

SAMUEL KIRK

FOOD PRODUCT DEVELOPMENT & R&D

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PROFESSIONAL SUMMARY

Food technology and nutrition professional with hands-on academic experience in product formulation, ingredient evaluation, sensory and consumer research, analytical testing, troubleshooting and technical documentation. Combines an MSc in Food Technology and Nutrition with research, teaching, sports-nutrition and customer-facing experience. Prepared to support food R&D, laboratory, technical application and quality-focused teams while continuing to develop industrial pilot-plant and manufacturing experience.

CORE CAPABILITIES

Food formulation • Ingredient functionality • Prototype development • Sensory evaluation • Consumer research • Analytical testing • Experimental design • Statistical interpretation • Sample and data documentation • Troubleshooting • Academic process and food-safety design • Technical communication • Team leadership

SELECTED PRODUCT DEVELOPMENT EXPERIENCE

Team Leader - Frozen Hemptation | Lund University | Sweden | 2023

- Participated across every workstream in a seven-person team developing a vegan frozen dessert and hemp-milk concept; coordinated collaborative work while preserving shared technical ownership.
- Conducted iterative formulation, ingredient-function assessment, flavour masking, side-stream flour integration, cone and brownie prototyping, and troubleshooting; documented an unsuccessful overrun trial as learning rather than successful optimisation.
- Contributed to a market survey (n=56), four-part 9-point hedonic sensory study (n=142, ages 18-76), one-way ANOVA, rheometry, particle-size analysis, pH, dry matter, yield, melting-rate and replicate measurements.
- Developed academic process-flow, mass-balance, equipment, capacity, energy, CIP, GHP/HACCP, sustainability and commercial-scenario concepts; co-produced a 94-page technical report.
- Completed KLG50 (15 ECTS) with distinction and received the departmental Most Innovative Food Product award.

MSc Functional-Food Prototype and Human Study | Lund University | Sweden | 2024

- Formulated and standardised treatment and control prototypes containing plant polar lipids through controlled preparation trials, sensory observation and repeatability checks.
- Performed enzymatic starch analysis, UV-Vis spectrophotometry, replicate calculations and structured data-quality checks.
- Implemented a randomised crossover dietary intervention and analysed postprandial glycaemic and appetite outcomes using AUC, incremental AUC, transformation, confidence intervals and general linear model ANOVA.

RELEVANT EXPERIENCE

Research Assistant | Acadia University | Canada | May-Sep 2021

- Supported literature review, experimental planning, data collection, surveys and accurate research documentation in faculty-led nutrition research.

Teaching Assistant | Acadia University | Canada | Sep 2021-Apr 2022

- Led review sessions, delivered occasional lectures, assessed technical work and translated complex nutrition concepts for varied audiences.

Head of Sports Nutrition | Acadia Athletics | Canada | Sep 2021-Apr 2022

- Delivered evidence-based nutrition education, collaborated with coaching staff and monitored applied nutrition and performance outcomes.

Athlete | Nike / Retailors International | Malmö, Sweden | May-Sep 2023

- Supported customers, sales, cash handling and visual merchandising in a fast-paced international retail environment.

Retail Sales Associate | Supplement King | Wolfville, Canada | Sep 2019-Aug 2022

- Provided customer support, explained nutrition products, handled inventory and returns, and contributed to social-media activities.

TECHNICAL SKILLS

FORMULATION AND PRODUCT EVALUATION

Plant-based formulation; functional ingredients; ingredient-function assessment; sensory evaluation; hedonic testing; consumer surveys; texture and melting-rate evaluation; troubleshooting; process standardisation.

LABORATORY AND ANALYTICAL

UV-Vis spectrophotometry; enzymatic analysis; pH measurement; titration; rheology; Mastersizer particle-size analysis; dry matter; yield; fermentation; microbial culturing; microscopy; replicate testing and sample tracking.

DATA AND DOCUMENTATION

Experimental design; data preparation; ANOVA; AUC and incremental AUC; confidence intervals; technical reports; methods and results documentation; data-quality checks; literature review; presentations.

ACADEMIC DESIGN EXPERIENCE

Process-flow diagrams; mass balance and yields; equipment selection; capacity and energy modelling; CIP concepts; GHP/HACCP plan development; sustainability and commercial scenario modelling. Academic design evidence only, not industrial implementation or certification.

EDUCATION

MSc, Food Technology and Nutrition | Lund University | Sweden | 2024

Focus: food formulation, food processing, analytical methods, human nutrition research, sensory science and statistical interpretation.

BSc, Nutrition and Dietetics | Acadia University | Canada | 2022

Foundation in nutrition science, physiology, biochemistry, sensory evaluation, research methods and applied communication.

SOFTWARE

R and RStudio • Microsoft Excel, Word, PowerPoint and Access • Minitab • GraphPad Prism

SELECTED RECOGNITION

- Most Innovative Food Product, Lund University (2023)
- School of Nutrition and Dietetics Leadership Award and Teaching Assistant Recognition Award, Acadia University (2022)
- Susie Golding Langley Award for Contributions in Sport Nutrition, Acadia University (2021)

LANGUAGES AND MOBILITY

English (native) | French (B1) | Swedish (A1) | Based in Peterborough, Ontario; open to relocation in Canada and Europe