Samvel B. GASPARYAN

Biostatistician /Statistical Science Associate Director

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Biostatistician with more than 6 years of experience working in the pharmaceutical industry. Primary therapeutic areas of interest are CVRM (cardiovascular, renal and metabolism). Experience in contributing to the development of the statistical strategy, overseeing the technical activities related to design, delivery and interpretation, as well as participating in high level internal governance committees and regulatory submissions of a project, and representing Biometrics in cross-functional collaborations. Teaching experience from Le Mans University, American University of Armenia and Yerevan State University. The main taught courses are Statistics and Data Science with R. Research interests are in the field of Statistics of Stochastic Processes.

EDUCATION

Doctor of Philosophy in Mathematical Statistics, *Le Mans University* Dec 2016
Master of Science in Probability & Mathematical Statistics, *Yerevan State University* May 2012
Bachelor of Science in Mathematics, *Yerevan State University* May 2010

TECHNICAL EXPERIENCE

Biostatistician **Jan 2019 — Present**
AstraZeneca *Gothenburg, Sweden*

- Statistician working in Phase 3 cardiovascular outcome trials
- Writing the statistical sections of the protocol
- Creating the Statistical Analysis Plan (SAP)
- Overall design and implementation of analysis and reporting

Lecturer **Sep 2018 — Dec 2018**
Yerevan State University *Yerevan, Armenia*

- Introduction to R programming, M1 (Applied Statistics and Data Science Master Program).

Biostatistician **Nov 2016 — Nov 2018**
ClinCoice Inc. *Yerevan, Armenia and Philadelphia, USA*

- Worked on projects in different therapeutic areas.
- As a study lead statistician worked on a device study that identifies the hemostasis condition of individuals, which successfully passed the FDA clearance.

Temporary Teaching and Research Assistant (Attaché Temporaire d'Enseignement et de Recherche) **Sep 2015 — Aug 2016**
Le Mans University *Le Mans, France*

- Statistics with R, M1 (for Mathematicians).
- Linear Algebra, B1 (for Physicists).
- Analysis, B1 (for Engineers).
- General Mathematics, B1 (for Engineers).
- Mathematical Tools, B1 (for Biologists).
- Descriptive Statistics, B1 (for Biologists).
- Descriptive Statistics, B1 (for Biologists).

Teaching associate (Enseignant vacataire) **Sep 2014 — May 2015**
Le Mans University *Le Mans, France*

- Statistics with R, M1 (for Mathematicians).
- Numerical Series and Discrete Probabilities, B2 (for Engineers).
- Descriptive Statistics, B1 (for Biologists).

ACTIVITIES

WHO Regional Office for Europe, Statistical Consultant/Facilitator Mar 4, 2019 — Mar 9, 2019
Copenhagen, Denmark

WHO/TDR Educational Initiative, Statistical Consultant/Facilitator Dec 7, 2018 — Dec 14, 2018
Lviv, Ukraine

WHO/TDR Educational Initiative, Statistical Consultant/Facilitator Aug 17, 2018 —Aug 24, 2018
Yerevan, Armenia

SKILLS

Tools and Languages	R, SAS, Python, LaTeX, MarkDown, SQL
Quantitative Research	Mathematical Statistics, Clinical Trials
Communication	Armenian, English, Russian, French

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PUBLICATIONS

PhD related

Papers

- **Gasparyan SB**, Kutoyants YA. An example of one-step MLE-process in volatility estimation problem. National Academy of Sciences of the Republic of Armenia. Mathematics. 2015 Jul 1;50(3):71-6.
- **Gasparyan SB**, Kutoyants Y. On approximation of the BSDE with unknown volatility in forward equation. Armenian Journal of Mathematics. 2015 May 27;7(1):59-79.
- **Gasparyan SB**, Kutoyants YA. On the lower bound in second order estimation for Poisson processes: Asymptotic efficiency. Mathematical Methods of Statistics. 2017 Jan;26(1):1-9.
- **Gasparyan SB**. Second order asymptotical efficiency for a Poisson process. Journal of Contemporary Mathematical Analysis. 2015 Mar;50(2):98-106.

PhD Thesis

- **Gasparyan SB**. Two problems of statistical estimation for stochastic processes (Doctoral dissertation, Université du Maine; Université d'Etat d'Erevan).

Clinical Trials

DAPA-HF

- Jhund PS, Ponikowski P, Docherty KF, **Gasparyan SB**, Böhm M, Chiang CE, Desai AS, Howlett J, Kitakaze M, Petrie MC, Verma S. Dapagliflozin and recurrent heart failure hospitalizations in heart failure with reduced ejection fraction: an analysis of DAPA-HF. Circulation. 2021 May 18;143(20):1962-72.

DARE-19

- Kosiborod M, Berwanger O, Koch GG, Martinez F, Mukhtar O, Verma S, Chopra V, Javaheri A, Ambery P, **Gasparyan SB**, Buenconsejo J. Effects of dapagliflozin on prevention of major clinical events and recovery in patients with respiratory failure because of COVID-19: Design and rationale for the DARE-19 study. Diabetes, Obesity and Metabolism. 2021 Apr;23(4):886-96.
- Kosiborod MN, Esterline R, Furtado RH, Oscarsson J, **Gasparyan SB**, Koch GG, Martinez F, Mukhtar O, Verma S, Chopra V, Buenconsejo J. Dapagliflozin in patients with cardiometabolic risk factors hospitalised with COVID-19 (DARE-19): a randomised, double-blind, placebo-controlled, phase 3 trial. The Lancet Diabetes & Endocrinology. 2021 Sep 1;9(9):586-94.
- Heerspink HJ, Furtado RH, Berwanger O, Koch GG, Martinez F, Mukhtar O, Verma S, **Gasparyan SB**, Tang F, Windsor SL, de Souza-Dantas VC. Dapagliflozin and Kidney Outcomes in Hospitalized Patients with COVID-19 Infection: An Analysis of the DARE-19 Randomized Controlled Trial. Clinical Journal of the American Society of Nephrology. 2022 May 1;17(5):643-54.

DAPA-HF and DELIVER Pooled

- Jhund PS, Kondo T, Butt JH, Docherty KF, Claggett BL, Desai AS, Vaduganathan M, **Gasparyan SB**, Bengtsson O, Lindholm D, Petersson M. Dapagliflozin across the range of ejection fraction in patients with heart failure: a patient-level, pooled meta-analysis of DAPA-HF and DELIVER. Nature medicine. 2022 Sep;28(9):1956-64.

Clinical Trial Methodology

Statistical Methodology

- **Gasparyan SB**, Folkvaljon F, Bengtsson O, Buenconsejo J, Koch GG. Adjusted win ratio with stratification: calculation methods and interpretation. Statistical Methods in Medical Research. 2021 Feb;30(2):580-611.
- **Gasparyan SB**, Kowalewski EK, Folkvaljon F, Bengtsson O, Buenconsejo J, Adler J, Koch GG. Power and sample size calculation for the win odds test: application to an ordinal endpoint in COVID-19 trials. Journal of Biopharmaceutical Statistics. 2021 Nov 2;31(6):765-87.
- **Gasparyan SB**, Kowalewski EK, Koch GG. Comments on "Sample size formula for a win ratio endpoint" by RX Yu and J. Ganju. Statistics in Medicine. 2022 Jun 30;41(14):2688-90.

Novel Endpoints

- **Gasparyan SB**, Buenconsejo J, Kowalewski EK, Oscarsson J, Bengtsson OF, Esterline R, Koch GG, Berwanger O, Kosiborod MN. Design and analysis of studies based on hierarchical composite endpoints: Insights from the DARE-19 Trial. Therapeutic Innovation & Regulatory Science. 2022 Sep;56(5):785-94.

Novel Visualization

- Karpefors M, Lindholm D, **Gasparyan SB**. The maraca plot: A novel visualization of hierarchical composite endpoints. Clinical Trials. 2022 Nov 14:17407745221134949.