

Beate McKenzie

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Beehive Air Therapy (BHA) is the least well-known and studied product from the beehive. While BHA as a wellness practice is accessible and unregulated, Beehive Air Therapy as a medical application (BHAT) requires adherence to high beekeeping and medical standards and the use of a certified medical system.

Despite its growing popularity, no existing BHA device is without fault or medically certified. Until now, no regulations governed their manufacturing, impact on bees, or user safety.

Jürgen Schmiedgen, Entrepreneur, Bio Beekeeper & Apitherapy Consultant, developed the beecura® SYSTEM to meet these standards, aligning with the European Medical Device Regulation (MDR 2017/745), which states that inhalation devices must be classified as medical devices.

Several studies in Germany, Brazil, Saudi Arabia, and Canada have analysed the composition of beehive air and its bioactive properties, confirming the presence of over 50 volatile organic compounds (VOCs) from propolis, beeswax, and honey. These studies support the therapeutic potential of BHAT, and advancements in air quality monitoring technology are ongoing.

In 2017, Prof. Speer and his team at the Technical University Dresden, Germany, were the first to analyse beehive air scientifically.

Clinical trials confirmed the beecura® SYSTEM's safety for respiratory patients, leading to MDR certification. Medical-grade manufacturing and beekeeping standards were implemented for safety and consistency.

Since 2019, beekeepers and medical professionals have successfully provided BHAT, following high beekeeping and medical standards. In Austria and Belgium, some health insurances have started recognising BHAT for private patients, and Turkey now recognises Apitherapy as an alternative therapy.

Beecura provides training on recommended minimum and high-standard beekeeping requirements for beehives used in BHAT. Beekeepers are encouraged to obtain the highest national beekeeping certifications to ensure quality and safety.

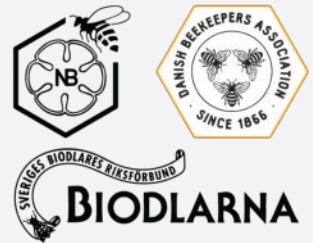
By adopting these standards, beekeepers can enter a professionalised apitherapy sector, enhancing safety, credibility, and economic opportunities while promoting sustainable beekeeping.

From Beekeeping to Medical Certification

The Evolution of Beehive Air Therapy · Beate McKenzie, Dipl. BW (BA) — Beecura®



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Today's Roadmap

- Origins & early practice
- From wellness to system (ApiAir → Beecura®)
- What's in beehive air (chemistry)
- Scientific milestones
- Engineering the Beecura® system
- Certification, adoption & impact
- Q&A

Early Origins

- Eastern Europe: sitting by/sleeping on hives
- Breathing warm hive air as folk wellness
- Least-studied bee product vs. honey/propolis/venom



Germany: From Wellness to System

- Hans Musch popularised ApiAir sessions
- Introduced to the German market as wellness
- This is how my father discovered hive air



ApiAir device (Hans Musch)

Dedication: Jürgen Schmiedgen (1953–2025)

- Vision: a medical system (not just wellness)
- Make a difference in people's lives



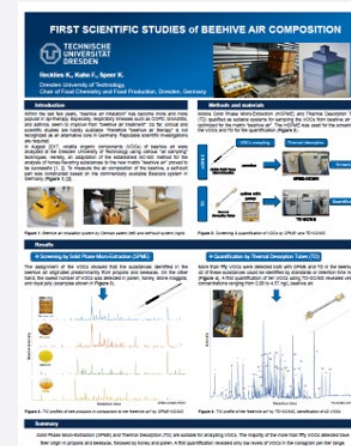
What's in Beehive Air?

- Plant volatiles carried by bees (wax, pollen, propolis)
- Aromatic compounds (essential oils) as natural aerosol



Scientific Milestones

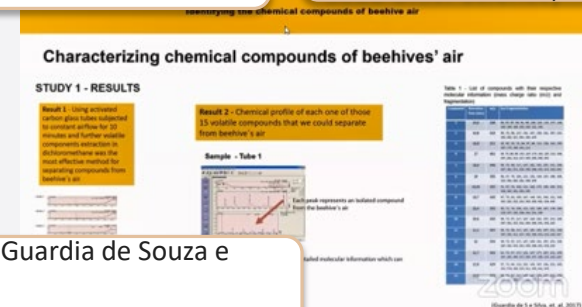
- 2015: Fraunhofer — composition groundwork
- 2017–18: TU Dresden (Prof. Speer) — sampling & GC-MS
- 2018/19: Brazil (Tiago Guardia de Souza e Silva, BSc Biology) — thesis & Apimondia
- 2021: Taif Univ., Saudi Arabia — volatilome/antimicrobial
- 2024: AWC (Canada) — update study



TU Dresden (Prof. Speer) – first standardized sampling & GC-MS



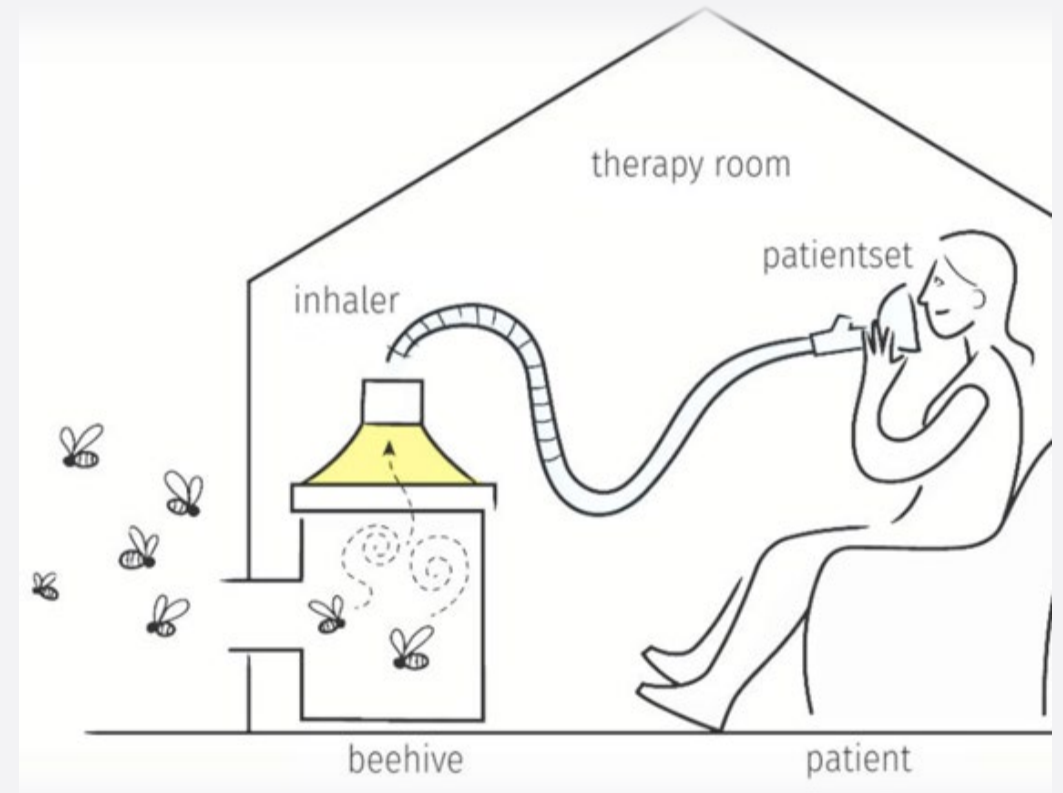
Taif University 2021 – beehive-air volatilome (J. King Saud Univ.-Science)



Tiago Guardia de Souza e Silva
BSc Biology

How It Works (Concept)

- Beecura® suction hood draws hive air from the active colony
- Flow is filtered and regulated by the control unit
- Patient uses an individual-use kit (mask + hose) for the full treatment cycle



Engineering Objectives

- Safety around live colonies
- Stable delivery despite hive variability
- Hygiene & traceability at the patient interface
- Design aligned to MDR requirements



The Challenge

- Every hive is different (forage, season, climate)
- No dosage control in ad-hoc setups
- Allergy risk and general safety concerns



The Need for a System

- Controlled medical device
- Individual-use accessory kits (one per person per treatment cycle)
- Traceability & documentation



Evolution of the Beecura[®] System

- Engineered for safety
- Reproducible air delivery
- Hardware & processes aligned to certification



Safety First

- Allergy screening before sessions
- First-aid readiness on site
- Medical oversight & protocols



Certification & Adoption (MDR)

- EU MDR conformity strategy
- Technical documentation + risk management (ISO 14971)
- Usability, PMS & clinical evaluation aligned to intended use
- Growing network of therapy centres



Where We Are Now

- Active therapy centres worldwide
- First international customer: Apimondia Montréal 2019
- Certification advancing



Where We Are Now (Europe Detail)

- Dense network in DACH;
expansion across FR/ES/CZ/Baltics
- Growing interest from
respiratory clinics & wellness
centres



Impact for Beekeepers

- New income streams
- Stronger community ties
- Tradition + innovation



Impact for Medicine

- Non-invasive device
- Natural warm aerosol
- Potential supportive use with oversight



Thank you



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Also available: 3-part online course on Beehive Air Therapy



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