

BOUTOUYRIE Pierre

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1.0 QUALIFICATIONS

- 1993-94: Medical Doctorate. Specialty Heart and Vessel diseases.
- 1996 : Ph.D. in Pharmacology
- 2003 : Habilitation à Diriger des recherches (highest faculty level in France)

1.1 MEDICAL AND RESEARCH ACTIVITIES

- 1993- : Clinical and experimental research in INSERM unit U337, Paris
- 1995-96 : Chief assistant, Department of Internal Medicine, Hôpital Broussais Paris
- 1996-1999 : Chief assistant, Pharmacology Unit, Hôpital Broussais, Paris
- 2000-2006 : Assistant Professor, Pharmacology Unit, Hôpital Européen Georges Pompidou, Paris
- 2006- : Professor of Pharmacology, head of clinical Pharmacology Unit, Hôpital Européen Georges Pompidou, and Inserm U970, Paris
- 2018- : head of the Pharmacology unit, Hôpital Européen Georges Pompidou

1.2 SOCIETIES MEMBERSHIP

- European Society of Cardiology
- Société Française de Pharmacologie et Thérapeutique (SFPT, Secretary between 2007 and 2012)
- Société Française d'hypertension artérielle (SF-HTA, executive committee)
- ARTERY the society Founding member, (Executive committee since 2006, vice-president, president to be 2019)

1.3 EDITORIAL BOARDS AND PUBLIC INTEREST ACTIVITIES

- Hypertension editorial board (since 2006)
- Artery Research editorial board (since creation 2008)
- Elected member of hospital medical council (CMEL), 2002-2006 then 2012-2016
- Scientific committee of the Programme Hospitalier de Recherche Clinique (2008-2016)
- Member of the Strategic orientation committee of INSERM (COSSEC, 2006-2008)
- Scientific committee of the LEEM recherche, 2006-2012
- Scientific committee of the "Rencontres de Giens": 2003-2011
- Writing committee of the Lancet Commission « A global perspective on hypertension »
[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(15\)61178-3/references](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)61178-3/references)
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1.4 FIELD OF RESEARCH

My field of interest is large artery hemodynamics, especially the interplay between large artery stiffness and large artery remodeling in hypertension, chronic kidney disease and monogenic diseases of arteries. We study in particular the influence of vasoactive drugs on mechanical behavior of large arteries. We have been the first to demonstrate the predictive value of arterial stiffness for cardiovascular diseases (most cited clinical paper in Hypertension). We written guidelines for arterial measurements (second most cited paper in European Heart Journal), established reference values for important cardiovascular risk markers (Vermeersch et al, EHJ 2010, Engelen et al, EHJ 2012, Herbert et al, EHJ 2014). We were the first to propose an active treatment for a rare genetic disease, the vascular Ehlers-Danlos syndrome (Ong et al, Lancet 2010).

1.5 MAJOR PUBLICATIONS

H index 57 (IS web of Science), 65 (google scholar), 231 articles in peer review journal
most cited paper: >3000 times, more than 18,000 citations, 8 papers cited more than 500 times

Selected 10 recent publications

1. Sharman JE, Boutouyrie P, Perier MC, Thomas F, Guibout C, Khettab H, Pannier B, Laurent SPP, Jouven X, Empana JP. Impaired baroreflex sensitivity, carotid stiffness, and exaggerated exercise blood pressure: a community-based analysis from the Paris Prospective Study III. *Eur Heart J* 2018; 39(7): 599-606.
2. Sharman JE, Avolio AP, Baulmann J, Benetos A, Blacher J, Blizzard CL, Boutouyrie P, Chen CH, Chowienczyk P, Cockcroft JR, Cruickshank JK, Ferreira I, Ghiadoni L, Hughes A, Jankowski P, Laurent S, McDonnell BJ, McEniery C, Millasseau SC, Papaioannou TG, Parati G, Park JB, Protogerou AD, Roman MJ, Schillaci G, Segers P, Stergiou GS, Tomiyama H, Townsend RR, Van Bortel LM, Wang J, Wassertheurer S, Weber T, Wilkinson IB, Vlachopoulos C. Validation of non-invasive central blood pressure devices: ARTERY Society task force consensus statement on protocol standardization. *Eur Heart J* 2017; 38(37): 2805-+.
3. Ranque B, Menet A, Boutouyrie P, Diop IB, Kingue S, Diarra M, N'Guetta R, Diallo D, Diop S, Diagne I, Sanogo I, Tolo A, Chelo D, Wamba G, Gonzalez JP, Abough'elie C, Diakite CO, Traore Y, Legueun G, Deme-Ly I, Faye BF, Seck M, Kouakou B, Kamara I, Le Jeune S, Jouven X. Arterial Stiffness Impairment in Sickle Cell Disease Associated With Chronic Vascular Complications The Multinational African CADRE Study. *Circulation* 2016; 134(13): 923-+.
4. Olsen MH, Angell SY, Asma S, Boutouyrie P, Burger D, Chirinos JA, Damasceno A, Delles C, Gimenez-Roqueplo AP, Hering D, Lopez-Jaramillo P, Martinez F, Perkovic V, Rietzschel ER, Schillaci G, Schutte AE, Scuteri A, Sharman JE, Wachtell K, Wang JG. A call to action and a lifecourse strategy to address the global burden of raised blood pressure on current and future generations: the Lancet Commission on hypertension. *Lancet* 2016; 388(10060): 2665-712.
5. Laurent S, Boutouyrie P, Mousseaux E. Aortic Stiffening, Aortic Blood Flow Reversal, and Renal Blood Flow. *Hypertension* 2015; 66(1): 10-2.
6. Laurent S, Boutouyrie P. The Structural Factor of Hypertension Large and Small Artery Alterations. *CircRes* 2015; 116(6): 1007-21.
7. Laurent S, Mousseaux E, Boutouyrie P. Arterial Stiffness as an Imaging Biomarker: Are All Pathways Equal? *Hypertension* 2013; 62(1): 10-2.
8. Ladouceur M, Boutouyrie P, Boudjemline Y, Khettab H, Redheuil A, Legendre A, Cohen S, Iserin L, Bonnet D, Mousseaux E. Unknown Complication of Arterial Switch Operation Resistant Hypertension Induced by a Strong Aortic Arch Angulation. *Circulation* 2013; 128(25): E466-E8.
9. Ong KT, Perdu J, De Backer J, Bozec E, Collignon P, Emmerich J, Fauret AL, Fiessinger JN, Germain DP, Georgesco G, Hulot JS, De Paeppe A, Plauchu H, Jeunemaitre X, Laurent S, Boutouyrie P. Effect of celiprolol on prevention of cardiovascular events in vascular Ehlers-Danlos syndrome: a prospective randomised, open, blinded-endpoints trial. *Lancet* 2010; 376(9751): 1476-84.
10. Mattace-Raso FUS, Hofman A, Verwoert GC, Wittman JCM, Wilkinson I, Cockcroft J, McEniery C, Yasmin, Laurent S, Boutouyrie P, Bozec E, Hansen TW, Torp-Pedersen C, Ibsen H, Jeppesen J, Vermeersch SJ, Rietzschel E, De Buyzere M, Gillebert TC, Van Bortel L, Segers P, Vlachopoulos C, Aznaouridis C, Stefanadis C, Benetos A, Labat C, Lacolley P, Stehouwer CDA, Nijpels G, Dekker JM, Ferreira I, Twisk JWR, Czernichow S, Galan P, Herberg S, Pannier B, Guerin A, London G, Cruickshank JK, Anderson SG, Paini A, Rosei EA, Muiesan ML, Salvetti M, Filipovsky J, Seidlerova J, Dolejsova M. Determinants of pulse wave velocity in healthy people and in the presence of cardiovascular risk factors: 'establishing normal and reference values'. *Eur Heart J* 2010; 31(19): 2338-50.

1.6 FINANCIAL DISCLOSURE

Invited speaker: SERVIER, NOVARTIS, NEGMA, DAICHII-SANKYO, ESAOTE

Scientific board member: SERVIER, NOVARTIS (until 2013), NEGMA (until 2009), FRENESIUS (2014), WITHINGS (2014), ESAOTE (2014), ACER Medical (2016)

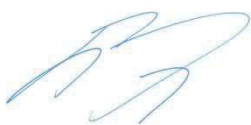
Research grants: SERVIER (until 2013), NOVARTIS (until 2010), PFIZER (until 2007), DAICHII-SANKYO (until 2013)

Paid for writing articles: SERVIER (until 2011), NOVARTIS (until 2013)

Shares, stock options, equity ownership (personal or family): NONE

ACER THERAPEUTICS: common interest in developing celiprolol, financial agreement between ACER THERAPEUTICS and Pierre Boutouyrie employers (APHP), research grant from ACER THERAPEUTICS, not personal financial relationship.

Wednesday, Wednesday, October 10, 2018



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2. Zanolli L, Empana JP, Perier MC, Alivon M, Keththab H, Castellino P, Laude D, Thomas F, Pannier B, Laurent S, Jouven X, **Boutouyrie P**. Increased carotid stiffness and remodelling at early stages of chronic kidney disease. *Journal of hypertension*. 2019.
3. van Sloten TT, **Boutouyrie P**, Tafflet M, Offredo L, Thomas F, Guibout C, Climie RE, Lemogne C, Pannier B, Laurent S, Jouven X, Empana JP. Carotid Artery Stiffness and Incident Depressive Symptoms: The Paris Prospective Study III. *Biological psychiatry*. 2019;85(6):498-505.
4. Marais L, Pernot M, Khettab H, Tanter M, Messas E, Zidi M, Laurent S, **Boutouyrie P**. Arterial Stiffness Assessment by Shear Wave Elastography and Ultrafast Pulse Wave Imaging: Comparison with Reference Techniques in Normotensives and Hypertensives. *Ultrasound in medicine & biology*. 2019;45(3):758-72.
5. Lisan Q, Tafflet M, Thomas F, **Boutouyrie P**, Guibout C, Haba-Rubio J, Climie R, Perier MC, Van Sloten T, Pannier B, Marques-Vidal P, Jouven X, Empana JP. Body Silhouette Trajectories Over the Lifespan and Insomnia Symptoms: The Paris Prospective Study 3. *Scientific reports*. 2019;9(1):1581.
6. Bruno RM, Marais L, Khettab H, Lorthioir A, Frank M, Jeunemaitre X, Laurent S, **Boutouyrie P**, Azizi M. Deep Vascular Phenotyping in Patients With Renal Multifocal Fibromuscular Dysplasia. *Hypertension*. 2019;73(2):371-8.
7. **Boutouyrie P**, Bruno RM. The Clinical Significance and Application of Vascular Stiffness Measurements. *American journal of hypertension*. 2019;32(1):4-11.
8. Zanolli L, Lentini P, **Boutouyrie P**, Fatuzzo P, Granata A, Corrao S, Gaudio A, Inserra G, Rapisarda F, Rastelli S, Laurent S, Malatino LS, Castellino P. Pulse wave velocity differs between ulcerative colitis and chronic kidney disease. *European journal of internal medicine*. 2018;47:36-42.
9. van Sloten TT, **Boutouyrie P**, Lisan Q, Tafflet M, Thomas F, Guibout C, Climie RE, Pannier B, Sharman JE, Laurent S, Jouven X, Empana JP. Body Silhouette Trajectories Across the Lifespan and Vascular Aging. *Hypertension*. 2018;72(5):1095-102.
10. Sharman JE, **Boutouyrie P**, Perier MC, Thomas F, Guibout C, Khettab H, Pannier B, Laurent S, Jouven X, Empana JP. Impaired baroreflex sensitivity, carotid stiffness, and exaggerated exercise blood pressure: a community-based analysis from the Paris Prospective Study III. *European heart journal*. 2018;39(7):599-606.
11. Sedaghat S, van Sloten TT, Laurent S, London GM, Pannier B, Kavousi M, Mattace-Raso F, Franco OH, **Boutouyrie P**, Ikram MA, Stehouwer CDA. Common Carotid Artery Diameter and Risk of Cardiovascular Events and Mortality: Pooled Analyses of Four Cohort Studies. *Hypertension*. 2018;72(1):85-92.
12. Safar ME, Asmar R, Benetos A, Blacher J, **Boutouyrie P**, Lacolley P, Laurent S, London G, Pannier B, Protogerou A, Regnault V, French Study Group on Arterial S. Interaction Between Hypertension and Arterial Stiffness. *Hypertension*. 2018;72(4):796-805.
13. Quinaglia T, Bensalah MZ, Bollache E, Kachenoura N, Soulat G, **Boutouyrie P**, Laurent S, Mousseaux E. Differential impact of local and regional aortic stiffness on left ventricular remodeling: a cardiovascular magnetic resonance study. *Journal of hypertension*. 2018;36(3):552-9.
14. Polonis K, Hoffmann M, Szyndler A, Wolf J, Nowak R, Becari C, Laurent S, **Boutouyrie P**, Melander O, Narkiewicz K. A multilocus genetic risk score is associated with arterial stiffness in hypertensive patients: the CARE NORTH study. *Journal of hypertension*. 2018;36(9):1882-8.

15. Poirat L, Gaye B, Perier MC, Thomas F, Guibout C, Climie RE, Offredo L, Tafflet M, Lemogne C, Pannier B, **Boutouyrie P**, Jouven X, Empana JP. Perceived stress is inversely related to ideal cardiovascular health: The Paris Prospective Study III. *International journal of cardiology*. 2018;270:312-8.
16. Obeid H, Soulat G, Mousseaux E, Laurent S, Stergiopoulos N, **Boutouyrie P**, Segers P. Reply to Comment on 'Numerical assessment and comparison of pulse wave velocity methods aiming at measuring aortic stiffness'. *Physiological measurement*. 2018;39(7):078002.
17. Nilsson PM, Laurent S, Cunha PG, Olsen MH, Rietzschel E, Franco OH, Ryliskyte L, Strazhesko I, Vlachopoulos C, Chen CH, **Boutouyrie P**, Cucca F, Lakatta EG, Scuteri A, Metabolic syndrome ARC. Characteristics of healthy vascular ageing in pooled population-based cohort studies: the global Metabolic syndrome and Artery REsearch Consortium. *Journal of hypertension*. 2018;36(12):2340-9.
18. Mousseaux E, Agoston-Coldea L, Marjanovic Z, Stanciu R, Deligny C, Perdrix L, **Boutouyrie P**, Azarine A, Soulat G, Farge D. Left Ventricle Replacement Fibrosis Detected by CMR Associated With Cardiovascular Events in Systemic Sclerosis Patients. *Journal of the American College of Cardiology*. 2018;71(6):703-5.
19. Lisan Q, Tafflet M, Charles MA, Thomas F, **Boutouyrie P**, Guibout C, Haba-Rubio J, Perier MC, Pannier B, Marques-Vidal P, Jouven X, Empana JP. Self-reported body silhouette trajectories across the lifespan and excessive daytime sleepiness in adulthood: a retrospective analysis. The Paris Prospective Study III. *BMJ open*. 2018;8(3):e020851.
20. Leitaó C, Ribau V, Afreixo V, Antunes P, Andre P, Pinto JL, **Boutouyrie P**, Laurent S, Bastos JM. Clinical evaluation of an optical fiber-based probe for the assessment of central arterial pulse waves. *Hypertension research : official journal of the Japanese Society of Hypertension*. 2018;41(11):904-12.
21. Laurent S, **Boutouyrie P**. Visit-to-visit blood pressure variability: added 'VALUE' as a risk marker in low- and high-risk patients. *European heart journal*. 2018;39(24):2252-4.
22. Ladouceur M, Baron S, Nivet-Antoine V, Maruani G, Soulat G, Pereira H, Blanchard A, **Boutouyrie P**, Paul JL, Mousseaux E. Role of myocardial collagen degradation and fibrosis in right ventricle dysfunction in transposition of the great arteries after atrial switch. *International journal of cardiology*. 2018;258:76-82.
23. Kozakova M, **Boutouyrie P**, Morizzo C, Latta DD, Jamagidze G, Chiappino D, Laurent S, Palombo C. Radiofrequency-based wall tracking for noninvasive assessment of local carotid pulse pressure: comparison with applanation tonometry and association with organ damage. *Journal of hypertension*. 2018;36(12):2362-8.
24. Karasavvidou D, **Boutouyrie P**, Kalaitzidis R, Kettab H, Pappas K, Stagikas D, Antonakis N, Tsalikakis D, Elisaf M, Laurent S. Arterial damage and cognitive decline in chronic kidney disease patients. *Journal of clinical hypertension*. 2018;20(9):1276-84.
25. Bouhanick B, Amar J, Amar L, Gosse P, Girerd X, Reznik Y, Mounier-Vehier C, Baguet JP, **Boutouyrie P**, Lepage B, Lantelme P, Chamontin B, investigators of the As. Arterial stiffness evaluated by pulse wave velocity is not predictive of the improvement in hypertension after adrenal surgery for primary aldosteronism: A multicentre study from the French European Society of Hypertension Excellence Centres. *Archives of cardiovascular diseases*. 2018;111(10):564-72.
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29. Sharman JE, **Boutouyrie P**, Laurent S. Sharpening the Focus on Causes of Ethnic Differences in Aortic Stiffness. *JACC Cardiovascular imaging*. 2017;10(1):62-4.
30. Sharman JE, **Boutouyrie P**, Laurent S. Arterial (Aortic) Stiffness in Patients with Resistant Hypertension: from Assessment to Treatment. *Current hypertension reports*. 2017;19(1):2.

31. Sharman JE, Avolio AP, Baulmann J, Benetos A, Blacher J, Blizzard CL, **Boutouyrie P**, Chen CH, Chowienicz P, Cockcroft JR, Cruickshank JK, Ferreira I, Ghiadoni L, Hughes A, Jankowski P, Laurent S, McDonnell BJ, McEniery C, Millasseau SC, Papaioannou TG, Parati G, Park JB, Protogerou AD, Roman MJ, Schillaci G, Segers P, Stergiou GS, Tomiyama H, Townsend RR, Van Bortel LM, Wang J, Wassertheurer S, Weber T, Wilkinson IB, Vlachopoulos C. Validation of non-invasive central blood pressure devices: ARTERY Society task force consensus statement on protocol standardization. *European heart journal*. 2017.
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35. Wiernik E, Lemogne C, Thomas F, Perier MC, Guibout C, Nabi H, Laurent S, Pannier B, **Boutouyrie P**, Jouven X, Empana JP. Perceived stress, common carotid intima media thickness and occupational status: The Paris Prospective Study III. *International journal of cardiology*. 2016;221:1025-30.
36. Stergiou GS, Parati G, Vlachopoulos C, Achimastos A, Andreadis E, Asmar R, Avolio A, Benetos A, Bilo G, Boubouchairopoulou N, **Boutouyrie P**, Castiglioni P, de la Sierra A, Dolan E, Head G, Imai Y, Kario K, Kollias A, Kotsis V, Manios E, McManus R, Mengden T, Mihailidou A, Myers M, Niiranen T, Ochoa JE, Ohkubo T, Omboni S, Padfield P, Palatini P, Papaioannou TG, Protogerou A, Redon J, Verdecchia P, Wang J, Zanchetti A, Mancia G, O'Brien E. Methodology and technology for peripheral and central blood pressure and blood pressure variability measurement: current status and future directions - Position statement of the European Society of Hypertension Working Group on blood pressure monitoring and cardiovascular variability. *Journal of hypertension*. 2016.
37. Rojek A, Gasecki D, Fijalkowski M, Kowalczyk K, Kwarciany M, Wolf J, Nyka W, **Boutouyrie P**, Laurent S, Narkiewicz K. Left ventricular ejection fraction and aortic stiffness are independent predictors of neurological outcome in acute ischemic stroke. *Journal of hypertension*. 2016;34(12):2441-8.
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40. Olsen M, Greve S, Blicher M, Kruger R, Sehested T, Rasmussen S, Vishram J, **Boutouyrie P**, Laurent S. Os 14-08 Estimated Carotid-Femoral Pulse Wave Velocity Has Similar Predictive Value as Measured Carotid-Femoral Pulse Wave Velocity. *Journal of hypertension*. 2016;34 Suppl 1 - ISH 2016 Abstract Book:e214.
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42. Laurent S, Marais L, **Boutouyrie P**. The Noninvasive Assessment of Vascular Aging. *The Canadian journal of cardiology*. 2016;32(5):669-79.
43. Laurent S, **Boutouyrie P**. Blood pressure lowering trials: wrapping up the topic? *Lancet*. 2016;387(10022):923-4.
44. Kwarciany M, Gasecki D, Kowalczyk K, Rojek A, Laurent S, **Boutouyrie P**, Skrzypek-Czerko M, Nyka WM, Narkiewicz K, Karaszewski B. Acute hypertensive response in ischemic stroke is associated with increased aortic stiffness. *Atherosclerosis*. 2016;251:1-5.
45. Kiando SR, Tucker NR, Castro-Vega LJ, Katz A, D'Escamard V, Treard C, Fraher D, Albuissou J, Kadian-Dodov D, Ye Z, Austin E, Yang ML, Hunker K, Barlassina C, Cusi D, Galan P, Empana JP, Jouven X, Gimenez-Roqueplo AP, Bruneval P, Hyun Kim ES, Olin JW, Gornik HL, Azizi M, Plouin PF, Ellinor PT, Kullo IJ, Milan DJ, Ganesh SK, **Boutouyrie**

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46. Greve SV, Blicher MK, Kruger R, Sehestedt T, Gram-Kampmann E, Rasmussen S, Vishram JK, **Boutouyrie P**, Laurent S, Olsen MH. Estimated carotid-femoral pulse wave velocity has similar predictive value as measured carotid-femoral pulse wave velocity. *Journal of hypertension*. 2016;34(7):1279-89.
47. Greve SV, Blicher MK, Kruger R, Sehestedt T, Gram-Kampmann E, Rasmussen S, Vishram JK, **Boutouyrie P**, Laurent S, Olsen MH. Elevated estimated arterial age is associated with metabolic syndrome and low-grade inflammation. *Journal of hypertension*. 2016;34(12):2410-7.
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52. **Boutouyrie P**, London GM, Sharman JE. Estimating central blood pressure in the extreme vascular phenotype of advanced kidney disease. *Kidney international*. 2016;90(4):736-9.
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