

*edited by*

**GIOVANNA PICCINNO**

# DUALISM MANIFESTO

**/ DESIGN CHALLENGES FOR THE XXI CENTURY /**

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Bruno Zamborlin . Alice Zingales



# DUALISM MANIFESTO

## *Design Challenges for the XXI Century*

This open access book intends to present a speculative, emergent and often radical approach to designing that draws on **interdisciplinary research to explore the boundaries of design for contemporary and future spaces**, observing reality through the critical lens of opposing dualisms which, **precisely in their interval**, define the value of the incredible versatility of being able to design between **space and time, local and global, nature and artifice, science and art, technological and humanistic knowledge**. The work gathers also experimental teaching and learning results collected during the six-year coordination period of the Master of Science in *Interior and Spatial Design* at the Politecnico di Milano | School of Design – from 2016 to 2021 – which saw the Coordinator Board, together with colleagues and experts, **draw a parallel and alternative line of study of design**.

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### **DUALISM MANIFESTO\_ Design challenges for the XXI Century**

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#time #space #local #global #nature #artifice

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Anna Barbara

# TIME REVOLUTION OF SPACES IN THE DIGITAL ERA

#time  
#senses  
#digitalera

"We dwell in time as much as in space, and architecture mediates equally our relationship with this mysterious dimension, giving it its human measure." (Pallasmaa, 2016)

## DESIGNING THE FORMS OF TIME

We live in spaces often built before the digital revolution, which have little to do with our ways of living, communicating, interacting. There is therefore an architectural heritage that is completely inadequate for the new ways of living.

Interior design is static. Flexibility, adaptability, resilience, which are the mantras of space design, often affect on the furniture and a few movable partitions that reconfigure spaces according to needs, but only in rare cases is the paradigm of time redesigned that changes the rules.

The task of the next generation spatial designer will be to understand the new paradigms to work in, to design and to size the spaces in accordance with the rhythm and time that digital technologies have developed. (Carpo, 2016)

The revolution, introduced by smart technologies, has led to a further possible scenario in time-based design, related to the mediation, between humans and spaces, that digital devices perform in acceleration, compression, and temporal overlap.

Smart technologies reshape spaces, interiors, architecture, buildings, and infrastructures according to needs, desires, environmental conditions, but also the mass customisation experience. (Carpo, 2017)

They can accommodate ever-changing temporal and functional demands within real spaces. (Hassanein, 2017)

An interior design shaped by digital connections: it ceases to be monofunctional; it changes the sense of privacy; it resizes measurements; it changes temporalities and rhythms; it redraws the boundaries between offline and 'onlife' spaces in a globalised room, etc. (Floridi, 2009)

Private spaces seem to become more open and global, while public spaces become more intimate and local. (Augè, 2009)

When Zygmund Bauman introduced the concept of 'liquid modernity', he initiated a deep reflection on the spatio-temporal morphology of places, relationships, and technologies, which is still ongoing. (Bauman, 2007)

Novak introduced the concept of 'liquid architecture' existing only in the digital domain as an expression of the 'fourth dimension', incorporating time alongside space, as one of its primary elements. Novak's liquid architecture bends, rotates, and mutates in interaction with the person inhabiting it. (Panahi, 2017)

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**Anna Barbara**, architect and professor at Politecnico di Milano, Design School. Speaker at the *Ouverture 2017-18* event *Chonotopes\_Timespace*, Politecnico di Milano, MSc. in *Interior and Spatial Design*.

Bauman, Z., (2007). *Liquid Times: Living in an Age of Uncertainty*, Polity Press, Cambridge.

Liquidity has been the cause, but also the effect, of a way of life that has sought to blur boundaries, mixing real life and digital presence; virtual proximity and physical distance, etc., but above all that has deformed spaces through media technologies and different forms of time. Then, interior design could no longer be what it was before because the fluidity of time would also reshape space. Spaces were no longer the frame, the reference set, of human actions and instead became one of the possible media allowing for adaptability and flexibility in a continuous flux of changes characterized by endemic uncertainty. (Bauman, 2007) The liquidity that Bauman wrote about, which came from the digital revolution, is therefore mixed with the temporal revolution introduced by the media and their radical shift in our daily lives. These are all elements to initiate a temporal design of the interiors in which we live. It is therefore necessary for design disciplines to adopt the new paradigms, to try to synthesize existing approaches and to define criteria for the measurability of the results achieved. Above all, to graft the know-how and results of these extraordinary experiments into the professional practices, even into the most ordinary design, and into the spaces of our daily lives.



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### CONSUMERS, USERS AND COMMUTERS OF SPACES

The continuous (à la carte) commercial time introduced, first by the big malls and then by the internet, has transformed our lives as inhabitants, into those of consumers and consequently radically changed our relationship with spaces. (Barbara, 2012)

The first radical transformation is the extinction of present time, sliced up into a sequence of brief moments devoid of narrative and often intent on a compulsive accumulation of information that hardly translates into knowledge. In fact, there remain very often bulimic accumulations of information that are too saturated to be assimilated.

In fact, the present becomes a moment of uploading filtered by screens and electronic devices that do not allow us to live in the present and often distance us from the 'here and now' in the promise of who knows what elsewhere.

The abuse of digital media is dismantling one of the fundamental paradigms of the relationship we had with places in the analogic world, separating emotion from perception. This phenomenon has cleared the advent of increasingly fake, artificial, overstimulating places where involvement is required; or on the contrary, it has designed anonymous and hypo stimulating places where attention must be diverted.

The digital era began with the duplication of the point of view, which then gradually multiplied, detached from the body, positioned on the hundreds of webcams and satellites that frame the places we want to see and the information we can obtain. But those vantage points are a Benthamian version of a digital panopticon that scatters the spaces of other people's eyes and ears that can collect in real time all the data. (Vidler 2011)

The Renaissance city, which grew up around the central perspective, gives way to spaces observed from some satellite that takes us by the hand through orientation apps and leads us to our destination, without sometimes having any awareness of the route and the space crossed. (Barbara, 2011)

If the observer is no longer the inhabitant, then who are the spaces for? They are for a multitude of webcams and sensors connected to data centres, that know our homes and habits, to satisfy our desires but are more and more true monitors of our lifestyles and consumption at the service of other stakeholders.

The spaces of the contemporary world are rooms of human-machine coexistence, where the protagonist is not anymore the human body and perceptions since the design of spaces seems not to have arrived yet. The relationship between time and space is linked to movement. Important transformations are related to the technologies by which we have moved through space since the invention of the wheel. Each transportation has entailed a different speed and consequently a contraction or dilation of time and a reduction or lengthening of spatial distances.

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Indeed, we have entered an era in which movement does not necessarily coincide with mobility. A world innervated by multi-modal transport systems needs synchronisation, needs to build an organised system to avoid dispersion and jamming of gears.

Synchronicity is the imperative that allows people and goods in motion to meet, to move from one mobility system to another, from one time to another. (Barbara, 2012) Planning encounters and journeys is a continuous action that people do in their urban movements, a form of tele-cocoon that telecommunications perform to solve problems of micro-coordination and orientation between individuals. Media have become indispensable tools for creating a sense of proximity in distance, in absence, aided by simultaneous, non-deferred interaction. Asynchronous media, increasingly unusual, have a lower degree of engagement than sharing, of experience embedded in the space of places. (Castells, 1989) The world we live in, which was supposed to guarantee us great freedom of movement, is instead becoming a place that keeps us on a leash, where mobility constrained to predetermined routes is preferred to movement, because when we move, we have such degrees of freedom that the system could not control us. Large cities, based on efficient of transportation, are efficient organisations, but also places where any extra-movement outside the official mobility system is increasingly disincentivised.

Mobility without movement is the experience of low-cost flights, where the cost of air travel does not depend on distance, but on frequency. The logic by which routes are measured is thus linked to cost and time, which makes geographically distant locations close and pushes away any peripheral regions from capital cities. The earth's surface bends, Cartesian space gives way to space curled into new shapes and programmed proximities. The user of this world is the commuter who is the antagonist of Walter Benjamin's flaneur. The latter walked the Parisian passages without a goal, without a commitment, busy only on enjoying the path and his existence. The commuter, on the other hand, does not walk, does not travel, he simply mentally starts his 'autopilot' and reading, sometimes dozing off, but much more often is chatting or playing video games, he automatically and unconsciously transits from one point to another without any interaction with the surroundings, relying solely on the mental map that alerts him when he has arrived at the destination.

This stand-by mode is a lucrative market for producers of apps, video games, podcasts, and last-minute offers, because along a familiar route, the weary commuter seeks entertainment and isolation from the crowd of other passengers around him.

That non-time makes the qualities of spaces negligible because the focus is elsewhere and requires great efforts on the part of designers to draw attention to the present, to places and to the relationships of proximity.

## SPACES AROUND THE CLOCK

The space of mobility and connection is extinguishing the need for the third dimension of the depth, in favour of the fourth one: the time. It is configured as a sequence of thin layers to be crossed, with cadences and rhythms during which there is often nothingness, anonymity, boredom.

The sequence of thin layers erodes any horizon, while the space is configured as a digestive apparatus that pushes goods and people in peristaltic motion between one station and another without choice or interest. This is what already happens in large-scale interior spaces, those of stations, malls, airports, urban-scale interiors that are not measured in metres, but in minutes/hours and in rates. These are places where time takes on different connotations and space bends to the needs of commercial, experiential, logistical rhythms.

The lack of depth of the space mediated by digital devices, as well as by social media, diverts the gaze from reality in favour of an augmented, retouched, bulimic reality.

Screens become the new surfaces, floors, walls, ceilings, animated by continuous projections, that speak, illuminate, communicate, inform within experiences that are so immersive that they completely deny the need for other spaces, for real relationships, sometimes even just to move.

For spaces to compose an architecture, buildings must become gigantic clocks to synchronise the movement of gears, so that each room, each place, is coordinated with the temporalities, the rhythms of the others. This characteristic, which was once peculiar to large intermodal buildings, such as train stations, airports, etc., is now typical of all the buildings we design. In addition to the different temporalities, there is also the need to reconcile the temporalities of the digital reality that bursts into reality, overlaps, and tries to intertwine more and more.

The continuous time of the internet, becomes that of the 24/7 city and around-the-clock spaces, where circadian rhythms are altered for being able to choose which time slot to live and work in.

It is like being in a large international airport, where travelers from different countries pass each other, each in their departure time zone grappling with their arrival one: some take melatonin; some try to use a nap-unit (like the ones in the Xi'an airport in China) to catch up on some sleep; some wait a few days until their own circadian rhythm starts to turn in the gears of local time.

Through this 'connected presence', all the places we pass through are pervaded by a sense of intimacy, but also of separation from context and absence. (Perry et al., 2001)

In this non-time, temporal and spatial bubbles form in our cities, everywhere. (Augé, 2009)

The media of digital communication have created 'transnational' families, whose multi-territorial lives are hosted in their home countries, but are lived virtually in constant connection with their countries of origin.

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all'optica*, Booksprint, Reggio Calabria.

Their daily communications cross state borders and cultural boundaries, drastically reducing the sense of nostalgia, distance, and the incidence of repatriation.

(Ling, Campbell, 2009)

There have always existed ethnic enclaves in which populations remained anchored to the traditions of their countries of origin, to rituals, but today this relationship is even more paradoxical, because through the Internet, just like a wormhole, every immigrant, every foreigner, every student away from home, communicates with his or her country of origin and lives a dual temporality or, in the most extreme cases, lives the temporality of the country of origin much more than that of the place where he or she lives.

(Zuccheromaglio, 2013)

Can one live in one time and inhabit another? And what impact does this temporal paradox have on the places where we design?

The truth is that we have been practicing these different temporalities for much longer than we think. The habit of theme parks, with the artificial sun modulating the intensity of the light according to the entertainment; where time compresses and dilates according to the duration of the ticket purchased at the entrance; where the addiction to Caribbean allegories inside tiny spas and solariums to get in less than an hour the same tan we would get after a whole week's holiday; are all evidence of how we have accepted without resistance manipulations of time in every direction. Temporalities deform spaces and introduce narratives that no longer move according to linear or chronological sequences. Being in hybrid, extended, phygital spaces (as they have been called) means participating in a dramaturgy that involves flashbacks, futures, but where it can also happen that the past is in front and the future behind, and that two contiguous spaces flow side by side without ever meeting. These are the tensions that run inside the spaces we inhabit, which we will have to interpret, and understand whether to go along with, whether to resist them, whether to try to design them before they take over and lead us to the most definitive alienation.



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Mahmoodzadeh Sahar, Malakootimanesh Saeed, Maramotti Maria, Marchi Anna, Martinovic Nina, Melli Silvia, Merciai Eleonora, Michael Qashqaei Samane, Mikhail Reejy Atef Abdelatty, Mirashi Gilserena, Moridian Atin, Motta Viviana, Nazarenko Olga, Nguyen Ngoc Thanh Truc, Novaira Maria Emilia, Odoli Ilaria, Omodei Guendalina, Ortuso Veronica, Ossama Mohamed Rashad Elsabbagh Gannah, Otarod Milad, Páez Cataño Giset Paola, Palazzolo Lorena, Paltseva Anastasia, Parolini Martina, Pelizza Simone, Pellegrino Althea, Peng Shan, Peri Mattia, Predonzan Chiara, Pulvirenti Giordana Lucia, Qodratnama Hourieh, Quattrini Giulia, Quocchini Sabina Elena, Riina Elena, Rodde Sophie, Ronchi Elena, Salcuni Simone, Salot Elena, Sangermani Chiara, Setoguchi Erick Katsumi, Shelevaya Anisiya, Sniegowski Wojciech, Strianese Gianna Maria, Sun Li, Suwantawat Pidsinee, Tong Yu, Tonoli Elisabetta, Turati Giulia, Valassina Sara, Vasile Valentina Maria, Vukasinovic Sladana, Wang Anqi, Wang Qiaoyi, Wang Xinyi, Waszkiewicz Joanna Maria, Xun Ran, Xue Yuan, Yang Jinnuo, Yang Shuai, Yarahmadi Dehnavi Parivash, Yu Cheng, Zanotti Pamela, Zeni Chiara, Zhang Da Zheng, Zhang Zedong, Zhao Tong, Zhou Kang, Zhou Huizi, Zhou Hanxiang, Zhou Yaxian, Zhou Yingying, Zhu Rongzhen, Zhu Lin.

#### **ACADEMIC YEAR 2019-20**

Albano Annunziata, Almogabar Ruiz Angélica Sarai, Alpago Eleonora, Antonelli Francesco, Aran Cansu, Ashraf Ali Reehanul Karim, Astolfi Matteo, Bagnacani Marta, Bai Xiaoman, Bakar Ece, Barilli Sara, Beglarian Inessa, Beltrami Batista Giulia, Bergonzini Gian Marco, Beri Elena, Bonanomi Filippo, Busatta Susanna, Caputo Marika, Cartagena Sevillano Maria Antonia, Castiglioni Martina, Cattani Carlo Leone, Cerini Andrea, Chai Min Li, Ciprian Alessandro, Combi Chiara, Comini Elisabetta, Crusco Daniele, De Pace Pierluigi Angelo, Decio Margherita, Di Fonzo Chiara, Di Luciano Giulia, Dicheva Ivanka Yordanova, Dilmen Tugba, Duan Shuang, Escobar Arango Valeria, Eugeni Marco, Fiorentini Ilaria, Firouzbakhsh Armin, Focarazzo Luca, Fregoni Martina, Ganci Miriam, Gardoni Alessia, Girola Francesca, Giussani Luca, Granillo Maria Dolores, Huang Yidan, Husaru Alexandra, Ikutake Ken, Ilic Sofija, Intravaia Davide, Ippolito Mariangela, Jayaprakash Mohan, Jin Xin, Karagozoglu Idil, Karol Cagla Irem, Kim Hyo Won, Lakdawala Masoom Bhasit, Lamperti Francesco, Lazzarotto Elisa, Leone Giorgia, Li Xiang, Li Yanxin, Lian Weichao, Lin Tiancheng, Lozzi Luca, Maggioni Francesca, Mahmoodzadeh Sahar, Mahmoud Nasr, Shuaib Sodos, Maia Francesco, Malakootimanesh Saeed, Martic Ksenija, Masini Nicolò, Mauri Giulia, Melano Letizia, Melioli Lucia Cecilia, Melloni Alessandro, Meneghello Arianna, Micheli Arianna, Miranda Catalan Andrea María, Misagh Taheri Mohadeseh, Mittal Aditi, Moioli Federica, Morabito Rosa Angela, Morosato Sonia, Mudgal Shreya, Nabizadeh Elmira, Nalcaci Mevce, Nguyen Ngoc Tho, Oldani Ilaria, Ostolaza Udondo Itziar, Otarod Milad, Padmiyani Anindita Kharizma, Panteleeva Daria, Pavicevic Danica, Pérez Castro Daniela, Petersen Lotta Luise, Pigozzi Ilaria, Pirovano Cristina, Poli Asia, Pouri Mahsa, Prepiaková Kristína, Pucciani Francesco, Putri Haritsya, Ragusa Gabriele, Rajavel Pavithra, Ralli Elisabetta, Ratti Lucia, Rebecchi Sara, Riabenkova Mariia, Righini Diana, Rocca Licia, Romero Muñoz Natalia, Rossi Valeria, Rossini Ferreira Zanatta Túlio, Santambrogio, rianna, Scarselli Dario, Silva Maddalena, Silvestrini Margot, Spinelli Elena, Sturlese Mirco, Suriyaprakash Sobhana, Tesconi Giulia, Trojsi Maddalena Flavia, Urazbayeva Aigherim, Usacheva Elizaveta, Vaetisi Emanuel Catalin, Valori Camilla, Volpato Eleonora, Volpe Chiara, Wang Yuting, Xiong Xiaomei, Xu Nuo, Xue Yuan, Yan Yudi, Yang Shuai, Ye Qianqian, Zambotti Sara, Zeng Wenjie, Zhang Da Zheng, Zhang Yi, Zheng Weiqin, Zhou Xu, Zhou Zi Yin, Zou Xinhe.

## **ACADEMIC YEAR 2020-21**

Al-Masri Rama, Albanese Anna, Alfaro Fregoso Gabriel, Amati Alessandra, Ateeq Shayan, Atzeni Andrea, Babayeva Gunay, Baharlouei Elena, Barbaglia Serena, Bassi Irene, Belotti Michele, Berumen Borrego Ricardo, Biginato Greta, Boccucci Margherita, Bonopera Elisa, Brandi Davide, Bressan Lorenzo, Bucchi Serena, Cali Ottavia, Campi Alessandra, Caronni Federica, Caterino Marina, Cavasio Chiara, Cerruti Alessia, Chen Zixi, Chen Nan, Chiofalo Ilaria, Colombo Anna Maria, Corino Chiara, Dai Zhuoan, Dal Col Silvia, Del Prato Carlotta, Di Gamberardino Isabella, Dino Federica, Donini Gaia, Feng Tianxin, Fugazza Francesca, Galbiati Francesca, Galluzzi Marika, Gao Yuan, Gao Shengzhi, Gao Tanhao, Gao Yunchuan, Gomes Grosso Isadora, Grazzini Luna Maria, Grossi Lucilla, Gu Ziwei, Guarnieri Federica, Hou Xiaodi, Huang Dianhui, Huang Mengyao, Iotti Matteo, Ismail Dima, Ji Eryu, Jiang Jinhua, Karadsheh Sima Khaldoon Salameh, Karountzou Iro Maria, Kong Lin, Laporta Martina, Lestari Intan Sinta, Li Yanqing, Li Yue, Liu Chengyao, Liu Yiwen, Liu Fulin, Liu Xinyu, Liu Yeran, Lombardi Debora, Londoño Cortés Juana Margarita, Luo Chenmin, Maggioni Eleonora, Magli Lucia Daniella, Marongiu Emma, Mateus Gutiérrez Viviana Patricia, Mathisekar Preethisakana, Melioli Lucia Cecilia, Mondatore Giulia, Monterisi Roberta, Montrasio Ilaria, Mostafaei Amirreza, Nakisci Ece, Nizam Lina Irem, Ozcoban Nazli Can, Ozmen Inci, Paramita Dhyani, Passini Secchin Ludmila, Passoni Luca, Patru George Narcis, Pellegrinelli Stefano, Pellegrino Rossella, Perego Caterina, Pescatori Andrea, Petrilli Laura, Pham Minh Chau, Piantedosi Arianna, Piccirillo Manuela, Pieroni Nicolò, Polidoro Angelica, Qian Jinyu, Ranieri Giulia Ricchioni Carla Andreja, Sacchi Giorgia, Sasanian Avishan, Scanavino Elena, Schiavone Carlotta, Schumacher Henriquez Javiera Ignacia, Selim Selim Magdy, Sesti Marta, Sgouros Stavros, Simonetti Asia, Soppelsa Alice, Stama Daniele, Subburaj Nandha Kumar, Sun Yihao, Süzen Özge, Tacchini Michela, Tardi Valentina, Temeroli Giacomo, Tian Yuan, Tolotti Noemi, Tong Martina, Tsilivis Konstantinos, Vergni Francesco, Vespa Ilaria, Villa Annamaria, Wang Ce, Wang Delin, Wei Xuemin, Wei Lin, Wu Huanhuan, Wu Geyu, Wu Wenqi, Xu Wenxuan, Yang Xuefei, Ying Yi Long, Yu Peishuang, Zancan Silvia, Zenitagoya Hernández Claudia Berenice, Zhakenova Aigerim, Zhang Mojin, Zhao Shuting, Zhou Tian, Zhu Jing, Zin Giorgia, Zolfaghari Kimia.

## **ACADEMIC YEAR 2021-22**

Abbiati Luci, Abdelmalek Paula, Adriano Maddalena, Agnello Matilde, Ajaysimha Lakshmi, Aksentijevic Marko, Akyazici Berna, Alberti Eleonora, Allioli Ilaria, Almomatten Zainab, Alocarni Alessandra, Arrigoni Elisa, affico Erika, Bains Mannat, Basile Adriana, Baù Alberto, Betekhtina Ekaterina, Biancardi Alice, Bivona Francesco, Borney Martina, Bottini Guia, Brambilla Mattia, Burga Castro Giuliana Alejandra, Cai Yuyao, Calcagni Michelangelo, Campitelli Giovanni, Cangelosi Cecilia, Cao Lin, Carati Naomi, Carniel Arianna, Cavallier Andrea, Chen Ziyin, Cheng Xinyi, Chighine Maira, Christie Devira, Ciceri Francesco, Ciliberti Elisa, Cipolla Elisa, Colli Giulia, Costa Martina, Curti Elena, Deng Qingyuan, Drakonaki Angeliki, Ergin Ezgi Deniz, Fabbrici Caterina, Fang Shuyi, Fang Tingqiu, Ferrari Federica Andrea, Foresti Annalisa, Galloni Viviana, Garagiola Stefano, Gasparri Alice, Gonzalez Montaña Alejandra, Huang Zhiwei, Jiang Nan, Kalachev Krastyo, Kankaria Shreya, Kavuzlu Izel, Kazemi Mahafarid, Khazaeli Pegah, Kochhar Mehar Kaur, Kodijat Kittan Ramadira Eimir, Ladino Yanez Camila Vanessa, Lazar Bianca Maria, Li Xiayi, Li Yan, Li Yue, Lin Yu-Hsuan, Liu Jilian, Loggia Giacomo, Longoni Elisa, Luo Xiaoqi, Mai Wenjun, Malagnini Valentina, Marani Camilla, Martelli Laura, Mastrorocco Miriana, Mazzetti Giorgia, Messaggio Tuyu, Milani Francesca, Misani Sofia, Molteni Ilaria, Morgante Valerio, Murali Neha, Muzzolon Sara, Nazarova Elena, Paciolla Maria Altomare, Pagliaro Alessandro, Pan Runrun, Panganiban Kaiserin Alen, Patavino Natalia, Patti Pietro, Perotti Asia Nicoletta, Pezzetti Chiara, Piantanida Chiara, Pin Leonardo Giovanni, Ponzio Antonino, Quan Yijie, Raju Rojer Jeevan, Rao Shunyu, Regalin Ludovica, Romanin Vittoria, Rossi Fabio, Roversi Francesco, Russo Andrea Ignazio, Saglam Oyku, Sandy Owei Kurnia, Sciabica Giuseppe, Segala Camilla, Sena Francesca, Senni Giulia, Serra Navas Martha Andreina, Simone Alessia, Solodovnikova Ekaterina, Steffenoni Valentina, Tagliani Giulia, Terzi Arianna, Tomasi Irene, Tonoletti Grazia, Torreggiani Emma, Toy Nilüfer, Tretter Lilli, Tsao Li-Wen, Ubertosi Sara, Urli Francesca, Uscategui Alvarez Luisa Fernanda, Valle Diego, Veronese Ilaria, Vibiana Valenzia Natasha, Vidoni Francesca, Volonte' Serena, Wang Xuanfang, Wen Yuhuan, Xuan Yijia, Zeng Xiaowei, Zhang Jing, Zhang Ming, Zhong Jiawen, Zhou Zitong, Zhu Huimin, Zhu Yuxuan.



