, because the political communist press had to be sent to the USSR. Toluene exceeded the permitted limits in 98% measurements, but printing had to continue.

Many printers developed hallucinations, pseudoneurasthenic syndrome and toxic encephalopathy. Finally, they received compensation after the Velvet Revolution in 1989, when was the totalitarian system abolished. Consequently, many political prisoners were examined at OM Department, with the cooperation of the Confederation of Political Prisoners.

In 2011, conversion into an Out-patient Department occurred, as the beds were no more needed.

**Acknowledgments:** This research was funded by Charles University, Cooperatio No. 207041-3.

**Keywords:** toluene, dioxin, miners, prisoners, politics

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**#33**

# The Evolution of Occupational Health in Korea: From Occupational Poisoning to Lifestyle Diseases

**Seong-Kyu Kang**

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## Abstract

Traditional occupational health has primarily focused on external physical hazards such as dust and chemicals, risks that can be mitigated by improving the working environment. When Korea began its rapid economic development in the 1970s, manufacturing industries drove growth, involving extensive chemical use. Many health problems caused by those agents were overlooked in the name of national economic development.

The 1988 mercury poisoning of a 15-year-old boy in a precision machinery factory became a symbolic case. This was followed by a wave of occupational diseases in a viscose rayon factory during the 1990s. A 137-day funeral protest organized by civil groups over a fatal cerebral haemorrhage case led to major policy changes. Subsequently, preventive measures and support programs were strengthened, resulting in substantial improvements in the working environment.

In the 2000s, sudden cardiovascular deaths in a tire manufacturing factory drew national attention to hazardous working conditions involving exposures to solvents, carbon black, and nanomaterials. However, these cases were related less to specific toxic agents than to poorly managed baseline health conditions aggravated by non-traditional occupational risks such as high temperatures, night shifts, and long working hours. Consequently, occupational health services increasingly emphasized the prevention and management of lifestyle-related diseases exacerbated by adverse working conditions.

In the late 2000s, hematopoietic diseases in a semiconductor factory again captured public attention through prolonged protests by civil groups. Although a large cohort study did not demonstrate a statistically significant excess of leukaemia or other rare diseases, this case expanded compensation criteria for work-related diseases, increased awareness of rare diseases occurring during employment, and stimulated discussion on sickness-benefit schemes for workers with non-occupational illnesses.

Rapid economic development and changing socioeconomic conditions have reshaped workers' health risks, and the concept of work-related diseases has continuously evolved alongside economic growth and rising standards of living.

**Acknowledgments:** not applicable

**Keywords:** Occupational Health, Korea, Economic development, Work-related Diseases, Workers' Compensation

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**#34**

# 125 Years of the Indian Mines Act: A Journey from History to Modern Times

**Subhabrata Moitra[1], Arundhati Bhatkande (née Garud)[2]**

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## Abstract

After winning the Battle of Plassey in 1757, Robert Clive, the first Governor of the Bengal province, granted permission to M/s Sumner and Heatly of the East India Company to establish the first coal mine in Raniganj in 1774. Following a century of deadly mining accidents that took hundreds of lives, the British government introduced the Indian Mines Act in 1895, formally implemented in 1901. This act marks a significant milestone in colonial history, aiming to protect the health and safety of mine workers across the nation. In this research, we traced the 125-year historical trajectory of the Act by revisiting historical documents and reports from the Directorate General of Mines Safety (DGMS) and analysing the legislative amendments at various time points. Although initiated due to safety concerns, the first reform came into effect in 1923, limiting working hours to 48 per week, mandating one compulsory rest day, and banning child labour. The 1952 amendment was crucial because it allowed women to work in underground mines and opened private sectors in mining operations. Following the disastrous Chasnala mine accident in 1975, which claimed 375 lives, the organised labour unions, mainly the All India Trade Union Congress (AITUC) and Centre of Indian Trade Unions (CITU), compelled the government to implement more stringent statutory safety procedures, establish safety committees, and take other measures. Although these institutionalised efforts resulted in considerable success in reducing fatalities, there are still persistent gaps, e.g., no accountability for the unregulated, illegal and small-scale mining sector. This blind zone has resulted in an estimated 418 undocumented sand mining-related deaths from 2020-2022. Our analysis of the Act's 125-year history reveals the potential societal, economic, and health implications for workers, while also highlighting the need for comprehensive safety and welfare standards to extend protection to all vulnerable mine workers.

**Acknowledgements:** This research was partially supported by the Faculty Development Allowance of Subhabrata Moitra.

**Keywords:** Indian Mines Act, Occupational Health, Safety

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*Friday 17 April 2026: 13h15–14h05*
**KEYNOTE LECTURE**

**#35**

# Pollution and Environmental Lifeworlds: Occupational Health and Environmental Wellbeing on the Zambian Copperbelt

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**Abstract**

Copper mining in Zambia has caused pervasive pollution over the course of the twentieth century, in the form of noxious sulphur dioxide fumes, acidic effluents discharged into rivers, and gigantic slagheaps piled next to residential areas. This presentation argues that understandings of occupational health need to be broadened, as what happens in underground mines directly influences the environmental wellbeing of surrounding communities. Through an historical and ethnographic approach that foregrounds people's 'environmental lifeworlds', I ask how mining communities experienced and made sense of pollution. When and why did people develop forms of environmentalism? Grounded in extensive archival research, over 100 oral history interviews in Mufulira, and poems and songs, I seek to pluralise understandings of what environmentalism is. Beyond protest movements and legal action, careful forms of sweeping a dusty interior and spiritual expressions should also be read as significant forms of environmentalism. This approach blurs the boundaries between mine and community, identifying mineworkers' wives and pastors as environmental actors alongside trade unionists and shift bosses.

By paying attention to the lived experiences of environmental change, I interrogate the shifting relationships between mining companies, mineworkers, and diverse mining communities. Environmentalism on the Copperbelt changed with the transition from company policies of paternalism to neoliberal forms of Corporate Social Responsibility. When Mufulira mine was privatised in 2000, Mopani retrenched hundreds of workers and stopped maintaining social facilities. In a context of perceived austerity, emissions of sulphuric acid breached the limits of social acceptability, sparking numerous protests over pollution. These protests foregrounded discourses about the environmental and moral responsibility of mining companies for the health and wellbeing of Copperbelt communities.

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*Friday 17 April 2026: 14h05–15h05*

**PLENARY SESSION — Beyond the Factory Walls: Occupational Exposure, Environmental Pollution, and Health Inequities**

*[Oral presentations: 12 minutes per presentation + 3 minutes Q&A]*

**#36**

# Recycling lead – or not? A lifecycle analysis of science, training, exposure, policy, and ongoing harm

**Stuart Batterman**[1,]

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**Abstract**

The evolution and dominance of the US economy in the past century are intertwined with lead. Consumption of this toxic metal – for battery manufacturing, as an antiknock additive in gasoline, for plumbing, paint and numerous other materials – reached 1.7 million tons per year, or 6 kg per capita, by the mid 1990's in the US. While use has plateaued, worldwide production continues to increase. This presentation shares training, research and policy experiences and lessons. We highlight mid-century education materials for hygienists, showing hitherto unseen training photos. A century later, in Flint, Michigan, within the automobile megalith centered in Detroit, Michigan, bad decisions by the city combined with lax government oversight poisoned the drinking water. In both cities, population loss led to tens of thousands of homes being abandoned, all coated with leaded paint, led to additional exposure from demolitions among nearby children. The subsequent burning of demolition debris and waste wood without appropriate controls led to yet further dispersion of lead and exposure. While these experiences led to increasingly protective measures, they also caused traumatic and long term economic and social consequences. At the same time, more stringent occupational and environmental policies in developed countries drove lead recycling and manufacturing to Mexico and then to sub-Saharan Africa, a race to the bottom with little oversight and widespread contamination. This history shows lags in recognizing and addressing risks, failures of proactive measures, and economic failures as economic externalities. Scientists and the public health community have communicated about the hazard, but not the risk, impact and urgency to address these failures. The continuing mining, and smelting of this "recycled" metal continue, as does toxicological and epidemiological research showing multigeneration effects and the importance. While the historical examples and materials are mostly US-centric, the important lessons learned remained relevant and needed.

**Acknowledgments:** This research was funded by the National Institute of Environmental Health Sciences, National Institutes of Health, grant P30ES017885.

**Keywords:** exposure, heavy metal, emissions, toxicity, occupation, environment

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**#37**

# Consequences of historical, industrial heavy metal pollution on the environment and public health in the north of Belgium.

**Staf Henderickx**

Medicine for the People, organisation of medical GP-group in Belgium.

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**Abstract**

As a young general practitioner, I started a medical group in North Limburg in 1977. In this region, along the Albert Canal and the Kempen Canal, many non-ferrous factories had established after the conquest of Congo at the beginning of the last century. The ores arrived from Congo in the port of Antwerp. The establishment of non-ferrous factories along the canals made the supply of ores possible and the population along the canals consisted of poor farmers, so that cheap labour was available. In this region in the beginning of 1900 four factories were established with the production of zinc, copper, arsenic and even cobalt. As early as 1912, the socialist representative August Dewinne warned in his book 'The killing factories of the Kempen': 'The fumes from the factories are very dangerous for people, animals and plants. Medical faculties are unanimous in saying that it is dangerous to live in the vicinity of the factories. The mortality rate is terrible among the workers and their families." But for nearly a century neither the factory directors nor the government took any measures to protect the health of the workers and local residents.

When I settled in that region as a general practitioner, the factories switched from production by dry means (heating the raw materials and extracting the metal at its melting point) to by wet means (extracting the metal by means of electrolysis). During the production by dry road, toxic heavy metals such as arsenic, cadmium and lead were released into the body through inhalation of fumes, through absorption through the gastrointestinal tract and the skin.

As a young doctor, I saw patients with cadmium kidneys, with drop foot due to lead poisoning and many types of cancers, especially arsenic. When I consulted my course I found half a page about the toxicity of heavy metals. I had to painfully conclude that in our training as doctors, the consequences and possible treatment of chronic and acute intoxication by heavy metals was a blank page. Together with my colleagues, with medical students and with biologist friends, we started a working group on 'heavy metals'. After three years, our research was bundled in the publication of the book 'The Sweet Death'. Workers told me that when they were sick, they experienced a sweet taste in their mouths. In this book, we proved with studies that the groundwater was affected by heavy metals, that the vegetables in the gardens were inedible due to contamination with cadmium and arsenic, that the fish in the canals and the cattle in the meadows were affected, that the maize fields harbored high concentrations of heavy metals.' In short, the essential sources of life: water, air, soil and food were polluted by heavy metals.

The book was a bomb. The management of the factories threatened with lawsuits. Even state security came to visit me with the message to stop scaremongering among the population. Politicians minimized the problem. But we continued. Popular assemblies, newspaper interviews, demonstrations and information meetings with the trade unions. The ball was rolling. I convinced my fellow student Professor Jan Staessen to focus on scientific research on heavy metals. Jan conducted

a lot of research and published the results in scientific publications. Our work as whistleblowers was therefore validated. The policy, the media, the management of the companies could no longer ignore the problem of diseases caused by heavy metals.

As a result, especially from the 1990s onwards, massive measures would be taken in terms of prevention among workers and local residents. Individual measures were taken: wash hands, wet brush indoors, do not eat vegetables from the garden, do not consume fish from the canals. But above all, there were large waves of remediation of air, soil and groundwater. In a perimeter of a few kilometre's, agriculture was stopped, gardens were dug up and filled with healthy soil, groundwater was pumped up and purified, old factory sites were dismantled and the contaminated soil was buried in a kind of sarcophagus. The costs of this were borne by OVAM, the public waste agency of Flanders, and by Umicore and Nyrstar, the owners of the factories at the time.

My story is a lesson for young colleagues on how to raise a public health problem without hesitation and seek support from universities to conduct scientific research. Our activities and publications initially met with great resistance from the policymakers, but our determination was rewarded with a healthier environment and healthier people in the North of Belgium. It is also a lesson for doctors not to stop at individual care for patients, but to see and tackle the broader health problems. Along the same lines, I later published books and we did actions around the issues of work stress, healthy diets, and altered human relationships.

**Acknowledgments:** *Thanks to Professor Dr. Jan A. Staessen of the Catholic University of Leuven for his scientific research on heavy metals.*

**Keywords:** *Heavy metals, environmental pollution, health effects*

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**#38**

# The Occupational Gradient in Flu-Related Mortality: Evidence from the city of Antwerp during the 'Spanish' flu pandemic (1918-19)

**Isabelle Devos[1], Wouter Ronsijn[1], and Sven Vrielinck[1]**

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**Abstract**

Mortality from the so-called Spanish influenza pandemic of 1918–1919 was long considered socially neutral (Rice and Bryder 2005; Tomkins 1992; Crosby 1976). However, recent research on both this pandemic and later influenza outbreaks challenges this assumption, demonstrating a strong association between lower socioeconomic status and higher influenza mortality (Mamelund 2006, 2018, 2021; Rijpma et al. 2022). Despite this growing body of evidence, far less is known about the role of occupational exposure. Using an individual-level approach, this paper examines the main victims of the Spanish flu across its three waves in Antwerp. We draw on data from the exceptional cause-of-death register of the city of Antwerp, collected and linked to death certificates in a citizen science project (www.sosantwerpen.be). The data include information on age, sex, marital status, occupation, and place of residence, and allow us to distinguish between military personnel and civilians. This rich dataset enables us to characterize the socio-demographic and occupational profiles of those who died from influenza-related causes and to assess whether—and how—these profiles changed across successive pandemic waves. We further identify the key factors shaping occupational inequalities in influenza mortality during this critical period.

**Acknowledgments:** This research was funded by FWO-Flemish Research Foundation (SOS Antwerpen) and BRAIN-BELSPO (Epibel).

**Keywords:** occupational exposure, Spanish flu, pandemic, social inequalities

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**#39**

# Work On A Heated Planet

**Denise Brennan**[1]

[1] Professor, Department of Anthropology, Georgetown University and Harvard Radcliffe Institute 2025-26 Fellow `

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## Abstract

Extreme heat, drought, floods, fires, and hurricanes are transforming working conditions. As climate-induced disasters place workers in increasingly hazardous conditions, the line between everyday forms of exploitation and extreme forms of abuse is blurring, transforming many workplaces into sites that meet the legal definition of trafficking. As an anthropologist, I have been interviewing workers across the U.S. to document their struggles against new forms of coercion that pressure workers to remain working, for example, through toxic wildfires smoke and the terror of encroaching fire. This publicly-engaged and worker-informed ethnographic project situates these climate-altered work sites within abolitionist conversations about immigration policing and mass incarceration (including immigrant prisons). Climate change, in conjunction with a racial capitalist order premised on low-priced production by "disposable" workers – often undocumented or incarcerated – has created a dangerous labour system in occupations that previously were simply arduous. It also has led to a new category of work, "disaster work," that largely relies on the most vulnerable workers to prepare for or clean up after disasters. Employers must effectively conscript workers to extract labour under these noxious conditions, by leveraging threats built into the U.S. immigration policing, prison, and deportation regimes. This paper recounts worker-led organizing campaigns and individual strategies to stay safe and hold employers accountable for these new climate-related forms of coercion.

**Acknowledgments:** This research was funded by an Eco Impact Grant at Georgetown University and supported by a year-long residential fellowship at the Harvard Radcliffe Institute

**Keywords:** trafficking, worker organizing, undocumented, climate change

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**POSTERS**

*[All posters are displayed throughout the entire conference]*

**#40**

# Good Neighbor Medicine" Policy for Occupational and Environmental Health: Legacy of Dr. A. W. Schoenleber

**Charles Yarborough**[1]

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**Abstract**

Over one hundred years ago emerging companies established industrial operations in remote areas of the world to exploit natural resources such as oil and minerals. Although Virchow argued for the advent of social medicine in Europe in 1848 as a response to epidemics, this concept arrived in Latin America at the beginning of the twentieth century resulting in new hygiene, sanitation, and health facilities in rural areas. Little is recalled now about the contribution of Good Neighbor Medicine as a social medicine approach of industry to improve indigenous population health. It was practiced quietly without fanfare or publicity and was not a patronizing gift.

Alvin Willis Schoenleber, M.D. (1889-1972) entered the Medical Corps of the U.S. Army in 1913 and served in the Canal Zone where his experience demonstrated the fundamental principle that preventive medicine is a profitable investment provided it reaches the entire community and not only a small segment of the population. He became medical director of Tropical Oil Company in Columbia, a subsidiary of Standard Oil, in 1920. But until that time, no industry had taken full advantage of the lessons learned during the construction of the Panama Canal. Because of his background of tropical experience and an interest in preventive medicine, he proposed to his management a novel medical policy called Good Neighbor Medicine, which was unlike that of any other industry, to apply these lessons. Indeed, it was an early model of social medicine and medical anthropology funded by industry. In his book, he describes his indirect sales approach, lists milestones, gives a typical worker example, and emphasizes data collection. He demonstrated that the right kind of industrial medical service works in subtle but significant ways to extend its benefits to many people in the countries where it functions.

**Acknowledgments:** This research received no funding. I relied heavily on "Doctors in Oil," a book by Alvin Willis Schoenleber, M.D., copyright 1950, Standard Oil Co. (N.J.), supplemented by my own past experiences as an occupational and environmental health physician employed by multinational companies and an article by Arachu Castro of Tulane University in PanAmerican Journal of Public Health 48, 2024 (translated to English).

**Keywords:** policy, preventive medicine, medical services, natural resources exploitation, population health

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**#41**

# The Historical Evolution of Occupational Exposure to Asbestos, Silica, and Inorganic Dusts in Indonesia: Regulation, Industry Influence, and Shifting Recognition of Occupational Disease (1950–2025)

**Nany Hairunisa[1], Ade Dwi Lestari[1], Hindiyati Nuriyah[1], Alvin Mohamad Ridwan[1], Lie T. Merijanti[1], Diana Samara[1], Magdalena Wartono[1]**

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**Abstract**

**Background.** Occupational exposure to asbestos, crystalline silica, and other inorganic dusts in Indonesia has evolved over seven decades, shaped by industrial development, political-economic priorities, and changing global scientific understanding. While many countries enacted asbestos bans beginning in the 1980s, Indonesia's continued use of chrysotile and late recognition of dust-related occupational diseases reflect a unique regulatory and historical trajectory.

**Objective.** To analyse the historical development of inorganic dust exposure in Indonesia and examine how scientific knowledge, regulatory frameworks, industrial interests, and occupational health priorities evolved from the 1950s to the present.

**Methods.** A historical narrative review was conducted using labour laws, industrial policy documents, Ministry of Manpower archives, WHO/ILO reports, Indonesian occupational disease registries (where available), and peer-reviewed publications from 1950 to 2025. Sources were analysed using a chronological framework and thematic coding focused on policy evolution, disease recognition, surveillance practices, and socio-political influences.

**Results.** Three significant historical periods were identified:

1. **Industrial Expansion and Lack of Awareness (1950–1985):** Early asbestos-import and silica-intensive industries operated with minimal regulation, and pneumoconiosis cases were rarely recorded.
2. **Scientific Evidence and Partial Regulatory Response (1986–2010):** International bans and advocacy influenced Indonesian regulations, including the first national exposure limits, but enforcement was limited, and chrysotile was defended under "controlled use" narratives.
3. **Modern Policy Debate and Persistent Exposure (2011–2025):** Improved surveillance efforts, research growth, and civil-society pressure revived discussions on national asbestos prohibition and silicosis prevention; however, Indonesia remains one of Asia's largest asbestos consumers, and reporting of silica-related diseases remains inconsistent.

**Conclusion.** The persistence of dust-related hazards in Indonesia is rooted in historical regulatory inertia, competing industrial interests, and delayed medical recognition. Understanding this evolution provides critical context for future policy reform, improved disease surveillance, and alignment with global occupational health protection standards.

**Acknowledgments:** The authors express sincere gratitude to the Center for Occupational Medicine Studies, Faculty of Medicine, Universitas Trisakti, for academic guidance and technical input during manuscript preparation.

**Keywords:** Indonesia, asbestos history, silica, pneumoconiosis, occupational exposure, regulation timeline, industrial hazards, historical occupational health

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**#42**

# The Eye as a Forgotten Organ: Historical Trajectories of Ocular Surface Damage from Asbestos, Silica, and Inorganic Dust Exposure in Indonesian Workers

**Husnun Amalia[1], Nany Hairunisa[2], Yasmine Mashabi[3]**

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## Abstract

**Background:** Historically, occupational exposure to asbestos, silica, and inorganic dust has been primarily associated with respiratory diseases such as asbestosis and silicosis. Since the early 20th century, international literature has documented irritation, conjunctivitis, and degenerative ocular changes from dust exposure; however, these effects received limited attention in occupational medicine frameworks, which largely conceptualized the lung—not the eye—as the primary target organ. In Indonesia, industrial expansion beginning in the 1970s increased the use of asbestos and silica in construction, mining, ceramics, and brick manufacturing. Yet, routine surveillance and policy discussions rarely included visual health despite recurring worker complaints.
**Objective:** To examine the historical evolution of scientific recognition, surveillance practices, and policy responses related to ocular surface disease caused by occupational dust exposure globally and in Indonesia, while identifying persistent gaps in prevention and regulation.
**Methods:** A narrative historical review was conducted using PubMed, Scopus, Google Scholar, Indonesian regulatory archives, and grey literature from 1920 to 2024. The material included early industrial hygiene reports, evolving clinical classifications, historical policy documents, and contemporary epidemiological evidence on asbestos- and silica-related ocular surface damage.
**Results:** Historical evidence shows early ophthalmologic symptoms among dust-exposed workers were described as far back as 1930–1955 in mining and cement industries, yet they were framed as minor irritations rather than occupational disease. By the late 20th century, advancements in tear film physiology and microscopy revealed mechanistic pathways including oxidative stress, epithelial microtrauma, and meibomian gland dysfunction. Despite these developments, ocular outcomes remained absent from most occupational surveillance programs globally. In Indonesia, the introduction of asbestos-based industrial products in the 1980s and the expansion of silica-exposed manufacturing did not lead to parallel regulatory recognition of ocular hazards. The Indonesian Occupational Health Standards emphasize respiratory monitoring, while uptake of protective eyewear remains low. Recent studies report high prevalence of dry eye symptoms, pterygium, and conjunctival degeneration among exposed workers, reflecting a lag between scientific understanding and policy implementation.
**Conclusion:** The history of asbestos and silica hazards demonstrates a long-standing under-recognition of the eye as a vulnerable target organ. Although scientific understanding has evolved, regulatory and clinical practice—particularly in Indonesia—has not yet fully integrated ocular protection or surveillance. A historical reassessment of occupational health priorities may support more substantial prevention efforts and help correct decades of omission.

**Acknowledgments:** The authors would like to express their sincere gratitude to the Faculty of Medicine, Universitas Trisakti, and the Center for Occupational Medicine Studies for their continuous support throughout the development of this paper.

**Keywords:** history of occupational health; ocular surface disease; silica; asbestos; inorganic dust; worker protection; Indonesia.

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**#43**

# Environmental Pollution and the Rising Burden of Hay Fever (Allergic Rhinitis): A Historical Analysis of Occupational and Industrial Health Impacts

**Ram Gopal Parihar**[1]

[1] PhD Scholar, Madhav University, Rajasthan, India
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## Abstract

The history of Hay Fever (Allergic Rhinitis) provides a compelling lens through which to examine the evolution of occupational and environmental health concerns from the Industrial Revolution to the present day. Originally documented as a "disease of the elite" in the nineteenth century, hay fever's epidemiological transformation into a widespread public health crisis reflects profound socio-economic and environmental changes driven by industrialization, urbanization, and occupational exposures.

This study traces the historical trajectory of hay fever from its early clinical recognition to its contemporary status as a pollution-linked respiratory disorder, examining how occupational hazards and industrial emissions have shaped epidemiological patterns across different historical periods. The research employs historical analysis through archival medical records, industrial safety reports, public health surveys, and epidemiological datasets. Case studies focus on heavily industrialized zones in Punjab, particularly around the Buddha Nallah industrial corridor in Ludhiana and water canal settlements in Jalandhar, where industrial workers and nearby communities have demonstrated disproportionately high rates of respiratory disease.

Results indicate that the prevalence of hay fever escalated dramatically with industrial expansion. Workers in textile mills, chemical plants, metal processing units, and mining environments faced chronic exposure to coal dust, chemical vapors, textile fibers, and metallic particles, leading to markedly elevated rates of allergic rhinitis, bronchitis, and long-term respiratory complications. Post-World War II public health research established definitive causal links between industrial emissions, air pollution, and hypersensitivity respiratory disorders. Responses evolved from pharmacological treatments to include complementary interventions such as Indian Neurotherapy, emphasizing immune strengthening, lymphatic drainage, and respiratory rehabilitation.

This historical perspective highlights essential lessons for contemporary public health policy: the need to integrate occupational safety measures with environmental protection, prioritize early medical surveillance among industrial populations, and recognize the long-term societal burden of unchecked industrial expansion.

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**Keywords**. Hay Fever, Allergic Rhinitis, Industrial Pollution, Occupational Health History, Environmental Health

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**#44**

# The Effects of the Same Day Notification of Employment Regulation in Turkish Social Security Legislation on Work Accident Notification Statistics and Sectoral Projections

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**Abstract**

In Turkish occupational health (OH) and safety literature, starting a job is considered a high-risk period from both a medical and legal standpoint. Before 2006, OH in Türkiye was institutionally fragmented among three separate social insurance organizations, leading to informal employment. During this period, most workplace accidents (WA) were systematically concealed as domestic injuries or legal incidents, resulting in underestimation of OH and safety-related illness and mortality rates in statistics.

A historical turning point occurred with Law No. 5510, which came into effect in 2006 and was fully implemented in 2008. The amendment to Article 8 of the law restructured the social security system, introducing mandatory registration from the day of employment. This reform marked a transition towards immediate legal responsibility. The reform expanded insurance coverage from the day of employment, providing employees with immediate access to healthcare and social security benefits, while simultaneously reducing the risk of retroactive administrative and criminal liability for employers by requiring real-time documentation of the start date of employment. More importantly, it institutionalized protection within the first 24 hours of starting work.

An analysis of national WA data from 2007-2012 reveals the epidemiological pattern accompanying this transformation. Despite a 40% increase in the insured workforce, injury rates per insured worker decreased by 33.8%. Fatal occupational accident numbers decreased by 62%, while fatality rates per 100,000 insured workers fell by 73%. This demonstrates that the reform contributed to real improvements in workplace safety, beyond effects attributable solely to improved reporting.

In conclusion, this legal change has improved the reporting of WA, increased visibility, particularly in the construction and mining sectors, and enabled public health policies to be shaped with more concrete data. Timely and accurate reporting, supported by legal safeguards, serves as a reference model for developing countries in protecting worker health and modernizing social security systems

**Acknowledgments:** None

**Keywords:** Occupational Health, Occupational Health and Safety, Occupational Accidents, Social Insurance

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**#45**

# Unmasking Silica: Correcting Diesel Particulate Matter Interference and its Implications for the History of Occupational Risk in Andean Underground Mining

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## Abstract

Andean underground mining has operated with diesel equipment for decades, creating an environment of critical co-exposure to diesel particulate matter (DPM) and respirable crystalline silica (RCS). Historically, this interaction has concealed the real risk: monitoring conducted in 2024 using standard methods reported RCS concentrations below the limit of detection (<LOD) in heavy equipment, despite visible DPM saturation. This research posits that the DPM carbon matrix interferes with X-ray diffraction analysis (NIOSH 7500), systematically underestimating silicosis and synergistic risk.

To prove this, personal exposure of operators (scoop tram, jumbo, simba) was evaluated in 2025 during 10-hour shifts, applying two methodological corrections: 1) calcination pretreatment (ashing) to eliminate organic/carbonaceous interference before silica analysis, and 2) correction of the occupational exposure limit (OEL) using the Brief & Scala model (factor 0.7) for extended shifts.

The results confirm the unmasking. While DPM (NIOSH 5040) maintained extreme levels, exceeding the corrected OEL by up to 62.14 times (avg 26.59x), RCS emerged dramatically after ashing: from being "undetectable" in 2024, it exceeded the corrected OEL by up to 4.57 times (avg 1.06x).

It is concluded that the omission of ashing in diesel-rich atmospheres has perpetuated a historical "false negative" regarding silica. The analytical correction reveals a compound risk (carcinogenic + fibrogenic) of critical magnitude, demanding an immediate reevaluation of occupational hygiene in global mining.

**Acknowledgments:** The authors gratefully acknowledge the dedication and time contributed by the research team to realize this study. Special recognition is extended to the workers of the mining unit, whose participation and collaboration during the sampling tests were fundamental to obtaining these data. This research was conducted without external financial support.

**Keywords:** Crystalline silica, diesel particulate matter, synergistic risk, occupational hygiene, underground mining.

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**#46**

# Not Ancient History Yet: Silicosis among Bluestone Workers in New York and Pennsylvania, United States

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## Abstract

Bluestone has been quarried for centuries in New York and Pennsylvania. Found only in that geographic region, bluestone's durability and beauty was, and still is, prized in construction and landscape design. Before the advent of concrete, bluestone was found underfoot as New York City's leading sidewalk material, and nearly two centuries on, found aloft in the oldest active railroad bridge in Pennsylvania (Starrucca Viaduct, built in 1848). That durability is due much in part to the stone's high (70-90%) silica content. Today, bluestone operations have modernized to adopt engineering controls such as wet cutting and ventilation, along with the use of personal protective equipment and administrative controls. However, some small quarries and mason operations continue to employ the heritage work techniques of the previous generations. The result is poor dust control, leaving workers exposed to high levels of airborne silica.

Our hospital has documented a concerning trend of silicosis among bluestone workers in our region. In response, we have 1) worked to build trust among the workers, 2) embarked on a pilot study of worker health and silica exposure, 3) created a bluestone patient registry and 4) disseminated health information among this population. Over the last two years, we have communicated with the bluestone industry via direct mail, newspaper articles, email, telephone, and in-person meetings. Building trust has been a slow process, as the industry is independent, rural, and dominated by family businesses, passed down through the generations. As of October 2025, five workers have been enrolled in the pilot study which assesses work practices, lung function (spirometry and radiography) and provides expert respirator fit testing. Through these measures, we hope to stem the development of silicosis. This presentation will share late-breaking updates on this important occupational exposure and disease.

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**Keywords:** silicosis, bluestone, quarrying

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**#47**

# Silicosis Among Artificial Stone Fabrication Workers: A New Face of an Old Threat

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**Abstract**

In Türkiye, silicosis—historically recognized as a disease affecting denim sandblasting workers—is a preventable yet fatal occupational disease. Denim sandblasting was introduced in the 1980s and became widespread in the 1990s due to the popularity of distressed and bleached jeans. Workers, often employed in small, poorly ventilated workshops without adequate personal protective equipment, began to experience progressive dyspnea. Through clinicians' investigative efforts and detailed occupational histories, the diagnosis of silicosis was eventually established.

As a result of advocacy by affected workers and civil society organizations, the Denim Sandblasting Workers' Solidarity Committee was formed, followed by the launch of the Clean Clothes Campaign. These initiatives led to significant regulatory changes: denim sandblasting was banned in Türkiye in 2009, silicosis was formally recognized as an occupational disease, and affected workers were granted access to free medical treatment. Consequently, a marked reduction in the incidence of denim sandblasting–related silicosis was achieved.

With technological advancements, the production and processing of artificial stone have emerged as a new industrial practice worldwide and in Türkiye. Artificial stone, widely used for kitchen and bathroom countertops, contains more than 90% crystalline silica—significantly higher than that found in most natural stones. During cutting, grinding, and shaping processes, high concentrations of respirable silica dust are generated, leading to accelerated and acute forms of silicosis. This has resulted in the re-emergence of silicosis as a major occupational health concern, even in high-income countries.

Türkiye is among the countries where artificial stone is commonly used, and recent studies evaluating patients diagnosed with silicosis have emphasized this emerging risk. In a study conducted in Istanbul, Türkiye, between January 2021 and 2025, 15 patients were diagnosed with artificial stone–related silicosis. Obtaining detailed occupational histories—beyond job titles and including specific tasks performed—plays a crucial role in improving diagnostic accuracy. However, given the absence of an effective curative treatment, prevention remains the cornerstone of disease control.

Restricting or banning the use of artificial stone, analogous to the successful campaign against denim sandblasting, represents a critical preventive strategy. The recent prohibition of artificial stone in Australia provides a compelling precedent and may serve as an evidence-based example to draw the attention of policymakers toward urgent regulatory action.

**Acknowledgments:** None

**Keywords:** Occupational Health, Silicosis, Artificial Stone

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**#48**

# Unrecognized Lessons: Early European Insights into Reproductive Toxicity from Workplace Exposures

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## Abstract

Reproductive toxicants represent a long-standing yet underestimated issue in the history of occupational health. One of the earliest reports came from the French clinician Constantin Paul (1833–1896), who reported miscarriages, stillbirths, and infant mortality among lead-exposed female workers. In 1861, he documented that 91 of 141 pregnancies in lead-exposed workers resulted in fetal death. These findings were soon supported by studies on both maternal and paternal saturnism and fetal outcomes, particularly those by the Italian gynecologist Alessandro Cuzzi (1849–1895) in Pavia. Reproductive risks were also discussed at the First Italian Congress of Occupational Medicine, held in Palermo in 1907, which highlighted concerns that could have guided earlier preventive strategies. In Italy, as elsewhere in Europe, these case studies were largely ignored in policymaking, partly due to economic pressures and persistent gender biases. In 1925, important reflections were advanced by Livia Lollini (b. 1889), assistant physician to Luigi Devoto (1864 –1936) at the Clinica del Lavoro in Milan, who emphasized the need for medical surveillance of women workers. The thalidomide disaster (1957–1961) marked a dramatic turning point, exposing the inadequacy of toxicological testing and the underestimation of fetal susceptibility to chemical agents – including those encountered in occupational settings. Only from the 1960s onward did the FDA, WHO, and later OSHA and OECD establish structured guidelines for fertility, embryotoxicity, and teratogenicity testing. International harmonization followed in the 1990s and 2000s, and today reproductive toxicants are formally recognized in European regulations such as REACH and Directive 2022/431. Revisiting these historical case studies shows that relevant evidence on reproductive risks had emerged much earlier, yet the potential value of early clinical observations was not fully exploited to advance prevention. Understanding why this evidence was overlooked can inform contemporary regulatory frameworks and strengthen current strategies for safeguarding reproductive health in the workplace.

**Keywords:** reproductive toxicity, occupational exposure, historical case studies, lead poisoning, history