Errata to Chapter 1 of "A Minicourse on Stochastic Partial Differential Equations

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page 6: (updated on Sept 23, 2013; thanks to S.-T. Li)

- Example 3.13 should begin as follows: "*Let* $T := \mathscr{B}(\mathbf{R}^N)$ *denote the collection of all Borel measurable subsets* E *of* $\mathbf{R}^N$ *that have finite Lebesgue measure, and* ..."

page 7: (updated on Sept 23, 2013; thanks to S.-T. Li & P. Bezdek)

- Eq. (21) should read "$\int (ah + bg)\, dW = a \int h\, dW + b \int g\, dW$"
- Exercise 3.19. The second sentence [beginning with "Then prove that ..."] should be replaced with the following: "*Then prove that* $\{\exp\{\dot{W}(h_j)\}\}_{j=1}^{\infty}$ *is total in* $L^2(\mathrm{P})$."

page 14: (updated on Sept 23, 2013; thanks to P. Bezdek)

- Paragraph 4 [beginning with "Choose and fix some"] should be replaced with the following:
  "*Choose and fix some* $a, b \in (0\,,1]$ *and define for all* $u, v, s, t \in [0\,,1)$,

$$|(s\,,t) - (u\,,v)| := |s-u|^a + |u-v|^b.$$

  This defines a distance on $[0\,,1)^2$*, but it is inhomogeneous, when* $b \neq a$*, in the sense that it scales differently in different directions.*"
- Theorem 4.3 should be restated as follows:
  "*Let* $\{Y(s\,,t)\}_{s,t\in[0,1)^2}$ *be a 2-parameter stochastic process, taking values in* $\mathbf{R}$*. Suppose that there exist* $C \in (0\,,\infty)$ *and* $k > a^{-1} + b^{-1}$ *such that for all* $s, t, u, v \in [0\,,1)^2$,

$$\|Y(s\,,t) - Y(u\,,v)\|_{L^k(\mathrm{P})} \le C\,|(s\,,t) - (u\,,v)|\,. \tag{54}$$

  Then, Y *has a Hölder-continuous modification* $\bar{Y}$ *that satisfies the following for every* $\theta \in (0\,,1 - k^{-1}(a^{-1} + b^{-1}))$*:*

$$\left\| \sup_{(s,t)\neq(u,v)} \frac{|\bar{Y}(s\,,t) - \bar{Y}(u\,,v)|}{|(s\,,t) - (u\,,v)|^\theta} \right\|_{L^k(\mathrm{P})} < \infty."\tag{55}$$

page 20: (updated on Sept 23, 2013; thanks to P. Bezdek) The page should end with "$\|f\|_M$ *is finite.*" [The "E" is redundant.]

page 24: (updated on Oct 24, 2013; thanks to S.-T. Li) In Eq. (94), $\partial^2 u/\partial x^2$ should be just $\partial^2/\partial x^2$.

page 21: (updated on Sept 23, 2013; thanks to P. Bezdek) In Exercise 5.24, replace "$\|\cdot\|_M$ is a norm on $\mathscr{P}$. by "$\|\cdot\|_M$ *is a norm on* $\mathscr{P}_M$."

page 36: (updated on Sept 26, 2013; thanks to P. Bezdek) Eq. (161) should say that $\lim_{t\uparrow\infty} \exp(\pi^2 t)\mathscr{E}(t) = |\xi_1|$.