CURRICULUM VITAE

PERSONAL DETAILS

NAME:	**MIRSADA CAUSEVIC**
DATE/PLACE OF BIRTH:	14 May 1971, Bihac, Bosnia and Herzegovina (B&H)
NATIONALITY:	B&H
ADDRESS:	Sarajevo School of Science and Technology, Sarajevo Medical School, Hrasnicka cesta 3a, 71 000 Sarajevo, B&H
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EDUCATION AND QUALIFICATIONS

1993 – 1994	Part-time Biomarketing & Management Degree Course, University of East London, London, UK.
1994 – 1997	Full-time Life Sciences Degree Course, University of Dundee, Dundee, UK.

Honours Project – "Transcription factors as targets for anti–diabetic drug design" – Comparison between the peroxisome proliferator–activated receptor gamma (PPARγ) and its mutant counterpart as targets for anti-diabetic agents and natural ligands. Effects of PPARγ–related ligands on adipocyte differentiation. *Laboratory of Professor Colin N. Palmer*

July – August 1996	Wellcome Trust Prize Studentship, University College London, London, UK.

Project Title – "Identification of novel DNAJ–like protein homologues". *Laboratory of Professor Michael Cheetham*

July 1997	Honours BSc Pharmacology Degree Award, University of Dundee, Dundee, UK.
July 1997 – October 2000	PhD Programme, University of Dundee, Dundee, UK.

Summary of a PhD Project – "Characterisation of p68: a prototypic D-E-A-D box protein" – Investigations of an interaction and immunofluorescent co–localisation between p68 and its interacting protein fibrillarin at a specific stage of the cell cycle, late telophase. Assessment of a role of p68 in human colorectal adenomas and carcinomas. Main experimental techniques: molecular and cellular biology; cell culture; confocal/fluorescent microscopy; tissue biochemistry and immunohistochemistry. *Laboratory of Dr Frances Fuller–Pace*

October 2000 PhD Degree Award, University of Dundee, Dundee, UK.

POST-DOCTORAL POSITIONS

Nov. 2000 – Feb. 2003 Post–doctoral Fellow, Mount Sinai School of Medicine, New York, NY, USA.
Laboratory of Professor Joseph Buxbaum

Main duties: Examination of LRP1 protein levels in human brain samples from Alzheimer's disease patients at different stages of dementia and healthy or control subjects by SDS–PAGE and Western blotting; Examination of *LRP1* exon 3 polymorphism in DNA samples extracted from human post-mortem brain tissue samples by using genomic DNA extraction, PCR, restriction enzyme incubation and 2% agarose gel electrophoresis followed by ethidium bromide staining; Characterisation of a phospho–specific, anti–LRP1 antibody by using molecular cloning, cell culture, transient transfections, indirect immunofluorescence/confocal microscopy, immunoprecipitation, SDS–PAGE and Western blotting techniques.

Feb. 2003 – Sept. 2004 Post–doctoral Fellow, Thomas Jefferson University, Philadelphia, PA, USA.
Laboratory of Professor Sam Gandy

Main duties: Characterisation of a phorbol ester–binding molecule Munc13–1 and a vesicle docking phospho–protein Munc18 in non–amyloidogenic processing of β–amyloid precursor protein (APP) by using cell culture, transient transfections, indirect immunofluorescence/confocal microscopy, SDS–PAGE and Western blotting techniques; Animal husbandry and mouse genotyping by using mouse tail genomic DNA extraction followed by PCR, agarose gel electrophoresis and ethidium bromide staining; Careful record keeping and setting up of new mouse breeding cages for two different mouse line expansions (CRND8 and human APP–Dutch mutation transgenic lines).

Feb. 2005 – Dec. 2008 Post–doctoral Research Worker, King's College London, London, UK.
Laboratory of Professor Simon Lovestone

Main duties: Validation of human plasma biomarkers of Alzheimer's disease by SDS–PAGE, Western blotting and ELISAs; Isolation and sub–dissections of brain tissue samples obtained from mice and preparation of brain lysates for examination of target proteins; Characterisation of APP processing in brain tissue samples obtained from mice representing a novel mouse model of Alzheimer's disease by SDS–PAGE and Western blotting; Characterisation of a novel, anti-APP antibody; Examination of APP processing and tau protein levels [as well as other Alzheimer's disease–related proteins, including β–amyloid (Aβ)] in different regions of the human brain from Alzheimer's disease patients and gender– and age–matched, healthy subjects by SDS–PAGE and Western blotting.

July 2009 – May 2011 Post–doctoral Fellow, Institute of Pathobiochemistry, University of Mainz, Mainz, Germany.
Laboratory of Professor Dr Claus Pietrzik

Main duties: Investigations into a role of metalloprotease meprin–β in APP processing, including Aβ generation, by using post-mortem human brain samples, cell culture, transient transfections, immunoprecipitation, SDS–PAGE and Western blotting; Generation of BACE1/2 double knock–out

mouse fibroblasts stably overexpressing APP, meprin–β and APP/meprin–β by using retroviral gene transfer techniques.

Dec. 2013 – Sept. 2014 Post-doctoral Fellow, Rudjer Boskovic Institute, Zagreb, Croatia.
Laboratory of Dr Silva Katusic Hecimovic

Main duties: Investigations of molecular mechanisms of the Niemann-Pick type C neurodegeneration in a mouse model of the NPC disease by studying BACE1-related seizure protein 6 (SEZ6) and seizure 6-like protein (SEZ6L) in mouse brain tissue samples collected from mice at different disease stages and by using biochemical methods, SDS–PAGE and Western blotting.

Oct. 2014 – Sept. 2016 Marie Curie Fellow, FP7-PEOPLE-2013-IEF Programme - BrainProtect Project - No 621975, Rudjer Boskovic Institute, Zagreb, Croatia.
Laboratory of Dr Silva Katusic Hecimovic

Main duties: Investigations of a putative role of presenilins (PS1 and PS2) in molecular mechanisms leading to selective vulnerability of cerebellum to neuropathology of the Niemann-Pick type C (NPC) disease. Animal husbandry for a mouse model of the NPC disease (*NPC1*-null mice), mouse genotyping by using mouse tail genomic DNA extraction followed by PCR, agarose gel electrophoresis and ethidium bromide or GelRed staining; Mouse brain lysate preparation for examination of PS1 and PS2 proteins by SDS–PAGE and Western blotting; Careful record keeping and setting up mouse breeding in order to peform isolation of primary granule and Purkinje neurons from mouse cerebella; Analysis of PS1 and PS2 localisation in primary granule and Purkinje neurons between the wild-type and the *NPC1*-null mice by immunocytochemistry and confocal microscopy; Quantitative PCR (qPCR) analysis of PS1 and PS2 gene expression levels between the wild-type and the *NPC1*-null mice.

Oct. 2016 – Lecturer in Pharmacology, Sarajevo School of Science and Technology, Sarajevo Medical School, Hrasnicka cesta 3a, Sarajevo, Bosnia & Herzegovina.

Main duties: Teaching "*Pharmacology*" and "*Introduction to Medical Research*" subjects to the 3rd year Medical Degree students at the Sarajevo Medical School at the Sarajevo School of Science and Technology.

PRIZES AND AWARDS

1994 – 1997	Open Society Institute Scholarship, George Soros Foundation, New York, NY, USA.
1996	Wellcome Trust Prize Studentship, Wellcome Trust, London, UK.
1999	Poster Prize from the Pathological Society of the UK and Ireland.
2001	Travel Fellowship from the Alzheimer's Association, USA.

SUPERVISED STUDENTS

December 2002 – January 2003: Mr Daniel English, a vacation student at the Mount Sinai School of Medicine, New York, NY, USA.

June 2004 – August 2004: Miss Lyndsey S. Benson, a vacation student at the Farber Institute for Neurosciences, Thomas Jefferson University, Philadelphia, PA, USA.

May 2008 – August 2008: Miss Umbreen Farooq, an MSc student at the Institute of Psychiatry, King's College London, London, UK.

RESEARCH ARTICLES

1) C.N.A. Palmer, **M. Causevic** and C.R. Wolf. Modulation of fatty acid signaling by cytochrome P-450-mediated hydroxylation. *Biochemical Society Transactions* (**1997**), 25: 1160-1165.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/9449968

2) **M. Causevic**, C.R. Wolf and C.N. Palmer. Substitution of a conserved amino acid residue alters the ligand binding properties of peroxisome proliferator activated receptors. *FEBS Letters* (**1999**), 463: 205-210.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/10606722

3) S.M. Nicol, **M. Causevic**, A.R. Prescott and F.V. Fuller-Pace. The nuclear DEAD box RNA helicase p68 interacts with the nucleolar protein fibrillarin and co-localizes specifically in nascent nucleoli during telophase. *Experimental Cell Research* (**2000**), 257: 272-280.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/10837141

4) **M. Causevic**, R.G. Hislop, N.M. Kernohan, F. Carey, R.J.C. Steele and F.V. Fuller-Pace. Overexpression and poly-ubiquitylation of the DEAD-box RNA helicase p68 in colorectal tumors. *Oncogene* (**2001**), 20: 7734-7743.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/11753651

5) **M. Causevic**, N. Ramoz, V. Haroutunian, K.L. Davis and J.D. Buxbaum. Lack of association between levels of low-density lipoprotein receptor-related protein (LRP) and either Alzheimer dementia or *LRP* exon 3 genotype. *Journal of Neuropathology and Experimental Neurology* (**2003**), 62: 999-1005.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/14575236

6) A. Hye, S. Lynham, M. Thambisetty, **M. Causevic**, J. Campbell, H.L. Byers, C. Hooper, F. Rijsdijk, S.J. Tabrizi, S. Banner, C.E. Shaw, C. Foy, M. Poppe, N. Archer, G. Hamilton, J. Powell, R.G. Brown, P. Sham, M. Ward and S. Lovestone. Proteome-based plasma biomarkers for Alzheimer's disease. *Brain* (**2006**), 129: 3042-3050.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/17071923

7) A.F. Ikin*, **M. Causevic***, S. Pedrini, L.S. Benson, J.D. Buxbaum, T. Suzuki, S. Lovestone, S. Higashiyama, T. Mustelin, R.D. Burgoyne and S. Gandy. Evidence against roles for phorbol binding protein Munc13-1, ADAM adaptor Eve-1, or vesicle trafficking phosphoproteins Munc18 or NSF as phospho-state-sensitive modulators of phorbol/PKC-activated Alzheimer APP ectodomain shedding. *Molecular Neurodegeneration* (**2007**), 2(1): 23.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/18067682
*Joint first authors.

8) R. Killick, G. Scales, K. Leroy, **M. Causevic**, C. Hooper, E.E. Irvine, A.I. Choudhury, L. Drinkwater, F. Kerr, H. Al-Qassab, J. Stephenson, Z. Yilmaz, K.P. Giese, J-P. Brion, D.J. Withers and S. Lovestone. Deletion of Irs2 reduces amyloid deposition and rescues behavioural deficits in APP transgenic mice. *Biochemical and Biophysical Research Communications* (**2009**), 386(1): 257-262.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/19523444

9) M. Thambisetty, A. Simmons, L. Velayudhan, A. Hye, J. Campbell, Y. Zhang, L.O. Wahlund, E. Westman, A. Kinsey, A. Guentert, P. Proitsi, J. Powell, **M. Causevic**, R. Killick, K. Lunnon, S. Lynham,

M. Broadstock, F. Choudhry, D.R. Howlett, R.J. Williams, S.I. Sharp, C. Mitchelmore, C. Tunnard, R. Leung, C. Foy, D. O'Brien, G. Breen, S.J. Furney, M. Ward, I. Kloszewska, P. Mecocci, H. Soininen, M. Tsolaki, B. Vellas, A. Hodges, D.G. Murphy, S. Parkins, J.C. Richardson, S.M. Resnick, L. Ferrucci, D.F. Wong, Y. Zhou, S. Muehlboeck, A. Evans, P.T. Francis, C. Spenger and S. Lovestone. Association of plasma clusterin concentration with severity, pathology, and progression in Alzheimer disease. *Archives of General Psychiatry* (**2010**), 67(7): 739-748.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/20603455

10) **M. Causevic**, U. Farooq, S. Lovestone and R. Killick. β-Amyloid precursor protein and tau protein levels are differently regulated in human cerebellum compared to brain regions vulnerable to Alzheimer's type neurodegeneration. *Neuroscience Letters* (**2010**), 485(3): 162-166.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/20826196

11) T. Jefferson*, **M. Causevic***, U. auf dem Keller, O. Schilling, S. Isbert, R. Geyer, W. Maier, S. Tschickardt, T. Jumpertz, S. Weggen, J.S. Bond, C.M. Overall, C.U. Pietrzik and C. Becker-Pauly. The metalloprotease meprin β generates non-toxic N-terminal amyloid precursor protein fragments *in vivo*. *Journal of Biological Chemistry* (**2011**), 286(31): 27741-27750.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/21646356
*Joint first authors.

12) M. Thambisetty, A. Simmons, A. Hye, J. Campbell, E. Westman, Y. Zhang, L.O. Wahlund, A. Kinsey, **M. Causevic**, R. Killick, I. Kloszewska, P. Mecocci, H. Soininen, M. Tsolaki, B. Vellas, C. Spenger, S. Lovestone, for the AddNeuroMed consortium. Plasma biomarkers of brain atrophy in Alzheimer's disease. *PLoS One* (**2011**), 6(12): e28527.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/22205954

13) J. Bien, T. Jefferson, **M. Causevic**, T. Jumpertz, L. Muenter, G. Multhaup, S. Weggen, C. Becker-Pauly and C.U. Pietrzik. The metalloprotease meprin β generates amino terminal-truncated amyloid β peptide species. *Journal of Biological Chemistry* (**2012**), 287(40): 33304-33313.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/22879596

14) R. Killick, E.M. Ribe, R. Al-Shawi, B. Malik, C. Hooper, C. Fernandes, R. Dobson, P.M. Nolan, A. Lourdusamy, S. Furney, K. Lin, G. Breen, R. Wroe, A.W. To, K. Leroy, **M. Causevic**, A. Usardi, M. Robinson, W. Noble, R. Williamson, K. Lunnon, S. Kellie, C.H. Reynolds, C. Bazenet, A. Hodges, J.P. Brion, J. Stephenson, J. Paul Simons and S. Lovestone. Clusterin regulates β-amyloid toxicity via Dickkopf-1-driven induction of the wnt-PCP-JNK pathway". *Molecular Psychiatry* (**2012**), doi: 10.1038/mp.2012.163
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/23164821

15) I.A. Tavares, D. Touma, S. Lynham, C. Troakes, M. Schober, **M. Causevic**, R. Garg, W. Noble, R. Killick, I. Bodi, D.P. Hanger and J.D. Morris. Prostate-derived sterile 20-like kinases (PSKs/TAOKs) phosphorylate tau protein and are activated in tangle-bearing neurons in Alzheimer disease. *Journal of Biological Chemistry* (**2013**), 288(21): 15418-15429.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/23585562

16) R. Hallaq, F. Volpicelli, I. Cuchillo-Ibanez, C. Hooper, K. Mizuno, D. Uwanogho, **M. Causevic**, A. Asuni, A. To, S. Soriano, K.P. Giese, S. Lovestone and R. Killick. The Notch intracellular domain represses CRE-dependent transcription. *Cellular Signaling* (**2015**), 27: 621-629.
PubMed link: http://www.ncbi.nlm.nih.gov/pubmed/25479589

17) **M. Causevic**, M. Malnar, K. Dominko, S. Cermak, M. Pigoni, P-H. Kuhn, A. Colombo, D. Havas, S. Flunkert, J. McDonald, J.M. Gunnersen, B. Hutter-Paier, S. Tahirovic, M. Windisch, D. Krainc, S.F. Lichtenthaler and S. Hecimovic. BACE-1 cleavage of Sez6 and Sez6L is elevated in Niemann-Pick type C disease mouse brains. *PLoS One* (**2018**), 13(7):e0200344.
PubMed link: https://www.ncbi.nlm.nih.gov/pubmed/29979789

18) E. Begic*, S. Hadzidedic*, A. Kulaglic, B. Ramic-Brkic, Z. Begic and **M. Causevic**. SOMAscan-based proteomic measurements of plasma brain natriuretic peptide are decreased in mild cognitive impairment and in Alzheimer's dementia patients. *PLoS One* (**2019**), 14(2):e0212261.
PubMed link: https://www.ncbi.nlm.nih.gov/pubmed/30763368
*Joint first authors.

19) E. Begic*, S. Hadzidedic*, S. Obradovic, Z. Begic and **M. Causevic**. Increased Levels of Coagulation Factor XI in Plasma Are Related to Alzheimer's Disease Diagnosis. *Journal of Alzheimer's Disease* (**2020**), 77(1):375-386.
PubMed link: https://pubmed.ncbi.nlm.nih.gov/32804133/
*Joint first authors.

BOOK CHAPTERS

1) Chapter 4: "Detection of specific *CYP2C9* and *VKORC1* gene polymorphisms towards improved warfarin dosing" by Mirsada Causevic and Edin Begic,

2) Chapter 8: "Characterisation of the *CYP2C9*1/*1*, the *CYP2C9*1/*2*, and the *VKORC1-1639CA* polymorphisms - A pharmacogenetics protocol" by Mirsada Causevic,

in "**Principles of Anticoagulant Therapy (With an Introduction to Pharmacogenetics of Warfarin)**", Editor: Edin Begic, MD, MA, Publisher: Sarajevo School of Science and Technology, Sarajevo, Bosnia and Herzegovina, ISBN: 978-9958-1935-5-2, Sarajevo, **2019**.

LIST OF AWARDED GRANTS AND FELLOWSHIPS

GRANTS Dec. 2007 – Dec. 2008: Grant Award with Dr Richard Killick [£7000.00] from the Institute of Social Psychiatry, London, UK (Project No **07/08-8**).

FELLOWSHIPS Oct. 2014 – Sept. 2016: Personal Marie Curie Intra-European Fellowship (IEF) for Career Development [EUR192,338.00] from the European Commission (FP7-PEOPLE-2013-IEF Programme: Project BrainProtect - No **621975**).