

BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE
Constantinou, Chris Euripides	Professor Emeritus Urology
eRA COMMONS USER NAME	
chrisconstantinou	

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Borough Polytechnic, London	H N C	1964	Electrical Engineering
Stanford University	M. Sc.	1968	Biomedical Engineering
Stanford University	Ph.D.	1973	Biomedical Engineering

A. Positions and Honours

1960-1961 Research Assistant, ICI, Physics Department, Welwyn Garden City, UK
1961-1962 Research Assistant, Department of Physical Chemistry, Oxford University, UK
1962-1964 Technician, Medical Research Council, Cyclotron, Hammersmith Hospital, London, UK
1964-1966 Accelerator Technician, Radiotherapy Stanford University School of Medicine
1966-1969 Research Assistant Surgery (Urology), Stanford University School of Medicine
1969-1976 Research Associate Surgery (Urology), Stanford University School of Medicine
1976-1977 Assistant Professor of Surgery (Urology), Stanford University School of Medicine
1983 -1984 Sabbatical; Dept. of Electrical Engineering, Stanford University, Stanford,
1992 Sabbatical: Institute of Experimental Surgery, University of Aarhus, DENMARK
1994 Sabbatical: University Department of Pharmacology, Oxford, UK.
2002 Sabbatical: Inst of Biomedical Engineering, Nihon University, Koriyama, JAPAN
1982-2009.1 Associate Professor of Urology, Stanford University School of Medicine
2009-Present Emeritus Professor, Stanford University School of Medicine
International Prize for Outstanding Contribution to Urology, 1977 CE Alken.
Experimental Urological Research Prize, European Urology 2000
NIH Study section in Physiology and Bioengineering
NIH Special Study Section on Hot Flushes
NIH Special Study Section on Obesity and Metabolism
Benjamin Franklin Nanotechnology Review Panel
Canadian Medical Research council

Professional societies

Founding Member, International Society for Dynamics of Upper Urinary Tract
Member, American Physiological Society
Member, Institute of Electrical and Electronic Engineers
Member, Urodynamics Society
Member, International Continence Society
Member, American Urological Association
Member, Autonomic Society
Honorary Member, International Pelvic Floor Dysfunction Society
Member, International Urogynecological Society

Editorial board membership

Editorial Board Neurourology and Urodynamics
Journal Computational Vision and Biomechanics
Associate Editor J of Biomechanics

B. Selected peer-reviewed publications (From a list of 139)

- 1 **Constantinou CE** and Govan DE.: Spatial distribution and timing of transmitted and reflexly generated urethral pressures in the healthy female. *J. Urology.*, 127:964-969, 1980.
- 2 Constantinou, C.E. and Govan, D.E.: Urodynamic analysis of urethral, vesical and perivesical distribution in the healthy female. *Urologia Internationalis.*, 35(2):63-72, 1982.
- 3 Griffiths DJ, **Constantinou CE**, and Van Mastricht R: Urinary bladder function and its control in normal females. *Am. J. Physiology.*, 251: R225-R230, 1986.
- 4 Kessler R, **Constantinou CE.**: Internal urethrotomy in female children and its impact on the urethral intrinsic and extrinsic continence mechanisms. *J. Urology.*, 136:1284-1253, 1986.
- 5 **Constantinou CE**: Determinants of cure by endoscopic suspension of the bladder neck in the incontinent female patient. *World J. Urology.*, 4:10-15, 1986.
- 6 **Constantinou CE.**: Urethrometry: Considerations of static, dynamic and stability characteristics of the female urethra. *Neurourology and Urodynamics.* 7:521-539,1988.
- 7 Shortliffe-Dairiki LM, Freiha FS, Kessler R, Stamey TA, **Constantinou CE.**: Treatment of urinary incontinence by the periurethral implantation of gluteraldehyde cross linked collagen. *J. Urology.* 141: 538-541, 1989.
- 8 Constantinou, CE. Contraction strength variance during pressure/flow studies. *Neurourol and Urodyn* 10: 47-52, 1991.
- 9 Sorensen S., Waechter PB., **Constantinou CE**, Kirby HJ, Jonler M, Djurhuus, JC.: Urethral pressure and pressure variations in healthy fertile and postmenopausal women with reference to sex hormones. *J. Urol.* 146: 1434-40, 1991.
- 10 Sorensen S, Gregerson H, Sorensen SM, **Constantinou CE**, Djurhuus JC.: Pressure variations in urethral and anal canal: Investigations in healthy fertile female volunteers. *Neurourology and Urodynamics* 10:493-501, 1991.
- 11 **Constantinou CE**, Djurhuus JC, Yamaguchi O: Functional Aspects of Upper Urinary Tract Transport. In: **CLINICAL UROLOGY**. Ed: Krane, Siroky, Fitzpatrick, Lippincott 46-63, 1994.
- 12 Christensen LL. Djurhuus JC. **Constantinou CE.**: Imaging of pelvic floor contractions using MRI. *Neurourology and Urodynamics* 14(3) 209-216, 1995
- 13 Christensen LL, Djurhuus JC, Lewis MT, Dev P, Chase RA, Constantinou PS, **Constantinou CE.**: MRI of voluntary pelvic floor contractions in healthy female volunteers. *Int J Urogyn* 6:138-152, 1996
- 14 **Constantinou CE.** & Christensen LL: Urethral Pressures in the study of female incontinence. In: **FEMALE UROLOGY** Ed: Raz. Saunders. 115-131, 1996
- 15 **Constantinou CE.**: Urethral Pressure in the evaluation of female incontinence. In **URINARY INCONTINENCE** Ed: O'Donnell. 82-93, 1997
- 16 Djurhuus JC. & **Constantinou CE** The Physiology of Upper Urinary Tract Function In: **PEDIATRIC UROLOGY** Ed O'Donnell and Koff, Butterworth 155-162, 1997.
- 17 **Constantinou CE**, Djurhuus JC: Physiological response of the upper urinary tract to chronic experimental obstruction. In: **TEXTBOOK OF GENITOURINARY SURGERY** Ed. Whitfield, Hendry, Kirby and Duckett. Blackwell Science 391-404, 1998
- 18 **Constantinou CE** & Christiansen LL. Urethral pressures in female incontinence; **PELVIC FLOOR DYSFUNCTION** Ed. Appell, CESI 159-172, 1999
- 19 Christensen LL. & **Constantinou CE**: Magnetic resonance imaging in female incontinence: In: **PELVIC FLOOR DYSFUNCTION** Ed. Appell, CESI 172-182, 1999.
- 20 Artibani W. Andersen, Ostergaard DR, **Constantinou CE**, Gajewski J, Nitti V, Klaskov P, Tubaro A, Imaging and other investigations. In: **INCONTINENCE**: Ed:Abrahms 401-445, WHO/UICC 1999.
- 21 **Constantinou CE.** Clinical and physiological significance of urethral pressures in urinary incontinence. In *Urodynamics and Neuro-Urology* Ed: Theodorou University Press, 76-94 1999

- 22 Choo MS, Bellamy F, **Constantinou CE**. Functional evaluation of TADENAN on micturition and experimental prostate growth induced with exogenous dihydrotestosterone. *Urology* 55:292-298, 2000
- 23 Yoshimura Y, Schmidt F, **Constantinou CE**. Gender specificity of Tolterodine on micturition and the diurnal variation of urine production of the conscious rat. *BJU International* 86:879-885 2000
- 24 Schmidt F, Yoshimura Y, Ni RX, Kneesel S, **Constantinou CE**: Influence of gender on the diurnal variation of urine production and micturition characteristics of the rat. *Neurourol and Urodyn* 20:287-295 2001
- 25 **Constantinou CE**, Ryhammer A, Nagel LL, Djurhuus JC. Determining the displacement of the pelvic floor and pelvic organs during voluntary contractions using magnetic resonance imaging in younger and older women *BJU International* (90) 408-414 2002
- 26 Schmidt F, Shin P, Jorgensen TM, Djurhuus JC & **Constantinou CE**. Influence of water consumption on the urodynamic patterns, pressure/flow and bladder contractility of normal male micturition. *J Urol* (168), 1458-1463, 2002
- 27 **Constantinou CE**, Damaser ME, Perlash I. Displacement sequence and elastic properties of anterior prostate/urethral interface during micturition in spinal cord injured men. *Ultrasound in Medicine and Biology* 28(9) 1157-1163, 2002
- 28 Schmidt F, Shin P, Jorgensen TM, Djurhuus JC & **Constantinou CE**. Influence of water consumption on the urodynamic patterns, pressure/flow and bladder contractility of normal male micturition. *J Urol* (168), 1458-1463, 2002
- 29 **Constantinou CE**. Yoshimura Y, Yamaguchi O & Omata S. Pilot clinical application of directionally sensitive intra-vaginal sensor probe. In: **INCONTINENCE: THE ENGINEERING CHALLENGE**, Inst of Mechanical Engineers, London, 2003
- 30 Yoshimura Y, O Yamaguchi, F. Bellamy, **Constantinou CE**. Effect of *Pygeum Africanum* (Tadenan) (TAD) on micturition and prostate growth of the rat secondary to co-administration and post-treatment with dihydrotestosterone (DHT) *Urology*, 61(2)475-478, 2003
- 31 Tillig B, & **Constantinou CE**: Supra-spinal NMDA receptor inhibition influences the micturition reflex and function of the upper urinary tract of anesthetized and conscious rats. *Neurourology and Urodynamics* 22(2)164-175, 2003
- 32 Schmidt F, Yoshimura Y, Shin P, & **Constantinou CE** Comparative urodynamic patterns of bladder pressure, contractility and urine flow in man and rat. *APMIS* (109): 39-44 2003
- 33 Omata S, Murayama S, **Constantinou CE**. Real time tactile sensor for the determination of the physical properties of biomaterials *Sensors and Actuators*. 2004
- 34 Yokota T, Honda K, Tsuruya Y, M. Nomiya M, Yamaguchi O, Gotanda K, **Constantinou CE**: Functional and anatomical effects of steroid induced experimental prostate growth in the beagle. *A Urodynamic Model of Benign Prostatic Hyperplasia The Prostate*, 58(2), 156-163, 2004
- 35 Omata S, Muriyama Y, and **Constantinou CE**: Development of a novel surgical support instrument and virtual system incorporating tactile sensor technology. **TECHNOLOGY AND INFORMATICS**, Ed. Westwood (12) 288-290, 2004
- 36 Murayama Y, **Constantinou CE** & Omata S. Micro mechanical sensing platform for the characterization of the elastic properties of the ovum via un axial measurement. *J of Biomechanics* 37, 67-72, 2004
- 37 Tillig B, Mutschke O, Rolle U, Gaunitz U, Asmussen G, **Constantinou CE**. Effects of artificial obstruction on the function of the upper urinary tract of Guinea pigs, rats and pigs. *Europ J Pediatric Surgery*. 14(5):303-15, 2004
- 38 **Constantinou CE**: Contribution of Magnetic Resonance Imaging in the Evaluation of Pelvic Floor Function. In: **PELVIC FLOOR DISORDERS**, Ed Bourcier, McGuire, Abrams, 176-182, 2004
- 39 Omata S, Murayama Y, **Constantinou CE**. Multi-Sensory Surgical Support System Incorporating, Visual, and Auditory Perception Modalities **TECHNOLOGY AND INFORMATICS**, 369-371, 2005

- 40 Murayama Y, **Constantinou CE**, Omata S. Remote Sensing of Mechanical Properties of Materials Using a Novel Ultrasound Transducer and Signal Processing. IEEE Proceedings in Ultrasonics and Ferromagnetics (52) 439-444, 2005
- 41 Peng Q, Jones RC & **Constantinou CE**. Application Of 2D Ultrasound Image Processing In Identifying The Dynamic Response of the Urogenital Structures to Voluntary and Reflex Pelvic Floor Contractions Annals of Biomedical Engineering. 4(3): 477-493 2006
- 42 Murayama, Y, **Constantinou CE**, Omata S. Development of Tactile Mapping System Suitable for the Characterization of Tissue Engineering Materials Using Novel Tactile Sensing Technology Sensors and Actuators A (120) 543-549, 2005
- 43 Peng Q, Jones RC, Shishido K, & **Constantinou CE**. Ultrasound Evaluation of Dynamic Responses of Female Pelvic Floor Muscles Ultrasound in Medicine & Biology 33(3) 342-52, 2007
- 44 **Constantinou CE** & Omata S. Direction Sensitive Sensor Probe for the Evaluation of Voluntary and Reflex Pelvic Floor Contractions. Neurourol & Urodyn 26(3):386-391, 2007.
- 45 **Constantinou CE**, Omata S, Yoshimura Y, Peng Q. Evaluation of the Dynamic Responses of Female Pelvic Floor Using a Novel Vaginal Probe; Ann NY Acad Sci.1101:297-315. 2007
- 46 Edgar AD, Levin R, **Constantinou CE**, Denis L. A Critical Review of the Pharmacology of the Plant Extract of *Pygeum Africanum* in the Treatment of LUTS. Neurourol & Urodyn; 26(4): 458-463, 2007
- 47 Dumoulin C, Peng Q, Stodkilde-Jorgensen H, Shishido K, **Constantinou CE**. Changes in Levator Ani Anatomical Configuration Following Physiotherapy in Women with Stress Urinary Incontinence. J Urol 178, 970-977, 2007
- 48 **Constantinou CE** Dynamics of the Female Pelvic Floor Int. Journal Computational Vision and Biomechanics, June, (1): 69-81, 2007
- 49 Peng Q, Jones R, Shishido K, Omata S, and **Constantinou CE**; Spatial Distribution of Vaginal Closure Pressures of Continent and Stress Urinary Incontinent Women Physiological Measurements 28(11): 1429-1450, 2007
- 50 Murayama Y, Omata S, Yajima T, Peng Q, Shishido K, Peehl DM, Constantinou CE. High resolution regional elasticity mapping of the human prostate. Proc IEEE Eng Med Biol Soc. 5803-6, 2007
- 51 Rahmanian S, Jones R, Peng Q, **Constantinou CE**: Visualization of Biomechanical Properties Of Female Pelvic Floor Function Using Video Motion Tracking of Ultrasound Imaging **TECHNOLOGY AND INFORMATICS**, IOS;132:390-395. 2008
- 52 Shishido K, Peng Q, Jones R, Omata S, **Constantinou CE**: Influence Of Pelvic Floor Muscle Contraction on the Profile of Vaginal Closure Pressures of Continent and Stress Urinary Incontinent Women. J Urol 179(5):1917-1922. 2008
- 53 **Constantinou CE**. Dynamics of female pelvic floor function using urodynamics, ultrasound and Magnetic Resonance Imaging (MRI). Eur J Obstet Gynecol Reprod Biol. 2009
- 54 Lindahl O, **Constantinou CE**, Eklund A, Murayama Y, Hallberg P and Omata S; Review of Tactile Resonance Sensors in Medicine. Med Eng Technol. 33(4):263-273, 2009
- 55 Jones R, Peng Q, Stokes M, Victor F Humphrey VF, **Constantinou CE**. The Mechanisms of Pelvic Floor Muscle (PFM) Function and the Effect on the Pelvic Floor and Urethra during a Cough Europ J Urol (In press 2009)

C. Research Support

Ongoing Research Support

1 R01 EB006170 CE Constantinou (PI) 05/01/09-04/30/11 8.0 callendar
NIH/NIBIB

Visualization of Pelvic Floor Reflexes. In this study we undertake a systematic evaluation of

female pelvic floor function by accurately evaluating its voluntary activation and reflex response to stress using ultrasound imaging. The goal is to provide a visualization platform to facilitate the clinical evaluation of patients focusing on the identification of the timing and deformation parameters, important for an understanding the neuromuscular control mechanisms of continence.
Role: PI

Completed Research Support

1 R21 EB001654 CE Constantinou (PI) 10/01/04-9/31/06 6.0 calendar
NIH/NIBIB

Direction Sensitive Sensor

The study will design, construct and perform clinical trials a vaginal probe to evaluate the isometric/isotonic biomechanical properties of the female pelvic floor. Probe to be used as an enabling tool for estimating the feasibility of conservative treatment for urinary incontinence.

Role: PI

RRD124

09/1/1998-09/1/02

VA-Rehabilitation Services

Stanford (PI), VA Co-PI

Urodynamic study designed to evaluate the mechanical stiffness characteristic of the prostate of patients with spinal cord injuries using ultrasound imaging techniques. Study designed to develop methodology of deriving prostatic tissue characteristics from pressure/flow investigations.

SPO 1993,

CE Constantinou

9/01/97-8/30/05

Fournier Debat

Influence of Induced Prostate Growth on Micturition

In this experimental study we used Testosterone/Estrogen to modulate prostate growth and produce urinary tract obstruction. The effect of Tadenan on urethral resistance and prostate enlargement was evaluated using metabolic techniques and chronic frequency/volume characteristics.

Role: PI