

## Personal Information

Name: Prof. Dr. Chadi TOUMA  
Date of Birth: 16 January 1974



## Contact Details

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## Professional Experience

2016 – present Full Professor, Department of Behavioural Biology, Faculty of Biology and Chemistry, University of Osnabrück, Germany

2010 – 2016 Head, Research Group of Psychoneuroendocrinology, Max Planck Institute of Psychiatry, Munich, Germany

2009 – 2018 Faculty member of the ‘*Graduate School of Systemic Neurosciences*’ and the ‘*Munich Center for Neurosciences – Brain & Mind*’

2007 – 2009 Senior Scientist, Research Group of Behavioural Neuroendocrinology, Max Planck Institute of Psychiatry, Munich, Germany

2004 – 2007 Postdoctoral Researcher, Max Planck Institute of Psychiatry, Munich, Germany (Group of Prof. Dr. Rainer Landgraf)

2003 – 2004 Postdoctoral research fellow, Institute of Neuro- and Behavioural Biology, University of Münster, Germany (Group of Prof. Dr. Norbert Sachser) and Institute of Biochemistry, University of Veterinary Medicine Vienna, Austria (Group of Prof. Dr. Rupert Palme)

## Academic Education

2000 – 2003 Dissertation (Ph.D.) at the Institute of Neuro- and Behavioural Biology, University of Münster, Germany (Supervisor: Prof. Dr. N. Sachser)  
Grade: ‘*summa cum laude*’  
Supported by a Ph.D. fellowship from the ‘*Studienstiftung des deutschen Volkes*’ (German National Academic Foundation)

1994 – 1999 Biology studies at the University of Münster, Germany  
Diploma (M.Sc.) in Zoology/Behavioural Endocrinology  
Grade: ‘*with distinction*’  
Scholarship (1996 – 1999) from the ‘*Studienstiftung des deutschen Volkes*’ (German National Academic Foundation)

1993 – 1994 Biochemistry studies at the University of Hanover, Germany

## Research Interests

- *Genes, Hormones and the Brain*
  - molecular genetic and neuroendocrine bases of behaviour
- *Function and Regulation of the Stress Hormone Systems*
  - focus: alterations in neurodegenerative and psychiatric disorders
- *Gene – Environment Interactions, Epigenetics*
  - modulation of genetic predispositions by social and non-social environmental factors
- *Regulation of Energy Metabolism and Neuronal Functions*
  - impact of metabolic changes on behavioural and neurobiological endophenotypes

## Ten Selected Publications

- Meyer N, Kröger M, Thümmler J, Tietze L, Palme R, **Touma C** (2020): Impact of three commonly used blood sampling techniques on the welfare of laboratory mice: Taking the animal's perspective. *PLoS One* 15(9): e0238895.
- Forkosh O, Karamihalev S, Roeh S, Alon U, Anpilov S, **Touma C**, Nussbaumer M, Flachskamm C, Kaplick PM, Shemesh Y, Chen A (2019): Identity domains capture individual differences from across the behavioral repertoire. *Nature Neuroscience* 22: 2023-2028.
- McIlwrick S, Rechenberg A, Matthes M, Burgstaller J, Schwarzbauer T, Chen A, **Touma C** (2016): Genetic predisposition for high stress reactivity amplifies effects of early-life adversity. *Psychoneuroendocrinology* 70: 85-97.
- Gaali S, Kirschner S, Cuboni S, Hartmann J, Kozany C, Balsevich G, Namendorf C, Fernandez-Vizarra P, Sippel C, Zannas AS, Draenert R, Binder EB, Almeida OFX, Rühler G, Uhr M, Schmidt MV, **Touma C**, Bracher A, Hausch F (2015): Selective inhibitors of the FK506-binding protein 51 by induced fit. *Nature Chemical Biology* 11: 33-39.
- Heinzmann JM, Kloiber S, Mattos GE, Bielohuby M, Schmidt MV, Palme R, Holsboer F, Uhr M, Ising M, **Touma C** (2014): Mice selected for extremes in stress reactivity reveal key endophenotypes of major depression: A translational approach. *Psychoneuroendocrinology* 49: 229-243.
- Knapman A, Kaltwasser SF, Martins-de-Souza D, Holsboer F, Landgraf R, Turck CW, Czisch M, **Touma C** (2012): Increased stress reactivity is associated with reduced hippocampal activity and neuronal integrity along with changes in energy metabolism. *European Journal of Neuroscience* 35: 412-422.
- Refojo D, Schweizer M, Kuehne C, Ehrenberg S, Thoeringer C, Vogl AM, Dedic N, Schumacher M, von Wolff G, Avrabos C, **Touma C**, Engblom D, Schütz G, Nave KA, Eder M, Wotjak CT, Sillaber I, Holsboer F, Wurst W, Deussing JM (2011): Glutamatergic and dopaminergic neurons mediate anxiogenic and anxiolytic effects of CRHR1. *Science* 333: 1903-1907.
- Touma C**, Gassen NC, Herrmann L, Cheung-Flynn J, Büll DR, Ionescu IA, Heinzmann JM, Knapman A, Siebertz A, Depping AM, Hartmann J, Hausch F, Schmidt MV, Holsboer F, Ising M, Cox MB, Schmidt U, Rein T (2011): FK506 binding protein 5 (FKBP5) shapes stress responsiveness: modulation of neuroendocrine reactivity and coping behavior. *Biological Psychiatry* 70: 928-936.
- Touma C**, Bunck M, Glasl L, Nussbaumer M, Palme R, Stein H, Wolfenstatter M, Zeh R, Zimbelmann M, Holsboer F, Landgraf R (2008): Mice selected for high versus low stress reactivity: a new animal model for affective disorders. *Psychoneuroendocrinology* 33: 839-862.
- Touma C**, Palme R, Sachser N (2004): Analyzing corticosterone metabolites in fecal samples of mice: a noninvasive technique to monitor stress hormones. *Hormones and Behavior* 45: 10-22.