

# Errata for “An Introduction to Infinite-Dimensional Differential Geometry”

The list below collects errata and misprints for the first edition of “An Introduction to Infinite-Dimensional Differential Geometry” published by Cambridge University Press.

Special thanks go to S. Stroppel and T. Nilssen who made me aware of many of the errors compiled below.

## **Last changes: June 17, 2023**

- p.4 Theorem 1.7: Though not strictly an error, it would be prudent to stress that the two points should be distinct. Change the last sentence to  
*..., that is, for each pair  $x, y \in E, x \neq y$  there exists a continuous linear  $\lambda: E \rightarrow \mathbb{R}$  such that  $\lambda(x) \neq \lambda(y)$ .*
- p.10 proof of 1.20:  $E \times F$  should be  $E_1 \times E_2$  and  $H$  in the definition of  $I_i$  should be  $F$ .
- p.12 proof of Lemma 1.25, line 5: missing  $t_n^{-1}$  between the limit and the bracket.
- p.18 proof of 1.39 line 4 of the proof  $V_\phi: F \rightarrow V_\phi$  should read  $V_\phi \cap F_\phi \rightarrow V_\phi$ .  
line 8 of the proof  $f^{-1}(U_\phi)$  should be  $f^{-1}(U_\phi \cap N)$ . In this and the next line the spaces  $F$  should be  $F_\phi$ .
- p.19 Lemma 1.41 proof of (b) the Formula should read

$$h_\psi \circ h_\phi^{-1}(y) = \dots = d(\psi \circ \phi^{-1})(p_\phi; y).$$

- p.20 1.3 in the displayed formula replace  $v$  with  $y$ .
- p.62, 3.31.: The definition of the logarithmic derivative is missing an inverse. It should read

$$\delta^\ell(c): [a, b] \rightarrow \mathbf{L}(G), t \mapsto T\lambda_{c(t)}^{-1}(\dot{c}(t)).$$

- 4.17:  $S_2$  and  $S_{U,2}$  are the same map, so  $S_2$  should be relabeled  $S_{U,2}$ .
- p. 123, Exercise 6.1.1 (b) the set should read  $\overline{\{y \in M \mid h(y) \neq y\}}$  instead of  $\overline{\{y \in M \mid h(x) \neq x\}}$ .
- p. 139, the integral in the statement of 7.2 should be  $\int_0^1$  not  $\int_a^b$ . In the proof it should rather be  $\text{En}(q(s, \cdot))$  instead of  $\text{En}(q(s))$ . In the displayed equation:  $c, h$  in the first term of the first line should be  $c(t)$  and  $h(t)$ , after the first equality, term in the integral should read  $g_U(c(t), B_U(c(t), c'(t), c'(t)), h(t))$ .
- p. 140, the integrals should be  $\int_{\mathbb{S}^1}$  instead of  $\int_{\mathbb{S}^1}^1$
- p. 188, 2nd line of (d): It should be  $\alpha^{-1}(U)$  instead of  $\alpha^{-1}(U \times U)$ , last line of (g) after the first inclusion the  $w$  should be a capital  $W$ .