

INFORMAZIONI PERSONALI

Giovanna Zamboni

 Via del Pozzo 71,41124 Modena giovanna.zamboni@unimore.it**ISTRUZIONE E ESPERIENZE PROFESSIONALI**

- 1996 **Diploma di Maturità Scientifica,**
Liceo Statale A. Moro, Reggio Emilia
- 2002 **Laurea in Medicina e Chirurgia (magna cum laude),**
Università degli Studi di Modena e Reggio Emilia
- 2007 **Diploma di Specialista**
in Neurologia
- 2013 **Dottorato di Ricerca in Neuroscienze (DPhil, Doctor of Philosophy),**
Oxford University, UK
- 2009-2013 **Research Clinical Fellow,**
Nuffield Department of Medicine, Oxford University
- 2013-2015 **Senior Research Clinical Fellow,**
Nuffield Department of Clinical Neurosciences, Oxford University
- 2016-2019 **Ricercatore a tempo determinato tipo B,**
Università degli Studi di Modena e Reggio Emilia
- da Maggio 2019 **Professore Associato in Neurologia,**
Università degli Studi di Modena e Reggio Emilia

ATTIVITA' CLINICA

- 2002-2007 **Specializzanda in Neurologia,**
Policlinico di Modena e Nuovo Ospedale Civile Sant'Agostino
- 2008-2013 **Honorary Consultant Physician,**
attività ambulatoriale, Oxford Memory Assessment Clinic, John Radcliffe Hospital, Oxford, UK
- 2011 **Locum Consultant,**
attività ambulatoriale di neurologia generale, King's College Hospital, Londra, UK
- 2013-2015 **Honorary Consultant Neurologist,**
attività ambulatoriale e reparto di neurologia, John Radcliffe Hospital, Oxford, UK

ELENCO PUBBLICAZIONI

- 1.*Chiari, Vinceti, Adani, Tondelli, Galli, Fiondella, Costa, Molinari, Filippini, **Zamboni**, Vinceti# (#Joint Senior Authors) Epidemiology Of Early Onset Dementia And Its Clinical Presentations In The Province Of Modena, Italy. Alzheimer's & Dementia: The Journal Of The Alzheimer's Association, 2020 Sep 11
- 2.Torso, Ahmed, Butler, **Zamboni**, Jenkinson, Chance. Cortical Diffusivity Investigation In Posterior Cortical Atrophy And Typical Alzheimer's Disease. Journal Of Neurology, 2020 Aug 8
- 3.Sundaresan, **Zamboni**, Le Heron; Rothwell, Husain, Battaglini, De Stefano, Jenkinson, Griffanti. Automated Lesion Segmentation With Bianca: Impact Of Population-Level Features, Classification Algorithm And Locally Adaptive Thresholding. Neuroimage, Volume 202, 15 November 2019
- 4.***Zamboni**, Griffanti, Mazzucco, Pendlebury, Rothwell. Age-Dependent Association Between White Matter Abnormality On Brain Imaging And Cognition After Tia And Minor Stroke. Neurology, 2019 Jun 14
- 5.Loane, Argyropoulos, Roca-Fernández, Lage, Sheerin, Ahmed, **Zamboni**, Mackay , Irani, Butler. Hippocampal Network Abnormalities Explain Amnesia After Vgkcc-Ab Related Autoimmune Limbic Encephalitis. J Neurol Neurosurg Psychiatry. 2019 May 9.
- 6.Munir, Ursenbach, Wang, **Zamboni**, Griffanti, Gupta, Tariq, Smith, Frayne, Sajobi, Coutts, Barber And The Alzheimer's Disease Neuroimaging Initiative. Longitudinal Brain Atrophy Rates In Transient Ischemic Attack And Minor Stroke Patients And Cognitive Profiles. Frontiers In Neurology, 2019 Feb 19;10:18
- 7.Veldsman, Zamboni, Butler, Ahmed. Attention Network Dysfunction Underlies Memory Impairment In Posterior Cortical Atrophy. Neuroimage: Clinical, Neuroimage Clin. 2019; 22:101773

- 8.Vinceti, Michalke, Malagoli, Eichmüller, Filippini, Tondelli, Bargellini, Vinceti, **Zamboni**, Chiari. Selenium And Selenium Species In The Etiology Of Alzheimer's Dementia: The Potential For Bias Of The Case-Control Study Design. *Journal Of Trace Elements In Medicine And Biology*, 53, May 2019, 154-162
- 9.Sundaresan, Griffanti, Kindalova, Alfaro-Almagro, **Zamboni**, Rothwell, Nichols, Jenkinson. Modelling The Distribution Of White Matter Hyperintensities Due To Ageing On Mri Images Using Bayesian Inference. *Neuroimage* Volume 185, 15 January 2019, 434-445
- 10.Ahmed, Loane, Bartels, **Zamboni**, Mackay, Baker, Husain, Thompson, Hornberger, Butler. Lateral parietal contributions to memory impairment in posterior cortical atrophy. *Neuroimage Clin.* 2018 Jul 5; 20:252-259
- 11.Koychev, Galna, Zetterberg, Lawson, **Zamboni**, Ridha, Rowe, Thomas, Fytche , Howard, Malhotra, Lovestone, Rochester. A β 42/A β 40 And A β 42/A β 38 Ratios Are Associated with Gait Variability And Activities Of Daily Living In Mild Alzheimer's Disease. *Journal of Alzheimer's Disease, J Alzheimers Dis.* 2018;65(4):1377-1383
- 12.Tondelli, Barbarulo, Vinceti, Vincenzi, Chiari, Nichelli, **Zamboni**. Neural Correlates Of Anosognosia In Alzheimer's Disease And Mild Cognitive Impairment: A Multimethod Assessment. *Frontiers In Behavioural Neurosciences* 2018 May 17; 12:100
- 13.O'donoghue, Murphy, **Zamboni**, Nobre, Mackay. Apoe Genotype And Cognition In Healthy Individuals At-Risk Of Alzheimer's Disease: A Review. *Cortex*. 2018 Jul; 104:103-123.
- 14.Firouzian, Whittington, Searle, Koychev, **Zamboni**, Lovestone, Gunn, On Behalf Of The Deep And Frequent Phenotyping Study Team. Imaging A β And Tau In Early Stage Alzheimer's Disease With [18f]Av45 And [18f]Av1451. *Ejnmmi Res.* 2018 Mar 2;8(1):19
- 15.Ahmed, Irish, Loane, Baker, Husain, Thompson, Blanco, Mackay, **Zamboni**, Foxe, Hodges, Piguet, Butler. Association Between Precuneus Volume And Autobiographical Memory Impairment In Posterior Cortical Atrophy: Beyond The Visual Syndrome. *Neuroimage Clinical*, 18, 2018, Pages 822-834
- 16.Mc Ardle, Morris, Hickey, Del Din, Koychev, Firouzian, Lawson, **Zamboni**, Ridha, Sahakian, Rowe, Howard, Lovestone, Rochester On Behalf Of The Deep And Frequent Phenotyping Study Team. Gait In Mild Alzheimer's Disease: Feasibility Of Multi-Centre Measurement In The Clinic And Home With Body-Worn Sensors. *Journal Of Alzheimer's Disease* 2018;63(1):331-341.
- 17.Griffanti, Stratmann, Rolinski, Filippini, Zsoldos, Mahmood, **Zamboni**, Douaud, Klein, Kivimäki, Singh-Manoux, Hu, Ebmeier, Mackay. Exploring Variability In Basal Ganglia Connectivity With Functional Mri In Healthy Ageing. *Brain Imaging and Behaviour*, 2018 Feb 13.

- 18.Vinceti, Chiari, Eichmüller, Rothman, Filippini, Malagoli, Weuve, Tondelli, **Zamboni**, Nichelli, Michalke. A Selenium Species In Cerebrospinal Fluid Predicts Conversion To Alzheimer's Dementia In Persons With Mild Cognitive Impairment. *Alzheimer's Research & Therapy*, 2017 Dec 19;9(1):100.
- 19.Koychev, Gunn, Firouzian, Lawson, **Zamboni**, Ridha, Sahakian, Rowe, Thomas, Rochester, Fytche, Howard, Zetterberg, Mackay, Lovestone (Url [Www.Dementiastudy.co.uk](http://www.Dementiastudy.co.uk)) Pet Tau And Amyloid-B Burden In Mild Alzheimer's Disease: Divergent Relationship With Age, Cognition And Csf Biomarkers. *Journal Of Alzheimer's Disease*, 2017;60(1):283-293.
- 20.***Zamboni**, Griffanti, Jenkinson, Mazzucco, Li, Kuker, Pendlebury, Rothwell on behalf of the Oxford Vascular Study. White matter imaging correlates of early cognitive impairment detected by the MoCA after TIA and minor stroke. *Stroke* 2017, Jun;48(6):1539-1547.
- 21.Lau, Li, Lovelock, **Zamboni**, Chan, Chiang, Lo, Kueker, Mak, Rothwell. Clinical correlates, prognostic implications and ethnic differences of perivascular spaces in TIA and ischaemic stroke. *Stroke* 2017 Jun;48(6):1470-1477.
- 22.*Griffanti L, Jenkinson M, Suri S, Zsoldos E, Mahmood A, Filippini N, Sexton CE, Topiwala A, Allan C, Kivimäki M, Singh-Manoux A, Ebmeier KP, Mackay CE, **Zamboni G**. Caractherisation and definition of periventricular and deep white matter hyperintensities in older adults: An MRI study. *Neuroimage*. 2017 Mar; S1053-8119(17)30231-8
- 23.Griffanti, Wilcock, Voets, Bonifacio, Jenkinson, **Zamboni**. Donepezil enhances frontal functional connectivity in Alzheimer's disease: a pilot study. *Dementia and Geriatric Cognitive Disorders Extra* 2016; 6:518-528
- 24.*Griffanti, **Zamboni**, Khan, Li, Bonifacio, Schulz, Kuker, Battaglini, Rothwell, Jenkinson. BIANCA (Brain Intensity AbNormality Classification Algorithm): a new tool for automated segmentation of white matter hyperintensities. *Neuroimage*. 2016 Jul 9; 141:191-205.
- 25.Griffanti L, Rolinski M, Szewczyk-Krolikowski K, Menke RA, Filippini N, **Zamboni G**, Jenkinson M, Hu MT, Mackay C. Challenges in the reproducibility of clinical studies with resting state fMRI: an example in early Parkinson's disease. *Neuroimage*. 2016; 124, pp. 704-713
- 26.Rolinski M., Griffanti L., Szewczyk-Krolikowski K., Menke R.A.L., Wilcock G.K., Filippini N., **Zamboni G.**, Hu M.T.M., Mackay C.E. Aberrant functional connectivity within the basal ganglia of patients with Parkinson's disease. *NeuroImage: Clinical*. 2015; 8, pp. 126-132
- 27.Cristofori I, Viola V, Chau A, Zhong W, Krueger F, **Zamboni G**, Grafman J. The neural bases for devaluing radical political statements revealed by penetrating traumatic brain injury. *Social Cognitive and Affective Neuroscience* 2015; 10 (8): 1038-1044.
- 28.Benuzzi F, **Zamboni G**, Meletti S, Serafini M, Lui F, et al. Recovery from emotion recognition impairment after temporal lobectomy. *Frontiers in Neurology*. 2014 Jun 6; 5:92

29. Voets N, **Zamboni G**, Stokes M, Carpenter K, Stacey R, Adcock J. Aberrant functional connectivity in dissociable hippocampal networks is associated with deficits in memory. *Journal of Neuroscience, Journal of Neuroscience*, 2014 Apr 2;34(14):4920-8
30. Szewczyk-Krolikowski K, Menke RAL., Rolinski M, Duff E, Salimi-Khorshidi G, Filippini N, **Zamboni G**, Hu MT, and Mackay CE. Functional connectivity in the Basal Ganglia network differentiates PD patients from Controls. *Neurology*, 2014; 83 (3), pp. 208-214
- 31.***Zamboni G**, Wilcock GK, Doudau G, Drazich E, Filippini N, Brooks J, Jenkinson M, Smith S, Tracey I, Mackay C. Resting functional connectivity reveals residual functional activity in Alzheimer's disease. *Biological Psychiatry*, 2013 Sep 1;74(5):375-83.
32. Douaud G, Menke R, Gass A, Monsch A, Rao A, **Zamboni G**, Whitcher B, Matthews PM, Sollberger M, Smith S. Brain microstructure reveals early abnormalities more than two years prior to MCI–AD conversion. *The Journal of Neuroscience*. 2013;33(5):2147-2155.
33. **Zamboni G**, de Jager CA, Drazich E, Douaud G, Jenkinson M, Smith AD, Tracey I, Wilcock GK. Structural and functional bases of visuospatial associative memory in older adults. *Neurobiology of aging*. 2013; 34:961-72.
- 34.***Zamboni G**, Drazich E, McCulloch E, Filippini N, Mackay CE, Jenkinson M, Tracey I, Wilcock GK. Neuroanatomy of impaired self-awareness in Alzheimer's disease and mild cognitive impairment. *Cortex*. 2013; 49(3):668-78
35. Filippini, Casazza, Bellatorre, Lista, Duca, Beecher, Costantino, Falcone, **Zamboni**, Cavedo, Frisoni. The role of MRI in the early diagnosis of Alzheimer's disease or other dementias in persons with mild cognitive impairment (MCI) (Protocol). *Cochrane Database of Systematic Reviews* 2012, Issue 2. Art. No.: CD009628.
- 36.*Tondelli, Wilcock, Nichelli, De Jager, Jenkinson, **Zamboni**. Structural MRI changes detectable up to ten years before clinical Alzheimer's disease. *Neurobiology of aging*. 2012;33(4):825 e25-36.
37. Dean K, Oulhaj A, **Zamboni G**, de Jager C, Wilcock G. The role of depression in predicting time to conversion to Mild Cognitive Impairment. *American Journal of Geriatric Psychiatry*, 2014 Jul;22(7):727-34.
38. Pendlebury ST, Markwick A, de Jager CA, **Zamboni G**, Wilcock GK, Rothwell PM. Differences in Cognitive Profile between TIA, Stroke and Elderly Memory Research Subjects: A Comparison of the MMSE and MoCA. *Cerebrovasc Dis*. 2012;34(1):48-54.
39. Markwick A, **Zamboni G**, de Jager CA. Profiles of cognitive subtest impairment in the Montreal Cognitive Assessment (MoCA) in a research cohort with normal Mini-Mental State Examination (MMSE) scores. *Journal of clinical and experimental neuropsychology*. 2012;34(7):750-7.

40. **Zamboni G**, Grafman J, Krueger F, Knutson KM, Huey ED. Anosognosia for Behavioral Disturbances in Frontotemporal Dementia and Corticobasal Syndrome: A Voxel-Based Morphometry Study. *Dement Geriatr Cogn Disord*. 2010;29(1):88-96.
41. Strenziok M, Pulaski S, Krueger F, **Zamboni G**, Clawson D, Grafman J. Regional brain atrophy and impaired decision making on the balloon analog risk task in behavioral variant frontotemporal dementia. *Cogn Behav Neurol*. 2011;24(2):59-67.
42. Strenziok M, Krueger F, Pulaski SJ, Openshaw AE, **Zamboni G**, van der Meer E, et al. Lower lateral orbitofrontal cortex density associated with more frequent exposure to television and movie violence in male adolescents. *J Adolesc Health*. 2010;46(6):607-9.
- 43.*Krueger F, Barbey AK, McCabe K, Strenziok M, **Zamboni G**, Solomon J, Raymont V, Grafman J. The neural bases of key competencies of emotional intelligence. *Proceedings of the National Academy of Sciences of the United States of America*. 2009;106(52):22486-91.
44. Kapogiannis D, Barbey AK, Su M, **Zamboni G**, Krueger F, Grafman J. Cognitive and neural foundations of religious belief. *Proceedings of the National Academy of Sciences of the United States of America*. 2009;106(12):4876-81.
45. Gozzi M, **Zamboni G**, Krueger F, Grafman J. Interest in politics modulates neural activity in the amygdala and ventral striatum. *Hum Brain Mapp*. 2010;31(11):1763-71.
46. Huey ED, Goveia EN, Paviol S, Pardini M, Krueger F, **Zamboni G**, et al. Executive dysfunction in frontotemporal dementia and corticobasal syndrome. *Neurology*. 2009;72(5):453-9.
47. **Zamboni G**, Gozzi M, Krueger F, Duhamel JR, Sirigu A, Grafman J. Individualism, conservatism, and radicalism as criteria for processing political beliefs: A parametric fMRI study. *Soc Neurosci*. 2009;1-17.
- 48.***Zamboni G**, Huey ED, Krueger F, Nichelli PF, Grafman J. Apathy and disinhibition in frontotemporal dementia: Insights into their neural correlates. *Neurology*. 2008;71(10):736-42.
49. Knutson KM, **Zamboni G**, Tierney MC, Grafman J. Neural Correlates of Caregiver Burden in Cortical Basal Syndrome and Frontotemporal Dementia. *Dement Geriatr Cogn Disord*. 2008;26(5):467-74.
50. Benuzzi F, Meletti S, **Zamboni G**, Calandra-Buonaura G, Serafini M, Lui F, et al. Impaired fear processing in right mesial temporal sclerosis: a fMRI study. *Brain research bulletin*. 2004;63(4):269-81.

Casi clinici

- 51.Teo, Hofer, Kerr, Warner, Kuker, Rothwell, **Zamboni**. Disseminated leptomeningeal tumour mimicking a subarachnoid haemorrhage. The Neuroradiology journal 2018, in press
- 52.Jewell P, Ansorge O, Kuker W, Irani S, **Zamboni G**. Tocilizumab-associated multifocal cerebral thrombotic microangiopathy. Neurology: Clinical Practice. 2016;6 (3), pp. e24-e26
- 53.Pugnaghi M, Molinari M, Panzetti P, Nichelli PF, **Zamboni G**. "My sister's hand is in my bed": a case of somatoparaphrenia. Neurological sciences. 2012; 2012 Oct;33(5):1205-7
- 54.***Zamboni G**, Budriesi C, Nichelli P. "Seeing oneself": a case of autoscopv. Neurocase. 2005;11(3):212-5. This case has been reported (with permission) in the Handbook of Clinical Neurology, Vol. 88 (3rd series), Neuropsychology and behavioral neurology, G. Goldenberg, B. Miller, Editors, 2008 Elsevier

Reviews

- 55.Bonifacio G & **Zamboni G**. Brain imaging in dementia. BMJ Postgraduate Medical Journal. 2016;0:1-8.
- 56.***Zamboni G**, Wilcock G. Lack of awareness of symptoms in people with dementia: the structural and functional basis. Int J Geriatr Psychiatry. 2011;26(8):783-92.

Capitoli di Libri

- 57.Zamboni G "Functional specialisation and network connectivity in brain function" In "Oxford Textbook in Clinical Neurology: Cognitive Neurology and Dementia" by Masud Hussain and Jonathan Schott. Published on behalf of Oxford University Press. Published in print June 2016
- 58.Moretti L., Cristofori I., Zamboni G., Sirigu A. "The Neural Structure of Political Behaviours" In "The Neural Basis of Human Belief Systems" by Grafman and Krueger, Psychology Press, 9th July 2012
- 59.Nichelli P., Zamboni G. "Clinica e neuropsicologia del deterioramento cognitivo". In G. Gambina and C. Pasetti (Eds.) Introduzione alla malattia di Alzheimer e alle altre demenze: dalla clinica alla bioetica. Edizioni libreria Cortina. Verona: pp. 19-28.

Presentazioni e talks

La demenza giovanile a Modena. Alzheimer Fest, Cesenatico 12 Settembre 2020

Age-dependent association between white matter abnormality on brain imaging and cognition. AVIC symposium and Sir Paul Nurse lecture, Oxford 23 Novembre 2017

Neuroimaging in pazienti con alterato stato di coscienza e consapevolezza. Master su "Grave cerebrolesione acquisita (GCA)" Reggio Emilia, 11 Febbraio 2017

Embracing the complexity of dementia: from AD to small vessel disease, Oxford Memory Day, 13 Luglio 2016

MRI in Vascular Cognitive Impairment. Oxford-China Fellowship Programme, Oxford 26 Giugno 2014

Update on Alzheimer's disease. Oxford Dementia Day, Oxford 10 Luglio 2013

MRI characterisation of structural and functional changes from preclinical to clinical Alzheimer's disease. Barts and The London School of Medicine and Dentistry, Londra 21 febbraio 2013

Structural and Functional MRI in the prediction and characterization of MCI and AD. CUBRIC centre, Cardiff, 14 gennaio 2013

Improved MRI characterization of structural and functional changes from preclinical to clinical Alzheimer's disease.

The Computational, Cognitive and Clinical Neuroimaging Laboratory (C3NL)-Brain Meeting London, Imperial College, Londra 20 marzo 2012

Impaired self-awareness in Alzheimer's dementia and Mild Cognitive Impairment. British Neuropsychology Society Spring Meeting, Londra, 31 marzo 2011

Brain MRI procedures: how can they add to our knowledge about the symptoms and progression of Alzheimer's disease? Alzheimer's Research UK Public Meeting, Oxford (UK), 19 marzo 2011

Early brain correlates of later cognitive impairment in healthy elderly. Platform presentation, British Geriatric Society Autumn Meeting 2010, Brighton, 4 Novembre 2010

I disturbi comportamentali delle demenze. Merano, 1 ottobre 2010

Imaging funzionale nelle demenze neurodegenerative. Sessione Plenaria, 50° Congresso Nazionale SNO, Parma, 20 maggio 2010

The establishment of functional MRI procedures in the characterisation of Alzheimer's disease. Alzheimer's Research Trust Public Meeting, Oxford (UK), 23 gennaio 2010

Imaging & dementia: establishing fMRI procedures for Alzheimer's disease. FMRI, University of Oxford, Oxford (UK), 2 dicembre 2008

GRANTS

2004 Fellowship per partecipare al "The Vivian Smith Advanced Studies Institute of the International Neuropsychological Society: The Human Frontal Lobes", Xylocastro, Greece: €1,000

20 Nov 2008, Bando Progetti di Ricerca Internazionale, Fondazione Cassa di Risparmio, Italy, (co-responsabile e co-applicant con P Nichelli): "The neuroanatomical correlates of changes in political attitudes and behaviours in dementia": €46,165

12 Feb 2009, Vincitore di un Grant del Sir Halley Stewart Trust (Principal investigator): "Imaging in dementia – the establishment of functional magnetic resonance imaging procedures for Alzheimer's Disease": £60,000

17 giu 2009, Alzheimer's Research Trust, Pilot Project Grant (co-applicant con C Mackay, G Wilcock, K Ebmeier, C Beckmann) "Evaluation of dementia-specific signatures of resting networks in the brain": £29,980

2014, Wellcome Trust, Strategic Award in Biomedical Science (co-applicant with P Rothwell) "Centre for Prevention of Stroke and Dementia": £3.5 million

2016, FAR Dipartimentale (PI) "Disruption of functional connectivity within the default mode network relates to anosognosia in Alzheimer's disease", Dipartimento di Scienze biomediche, metaboliche e neuroscienze, Università di Modena e Reggio Emilia: €3,000

ATTIVITA' EDITORIALE E DI REVISIONE

Associate editor di *Frontiers in Neurology*

Grant reviewer per Medical Research Council (MRC), United Kingdom (2013 & 2014)

Grant reviewer per Alzheimer's Society, United Kingdom (2013 & 2015)

Invited reviewer per le seguenti riviste internazionali: Brain, Journal of Neuroscience, Cortex, Human Brain Mapping, Neurology, Journal of Neurology, PloSOne

ALTRE COMPETENZE

- Dal 2017 Insegnamento di Neurologia I e Neuropsicologia (responsabile modulo di Neuroscienze) per i CdL di Fisoterapia, Logopedia, Terapia Occupazionale e Tecnica della Riabilitazione Psichiatrica, Università di Modena e Reggio Emilia
- Dal 2017 Insegnamento Neurologia (responsabile Prof Meletti) e responsabile dell'attività di tirocinio agli studenti di Medicina V anno, Università di Modena e Reggio Emilia

Competenze Digitali

Autovalutazione

Elaborazione delle informazioni	Comunicazione	Creazione di Contenuti	Sicurezza	Risoluzione di problemi
Ottimo	Ottimo	Ottimo	Discreto	Discreto

Patente di guida

Italiana

USA

Premi

October 2003 Italian Society of Neurology award for the best doctoral dissertation of the year concerning epilepsy (premio "H. Gestaut" per tesi sperimentalisti sull'epilessia). XXXIV Congresso della Società Italiana di Neurologia, Rome, October 11-15th 2003

ULTERIORI INFORMAZIONI

Autorizzo il trattamento dei miei dati personali nel CV ai sensi del Decreto legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali" e del GDPR (Regolamento UE 2016/679).