

## **PhD-course arranged by Danish Cardiovascular Research Academy and University of Southern Denmark:**

### **The Renin Angiotensin Aldosterone System**

1. **Title:** The renin angiotensin aldosterone system, RAAS
2. **Aim & Content:** The course is based on lectures, practicals and feed-back on projects. Lecture topics range from enzyme reactions over cellular aspects of renin secretion to recent clinical advances. Lectures cover new technologies. One is organ-specific gene deletion of RAAS components that allows dissection of specific roles. Another is multiphoton fluorescence imaging used to directly observe and quantify basic physiological parameters of the kidney including blood flow, glomerular filtration and permeability, as well as renin content and release in health and disease models. The course includes hands-on experience and practical guidance with regard to measurements of the variables of the RAAS. Especially, challenges associated with quantitative measurements of RAAS components in plasma and tissue are presented and various types of assays are discussed and tested. In afternoon sessions, students make short presentations to selected lecturers and receive feed-back on project challenges.
3. **Participants:** The course is aimed at Ph.D. students engaged in research within the cardio-renal field. Basic knowledge of the biology of RAAS is required. Pregraduate research students are also encouraged to participate. The number of participants is limited to 20.
4. **Form:** A combination of lectures, demonstrations and practicals.
5. **ECTS credits:** 2
6. **Course directors:** Professor Peter Bie MD,DMSc and Prof. Boye L. Jensen,MD,PhD,DMSc, Department of Physiology and Pharmacology, University of Southern Denmark
7. **Teachers:** Edith Hummler, University of Lausanne; Frank Schweda, University of Regensburg; Janos Peti-Peterdi, University of Southern California; Per Løgstrup Poulsen Århus Kommunehospital; Kent Lodberg Christensen Århus Kommunehospital; Jacob Lerche Hansen, University of Copenhagen, Ib Abildgaard Jacobsen, Odense Universitetshospital; Knud Poulsen, Holte; Paul Vanhoutte, Universities of Hong Kong and Southern Denmark. From the Department of Physiology and Pharmacology, University of Southern Denmark: Pernille BL Hansen, Peter Bie, Ulla G. Friis, Boye L. Jensen and Ole Skøtt
8. **Date:** From 09:00 Wednesday, August 27 to 16:00 Friday, August 29, 2008 Three days full time.
9. **Venue:** J.B. Winslowsvej 19 and 21, 5000 Odense
10. **Course fee:** 6,000 DKK.
11. **Course secretary:** Stine Sonne Carstensen, Department of Physiology and Pharmacology, J.B. Winløvs Vej 21, 5000 Odense C. Phone: 6550 3760, fax 6613 3479 [ccarstensen@health.sdu.dk](mailto:ccarstensen@health.sdu.dk)
12. **Registration:** Deadline August 15, 2008.



The Danish Cardiovascular Research Academy  
University of Southern Denmark



**The renin angiotensin aldosterone system (RAAS), Aug. 27-29, 2008**

*Italics: Practicals and demonstration*

Venue for lectures: J.B. Winsløvsvej 19 and 21, DK-5000 Odense C

For participation apply to University of Southern Denmark: Stine Sonne Carstensen ph. 6550 3760 [ccarstensen@health.sdu.dk](mailto:ccarstensen@health.sdu.dk)

<b>Wednesday Aug. 27</b>		<b>Thursday Aug. 28</b>		<b>Friday Aug 29</b>	
<b>9.15</b>	RAAS reactions: Renin-angiotensinogen and ACE activity. Knud Poulsen, Holte	<b>9.15</b>	Renin secretion at the organ level Frank Schweda, Regensburg.	<b>9.15</b>	Functional role of cell to cell communication in renin producing cells. Frank Schweda, Regensburg
<b>10.00</b>	Title to be announced. Edith Hummler. Lausanne, Switzerland	<b>10.00</b>	Converting enzyme and blood vessel function Paul Vanhoutte, HongKong/Odense:	<b>10.00</b>	Aldosterone/MR Edith Hummler, Lausanne
<b>10.45</b>	Coffee	<b>10.45</b>	Coffee	<b>10.45</b>	Coffee
<b>11.15</b>	Quantitative imaging of kidney function and the intra-renal RAS Janos Peti-Peterdi, Los Angeles, CA	<b>11.10</b>	Angiotensin receptors and intracellular transduction mechanisms Jacob Lerche Hansen, Copenhagen	<b>11.00</b>	Hyper-aldosteronism: diagnosis and treatment, Per Løgstrup Poulsen, Aarhus
		<b>11.35</b>	Paracrine regulation of JG-apparatus function: adenosine. Pernille BL Hansen, Odense	<b>11.30</b>	The renin angiotensin-aldosterone system in renovascular hypertension, IB Abildgaard Jacobsen, Odense
12.00	Lunch	12.00	Lunch	12.00	Lunch
<b>13.00</b>	Optimal conditions for measurement of RAAS activity: Angiotensins, renin and angiotensinogen Peter Bie, Odense	<b>13.00</b>	Cellular mechanisms of renin release Ole Skøtt, Odense	<b>13.00</b>	Clinical interventions: Renin inhibition vs. established interventions Kent Lodberg Christensen, Århus
<b>13.30</b>	<i>Measurements of renin: plasma (concentration) tissue (mRNA) (Practical, demonstration) (Winsløwparken 21, 3<sup>rd</sup> floor)</i> Bodil Kristensen, Ulla Melchior Hansen, Inge Andersen, Kristoffer Rosenstand, Odense	<b>13.30</b>	<i>Measurements of Renin (Practical, demonstration-evaluation of results) (Winsløwparken 21, 3<sup>rd</sup> floor)</i> Bodil Kristensen, Ulla Melchior Hansen, Inge Andersen, Kristoffer Rosenstand, Odense	<b>13.30</b>	<i>Evaluation of assay results/Peter Bie, Boye Jensen</i> <i>Visualization of JG-cells: Isolation of the renal vasculature by acid maceration</i> <i>Electrophysiology: Patch clamp measurements of membrane current and secretion by single renin-producing JG-cells. (Demonstration, Winsløwparken 21, 3<sup>rd</sup> floor)</i> Ulla G. Friis, Pernille BL Hansen, Boye L Jensen Odense
	“Meet the experts” – participant projects		“Meet the experts” – participant projects	<b>15.30</b>	Course evaluation
<b>17.00</b>	End	<b>17.00</b>		<b>16.00</b>	End of course