

# Luca Magnani Ph.D

## **Team Leader**

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## **Education**

**Ph.D** Purdue University, Department of Animal Science 2008

**Mini-MBA** Purdue University, 2007

**M.S** University of Bologna, DIMORFIPA, Veterinary School 2004

**B.S** University of Bologna, Biotechnology 2004

## **Professional Experience**

**Team Leader** Imperial College (Jan 2013-present). My research team focuses on the causes of resistance to endocrine therapies and the epigenetic basis of breast cancer. We use genomics techniques such as ChIP-seq/MNaseI-seq and DHS-seq to study chromatin-transcription factors interactions.

**Post Doctoral Scientist** Dartmouth College, NCCC-OCI Toronto (July 2009-Dec 2012). I led research aimed at identifying novel protein involved in estrogen receptor signaling. We have also defined the contribution of epigenetic reprogramming in the development of drug resistance.

**Post Doctoral Scientist** Michigan State University, East Lansing, MI (July 2008-July 2009). Main responsibilities involved plan and execute research exploring the role of chromatin remodeling in mouse embryo and mouse embryonic stem cells

**Research assistant:** Purdue University, West Lafayette, IN (Sept 2004-May 2008). I planned and executed research toward understanding the role of epigenetic reprogramming in early embryo development. I also advised and supervised students on related research

## **Mentoring and Teaching Experience**

**Undergraduate:** Purdue University: 495R-Physiology of Reproduction Lab 2007. I served as a Teaching Assistant in a didactic laboratory addressing the anatomy and physiology of the reproductive tract in domestic species.

**Outreach:** Howard Hughes Outreach Program 2010: Rivendell/Montshire Museum Norwich, NH. I mentored 8<sup>th</sup> grade student during a six week period in which I helped them design and perform scientific experiments.

## ✚ Financial support

**2012-2015-** Imperial College Junior Research Fellowship: ~ £50.000 p.a/3 years

**2013-2014-** Breast Cancer Campaign pilot: ~ £20.000 p.a/1 year

## ✚ Invited Talks and Presentation

**2013- Sept-Manchester** Breast Cancer Campaign invited Lecture

**2013- Oct-Amsterdam** HOX and TALE Transcription Factors in Development and Disease

**2013- May-London** Precision in Medicine conference

**2012- Sept Brisbane, Australia** QIMR special seminar series

**2012- Feb Milan, Italy** IFOM-IEO SEMM seminar series

**2012- Feb Turin, Italy** University of Turin, SysByoM lecture series

**2011- Dec London, UK** Imperial College, London.

**2011- Sept Barcelona, Spain Sept** EMBO nuclear receptor meeting

**2006- July Omaha, USA** SSR meeting.

## ✚ Selected Publication (<http://bit.ly/Kn9107>)

1. Ylenia Lombardo, Monica Faronato, Aleksandra Filipovic, Valentina Virchillo, **Luca Magnani** and R Charles Coombes. Nicastrin and Notch4 drive Endocrine Therapy Resistance and Epithelial-Mesenchymal Transition in breast cancer cells. *Breast Cancer Research. Under Review.*
2. Bianco S , Jangal M , Brunelle M, **Magnani L** and Gévry N. M, LRH-1 governs vital transcriptional programs in estrogen sensitive and resistant breast cancer cells. *Cancer Research. Under Review.*
3. Gadaleta R and **Magnani L\***. Nuclear receptors and chromatin: an inducible couple. *Journal of Molecular Endocrinology. Provisionally accepted.*
4. **Magnani L** et al. Genome-wide reprogramming of the chromatin landscape underlies endocrine therapy resistance in breast cancer. 2013. *Proceeding of the National Academy of Sciences.* Apr 16;110(16):E1490-9
5. **Magnani L\* and Lupien M.** Chromatin and Epigenetic Determinants of Estrogen Receptor Alpha (ESR1) Signaling. 2013. *Mol End.* doi:p11: S0303-7207(13)00203-7. 10.1016/j.mce.2013.04.026.
6. **Magnani L** et al. Chromatin Landscape and Endocrine Response in Breast Cancer. *Epigenomics.* 2012 Dec;4(6):675-83.
7. **Magnani L\*** et al. ChIP-ing away at cancer. 2012. *Lancet Oncol.* 2012 Dec;13(12):1185-7.
8. **Magnani L,** et al. PBX1 genomic pioneer function drives ER $\alpha$  signaling underlying progression in breast cancer. *PLoS Genetics.* 2011. Nov;7(11).
9. **Magnani L,** et al. Pioneer factors: directing transcriptional regulators within the chromatin environment. *Trends Genet.* 2011 Nov;27(11):465-74
10. Thiaville M, Stoeck A, Chen L, **Magnani L,** Oidtman J, Lupien M, Shih I, Wang T. Identification of PBX1 target genes in cancer cells by global mapping of PBX1 binding sites. *PLoS One.* 2012;7(5):e36054

11. Xin Wang, Ki-Eun Park, Stephanie Koser, Shihong Liu, **Luca Magnani**, and Ryan A. Cabot. KPNA7, an oocyte- and embryo-specific karyopherin  $\alpha$  subtype, is required for porcine embryo development. *Reprod Fertil Dev.* 2011. 2012 Feb;24(2):382-91.
  12. Kai Wang, Satyaki Sengupta, Luca **Magnani**, Catherine A. Wilson, R. William Henry, Jason Knott. Brg1 is required for Cdx2-mediated repression of Oct4 expression in mouse blastocysts. *PLoS One.* 2010 May 12;5(5):e10622
  13. Park K-E Christine M. Johnson, Luca **Magnani**, Xin Wang, Monica N. Biancardi and Ryan A. Cabot. Global H3K9 dimethylation status is not affected by transcription, translation, or DNA replication in porcine zygotes. *Mol Reprod. Dev.* 2010 Jan 27.
  14. Park K-E, **Magnani** L and Cabot. RA. Differential remodeling of mono- and trimethylated H3K27 during porcine embryo development. *Mol Reprod Dev.* 2009 2009 Nov;76(11):1033-42.
  15. Xing X, **Magnani** L, Lee K, Wang C, Cabot RA, Machaty Z. Gene expression and development of early pig embryos produced by serial nuclear transfer. *Mol Reprod Dev.* 2009 Jun;76(6):555-63.
  16. **Magnani** L, et al. Manipulation of BRAHMA and BRG1 transcript levels in porcine embryos differentially alters development and expression of SNF2I, SOX2, NANOG and eIF1A. *Reproduction.* 2009 Jan;137(1):23-33.
  17. **Magnani** L, et al. Expression of eukaryotic elongation initiation factor 1A differentially marks zygotic genome activation in biparental and parthenogenetic porcine embryos and correlates with in vitro developmental potential. *Reprod Fertil Dev.* 2008; 20(7):818-25.
  18. **Magnani** L, et al. In vitro and in vivo derived porcine embryos possess similar, but not identical, patterns of Oct4, Nanog, and Sox2 mRNA expression during cleavage development. *Mol Reprod Dev.* 2008 Dec; 75(12):1726-35.
  19. **Magnani** L, et al. Developmental capacity of porcine nuclear transfer embryos correlate with levels of chromatin-remodeling transcripts in donor cells. *Mol Reprod Dev.* 2008 May; 75(5):766-76.
  20. **Magnani** L, et al. Developmental arrest induced in cleavage stage porcine embryos following microinjection of mRNA encoding Brahma (Smarca 2), a chromatin remodeling protein. *Mol Reprod Dev.* 2007 Oct; 74(10):1262-7
- \* *Corresponding Author*

### Selected abstracts

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| <ol style="list-style-type: none"> <li>1. Magnani L et al. Presented at the Gordon Conference Cancer Genetics &amp; Epigenetics. Lucca 2013.</li> <li>2. Magnani L, et al. Presented at the MRC epigenetic regulation meeting. London 2012</li> <li>3. Magnani L, et al. Presented at the annual EMBO meeting/Nuclear Receptors. Barcelona 2011</li> <li>4. Magnani L and Cabot R; Presented at the annual meeting for the Society for the Study of Reproduction, Hawaii, 2008.</li> </ol> | <ol style="list-style-type: none"> <li>5. Magnani L and Cabot R. Presented at Embryo Transfer Society annual meeting, Denver 2008.</li> <li>6. Magnani, L and R. Cabot. 2007. Presented at the Plant and Animal Genome annual meeting, 2007.</li> <li>7. Magnani, L., W. Fodor and R. Cabot. 2006. <i>Biology of Reproduction (Supplement 1):174.</i> Presented at The annual meeting for the Society for the Study of Reproduction, 2006.</li> </ol> |
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8. Magnani, L. and R. Cabot. 2006. Presented at the International Embryo Transfer Society annual meeting, Orlando 2006.

### Honors and Awards

<b>2003</b>	off-campus training fellowship for outstanding thesis	<b>2007</b>	College of Agriculture mini-MBA grant
<b>2006</b>	Book-Harmon Leadership fellowship	<b>2008</b>	Bisland Dissertation Fellowship
<b>2006</b>	Featherson off-campus training award	<b>2011</b>	Best Poster: Integrative Biology
<b>2006</b>	LOUJA graduate research competition travel award	<b>2011</b>	Best Oral Presentation: EMBO meeting/Nuclear receptors
<b>2007</b>	LOUJA graduate research competition travel award	<b>2011</b>	Best Poster: Annual Dartmouth Post-Doctoral symposium

### Professional Memberships

<b>2007-</b> Sigma Xi	<b>2005-2008</b>	SSR
<b>2005-</b> Gamma Sigma Delta	<b>2005-2008</b>	IETS
<b>2013-</b> BACR		

### Patents

Marker for indentifying breast cancer treatment modalities: DC0478US.L  
 Markers for Identifying Breast Cancer Treatment Modalities: DC0478US.L2

### Reviewer assignments

Molecular and Cellular endocrinology 2013-  
 Journal of Current Cancer Drug Target 2013-  
 BMC cancer 2013-  
 Nucleic Acid Research 2013-  
 Molecular Oncology 2013-

### Press Coverage

“Study Points to New 'Pioneer Factor' Role in ER+ Breast Cancer Proliferation” Genomeweb.org  
 “Staking a claim” Nicola McCarthy, Nature Reviews Cancer 12, 4-5 (2012)  
<http://www.targetedhc.com/articles/Potential-Pathway-of-Resistance-in-ER-Breast-Cancer-Identified>  
<http://www.sciencedaily.com/releases/2013/04/130401151035.htm>  
<http://connexoncreative.com/publications/archives/MCN513.aspx>  
<http://la.repubblica.it/saluteseno/news/bypassare-la-resistenza-ai-farmaci/1920/>

## References

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## Extra curricula activities

Sports: I play soccer at semi-competitive level. I also enjoy snowboard, swimming, squash and biking.

Music: I play the guitar and piano

Others: I dance Tango and I have been teaching it for several years. I organized several initiatives in the dept. of Animal Science during my Ph.D. I enjoy fixing and riding old motorcycles.