

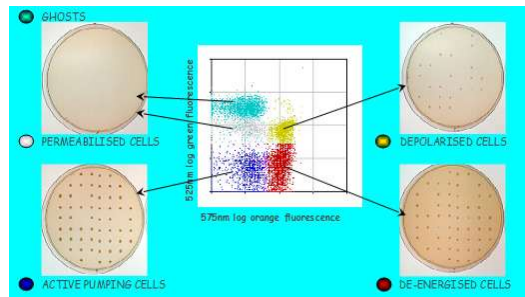
# Gerhard Nebe-von-Caron

3 The Drive,  
Sharnbrook, Bedfordshire,  
GB - MK44 1HU

+44 7597 384399 |

+44 1234 781777

:[g.nebe.von.caron@gmail.com](mailto:g.nebe.von.caron@gmail.com)



## Personal Profile

Innovative and analytical Biomedical Engineer and Research Scientist with over 30 years of experience in cytometry, rapid diagnostics, and assay development. Internationally recognized expert in the cytometry of microorganisms and nanoparticles, with a proven track record of solving complex technical challenges and driving assay innovation. Known for precision, clarity of thought, and a pragmatic approach to scientific problem-solving.

## Professional Experience

### **Bioscience Research Consultant – uCyte** Dec 2014 – Present

- Provided consultancy in applied cytology and assay optimization for commercial vendors.
- Delivered cytometry training and instrument tuning for microparticle and microorganism analysis.
- Diagnosed performance issues in cytometry and immunodiagnosics across platforms and reagents.
- Supporting product development and manufacturing and troubleshooting for lateral flow assays and assay components

### **Senior Scientist – Mologic Ltd** Dec 2016 – Apr 2025

- Enhanced lateral flow assay sensitivity through mathematic analysis and assay choreography.
- Developed particle scoring methods to determine detection limits independent of assay format.
- Introduced molecular budgeting for particle sensitization and sample dilution optimization.
- Diagnosed and resolved immunoassay variability upscaling and reagent stability issues.
- Maintained cytometry instruments, water purification and assay manufacturing systems.
- Secured a \$5Mio grant by the Gates foundation explaining the mathematics behind lateral flow tests.

### **Senior Research Scientist – Alere International / Unipath Ltd** Aug 2002 – Sep 2014

- Led troubleshooting and development of lateral flow assays and POC coagulation assays.
- Developed fluorescence-based visualization and time-resolved reader systems for diagnostics.
- Provided nanoparticle QC for lateral flow immunoassays

### **Senior Research Scientist – Unilever Research, Colworth** 1996 – 2002

- Established nanoparticle cytometry QC systems to prevent production failures
- Codeveloped camera system for quantitative reading of lateral flow immunoassays
- Pioneered viability assessment of microorganisms via multicolour flow cytometry.
- Conducted dietary intervention studies on immune modulation by nutritional components.
- Managed cytometry lab and trained scientists in experimental design and execution.

### **Research Scientist – Unilever Research, Colworth** 1990 – 1995

- Supported **Sequoia Turner Corporation** haematology analyser development through cytometry and assay design.
- Developed sterile single-cell sorting methods and antibody-based bacterial differentiation.

### **Research Associate – Orpegen GmbH (Germany)** 1985 – 1989

- Codeveloped immune function assays (Phagotest, Bursttest, NK test).
- Patented rapid detection methods for methanogens and wastewater microbiology.

## Education

**PhD – Coventry University (UK)** 1998 Thesis: *Analysis of Naturally Occurring Microbial Populations from Diverse Environments*

**Dipl.-Ing Biomedical Engineering – Technische Hochschule Mittelhessen (Germany)** 1985 Thesis: *Management and Maintenance of Medical Instruments in Hospitals with work experience at Braun Melsungen and home dialysis services*

**Abitur – Grotefend Gymnasium, Hannoversch-Münden** 1979 Subjects: Physics, Mathematics, Ethics, Music



### Technical Expertise

- Flow and image cytometry (microorganisms, nanoparticles, immunodiagnostics)
- Immunoassay development (lateral flow, absorbance, fluorescence, time-resolved detection)
- Instrumentation troubleshooting repair and optimization
- Data visualization and assay kinetics modelling
- Molecular budgeting and particle sensitization
- Training and mentoring in cytometry and assay design
- Proficiency in Microsoft Office
- Clean driving licence A,B,B1,C1,D1,BE,C1E,