Soline Bourgeois

Independent Translational Science Consultant



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Executive Profile

Independent senior consultant with 30 years of experience in renal physiology, cardio-renal pathophysiology, and translational biomedical research. Proven ability to bridge fundamental science, preclinical models, and clinical investigation to support drug development, biomarker strategies, and medical innovation. Expert in acid-base disorders, electrolyte imbalance, rare kidney diseases, and endocrine hypertension. Experienced in project leadership, regulatory-compliant research, bioanalytical strategy, and cross-disciplinary collaboration with clinicians, academia, and industry partners. Available for consulting in research strategy, study design, translational development, scientific evaluation, and expert advisory roles.

Areas of Consulting Expertise

Scientific & Medical Expertise

- Renal & Cardio-Renal Physiology
- Acid-Base Homeostasis & Electrolyte Disorders
- Rare Kidney Diseases & Tubulopathies
- Endocrine Hypertension & Aldosteronism
- Mechanisms of CKD & Aging
- Translational Disease Modeling

Operational & Leadership Skills

- Project & Team Leadership
- Grant Writing & Regulatory Documentation
- Animal Research Licensing
- Cross-functional Collaboration
- Academic–Industry Interface

Research & Development Support

- Preclinical → Clinical Translation
- Study Design (in vivo, ex vivo, in vitro, clinical)
- Biomarker Strategy & Phenotyping
- Bioanalytical Strategy for Biologics
- Data Interpretation & Scientific Due Diligence
- Publication Strategy & Scientific Writing

Technical Skills

- Rodent phenotyping & disease models
- Molecular & cellular biology
- Confocal microscopy, RNAscope, live imaging
- Statistical analysis (SPSS, Prism)
- Large dataset analysis
- Bioanalytical method development

Selected Certifications

- **Drug Development Product Management** — *UC San Diego (Coursera)* | **2026**
- **Medical devices regulations** — *BNF, National Qualification program, online course)* | **2025**
- **Good Clinical Practice II** — *Sponsor-Investigator, TRREE and DCR certifications* | **2025**
- **Felasa level B** — University Paris 6 | **2006**

Education and Qualifications

- **Privatdozentin** (PD) Renal Physiology and Physiopathology — *University of Zurich* | **2020 - 2021**
- **Doctorat of Phylosophy PhD** Renal Physiology - GPA: A — *University Paris 6* | **2001 - 2005**
- **Master** Cellular differenciation and Integrative function - GPA: A — *University Paris 6* | **2000 - 2001**

Selected Scientific Achievements

- 40 peer-reviewed publications (including Nature, JASN, PNAS, JCI). Please, see a selection on page 3 (*https://pubmed.ncbi.nlm.nih.gov/?term=soline+Bourgeois*)
- International recognition in renal acid-base physiology
- Grants and scientific awards

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Work Experience

Founder | Independent Scientific Advisor, *BTNS| Zürich, Switzerland* **August 2026 - Present**
Bourgeois Translational Nephrology Solutions provides strategic scientific advisory services to pharmaceutical, biotechnology, and academic organizations. Specialized in renal physiology, nephrology, translational medicine, and preclinical research, with expertise in study design, target validation, biomarker strategies, scientific due diligence, data interpretation, and scientific communication. Supporting clients in advancing robust, reproducible, and clinically relevant research programs.

Visiting Lecturer, *University Paris Sorbonne| Paris, France* **Nov 2025 - Present**
Teaching Renal Physiology and Physiopathology, MSc Program in Biology and Integrative Physiology
Deliver a Master's course on acid–base homeostasis, focusing on metabolic disorders, renal physiology, and chronic kidney disease.

Senior Clinical Scientist, *University Hospital Zurich (USZ) | Zurich, Switzerland* **May 2025 - Nov 2025**
Exploring the Link Between Hypokalemia and Primary Aldosteronism in hypertensive Patients
My clinical research aims to enhance diagnostic accuracy and clarify hormonal and cardiovascular mechanisms, ultimately improving care pathways in endocrine hypertension.

Senior Scientist, *University of Zurich (UZH)| Institut of Physiology | Zurich, Switzerland* **Apr 2013 - Dec 2024**
Led research on rare kidney diseases, metabolic disorders, and aging, resulting in 7 peer-reviewed publications and 3 press reviews. Supervised students and taught physiology to medical students.

Postdoctoral Researcher, *UZH | Institut of Physiology | Zurich, Switzerland* **Apr 2007 - Apr 2013**
Led research investigating renal compensatory and maladaptive responses to a western diet, culminating in 9 peer-reviewed articles and 3 review publications - Supervised and mentored undergraduate, master's, and PhD students throughout the project lifecycle.

Engineer, *University Paris 6 | Paris, France* **Jan 1996 - Apr 2007**
Led research on acid-base metabolism and transport in the renal nephron - 10 peer reviewed publications, 1 review. Developed and taught the microperfusion technique for isolated renal tubules along with microdissection and nanoliter sampling.

Academic Affiliations

Member — Zurich Kidney Center scientific network (https://www.zurich-kidney.uzh.ch) **2023 - 2025**

Languages

English (Full Proficiency)
French (Native)
German (Working Proficiency)

Additional Information

- Birthdate 31.05.1973 / Married /2 children (2014 - 2016)
- Dual Swiss & French nationalities
- Experienced in international collaborations
- Strong communication and teaching skills.
- Professional references available upon request

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Publications list

 # First authorship,

 # Last authorship

Selection of peer-reviewed publications from among 40 publications

- # Auwerx H, Busch-Dohr M, Li X, Wagner CA, Bourgeois S. WDR72 Is Required for Urinary Acidification and Normal H+-ATPase Activity in Intercalated Cells in Mice. Acta Physiol (Oxf). 2026 Mar;242(3):e70165. doi: 10.1111/apha.70165. PMID: 41636123; PMCID: PMC12869471.
    - *Biallelic inactivating variants in WDR72 are associated with renal and enamel defects in Human, yet the precise function of WDR72 in the kidney remained undefined. We demonstrate that WDR72 is highly expressed at the apical membrane of intercalated cells, where in type A, it regulates urinary acidification through modulation of H^+-ATPase activity. In Wdr72 knockout mice, loss of WDR72 impairs H^+-ATPase function and induces a pronounced, female-specific metabolic acidosis under dietary acid challenge. These findings identify WDR72 as a critical regulator of renal acid-base homeostasis and reveal a novel mechanism underlying sex-specific differences in renal acid handling.*
- # **Bourgeois S**, Kovacikova J, Bugarski M, Bettoni C, Gehring N, Hall A, Wagner CA. The B1 H + -ATPase (Atp6v1b1) Subunit in Non-Type A Intercalated Cells is Required for Driving Pendrin Activity and Renal Defense Against Alkalosis. **J Am Soc Nephrol**. 2024 Jan 1;35(1):7-21. doi: 10.1681/ASN.0000000000000259.
    - *This study reveals that the B1 subunit of the vacuolar H^+-ATPase (Atp6v1b1), previously linked to renal type A intercalated cells and the rare human disorder distal renal tubular acidosis, also plays a vital role in non-type A intercalated cells. Its loss impairs pendrin function, leading to reduced bicarbonate excretion and compromising the kidney's ability to counteract metabolic alkalosis.*
- Stettner P, **Bourgeois S**, Marsching C, Traykova-Brauch M, Porubsky S, Nordström V, Hopf C, Koesters R, Sandhoff R, Wiegandt H, Wagner CA, Gröne HJ, Jennemann R. Sulfatides are required for renal adaptation to chronic metabolic acidosis. **Proc Natl Acad Sci** U S A. 2013 Jun 11;110(24):9998-10003. doi: 10.1073/pnas.1217775110.
    - *We introduced the novel concept that sulfatides, a class of glycosphingolipids involved in cell structure, are crucial for the kidney's adaptation to chronic metabolic acidosis. In sulfatide-deficient mice, acid excretion was impaired, acid-base transporter expression was disrupted, and intercalated cells showed structural abnormalities, underscoring the essential role of sulfatides in preserving acid-base balance.*
- # Biver S*, Belge H*, **Bourgeois S***, Van Vooren P, Nowik M, Scohy S, Houillier P, Szpirer J, Szpirer C, Wagner CA, Devuyst O, Marini AM. A role for Rhesus factor Rhcg in renal ammonium excretion and male fertility. **Nature.** 2008 Nov 20;456(7220):339-43. doi: 10.1038/nature07518. (*shared-authorship)
    - *This study identifies the Rhesus factor Rhcg as a crucial ammonia channel, addressing the longstanding question of how ammonia is transported into the urine. Rhcg-deficient mice showed impaired urinary ammonia excretion and decreased male fertility, underscoring its dual function in maintaining acid-base balance and supporting reproductive health. These major findings were discussed in a comment by M. Knepper Nature. 2008 Nov 20;456(7220):336-7. doi: 10.1038/456336a.*

Review Articles selection

- # **Bourgeois S**, Houillier P. State of knowledge on ammonia handling by the kidney. **Pflugers Arch**. 2024 Mar 7. doi: 10.1007/s00424-024-02940-1.

○ *This review provides a comprehensive update on current knowledge of renal ammonia handling. It details the molecular transporters, cellular mechanisms, and physiological significance of ammonia metabolism in the kidney, emphasizing its central role in acid-base homeostasis and highlighting recent advances and remaining gaps in the field.*

Complete Bibliography *https://pubmed.ncbi.nlm.nih.gov/?term=soline+Bourgeois*